Science Teachers Association of New York State

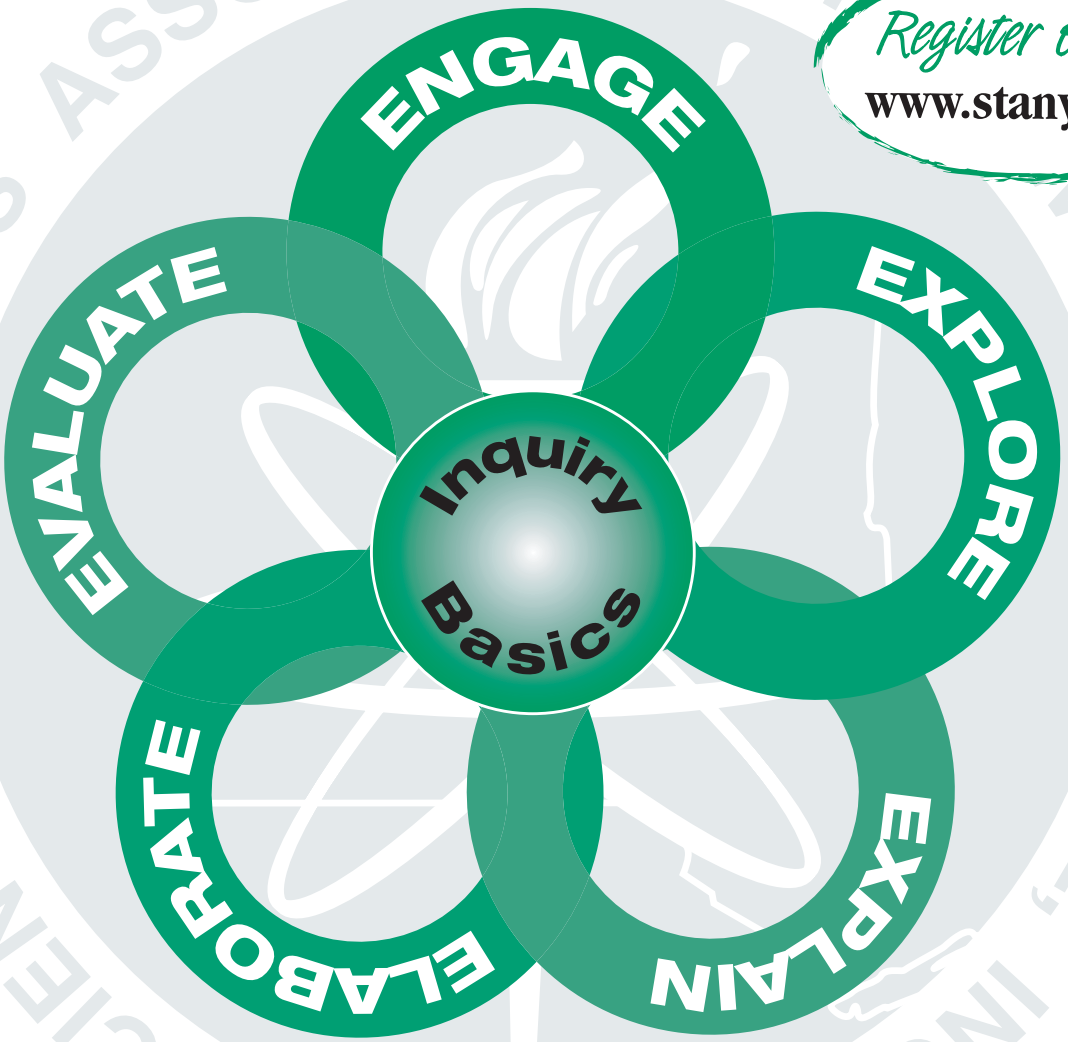
STANYS

109th Annual Conference & General Meeting

November 7 - 9, 2004

An Invitation to Learn!

Register online
www.stanys.org



Pre-Conference Information and Registration Forms

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IMPORTANT TELEPHONE NUMBERS

STANYS Office	516-783-5432
Conference Registration Information	800-893-0348/607-748-0348
Hotel Reservation Information	800-647-6000
In the event of an emergency for which you need to be reached while at the Conference, call: Nevele Grande Hotels and Resort	845-647-6000

For current Conference Information see our web site: www.stanys.org
For current Hotel Information visit the hotel web site: www.nevele.com

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SCIENCE TEACHERS ASSOCIATION OF NEW YORK STATE, INC.

An Invitation to Learn: Engage, Explore, Explain, Elaborate, Evaluate

Effective science teachers must understand the nature of science, be content specialists and have the ability to excite and motivate the learner. This is quite an undertaking. It is not for the timid soul! It cannot be done in isolation for the very nature of science requires that we stay up to date in our field of expertise. The STANYS annual conference, regional meetings and its many other initiatives throughout New York State help teachers address the many challenges of effective science teaching. Therefore, I am extending an invitation to you, the science teacher to actively *engage* in the 109th annual STANYS Conference at the newly renovated Nevele Hotels in Ellenville, NY, from November 7-9. Come and *explore* the Nevele Hotels, nestled in the Catskill Mountains (a plateau carved by streams, erosion and glaciers)! This location forms a splendid venue for a conference. During this time of the year the brilliant colors of the leaves are a feast for the eyes, rendered more magnificent as images of the leaves reflect from a pond bordering the golf course. A short hike will take participants to the Nevele Falls. Nevele is eleven spelled backwards and represents the 11 teachers who discovered the Falls in the late 1800's. STANYS' Sunday Showcase of workshops presented by the STANYS SARs and DALs has received rave reviews from past conference attendees. Add to this over 200 more workshops to further *explain* and *elaborate* on a multitude of science and science teaching topics and we have an amazing conference for you! This year, a new format called "invited speakers" will be initiated. Look for the article in the conference brochure that tells you more about this new format. All through the conference there are numerous hospitality events for relaxation and networking with other science teachers. Lastly, the conference planners want you to *evaluate* your conference experience so please do not forget to complete the evaluation form.

The 5E instructional model is one of a number of effective models for inquiry or constructivist learning. As science educators we need to *engage* the learners so they are interested in learning. They must be provided with opportunities to *explore* topics in science much in the same way a scientist does. Teachers may monitor the learning of their students by asking them to *explain* their observations while also providing opportunities for students to *elaborate* on their new knowledge such as applying it to new situations. Both the teacher and student need to *evaluate* the learning experience.

We have an exciting conference in store for you! Sunday night, we are privileged to have with us Nobel Laureate, Dr. Richard Roberts who will provide an update on stem cell research. Monday night, our Fellows speaker is the very dynamic, Dr. Joycelyn Elders, Surgeon General under President Clinton who will talk about how we can help students learn.

The professional development provided by this conference should provide you with many ways to emphasize a 5E approach to learning. I look forward to meeting many of you at this year's conference.

Sincerely,

Joan Wagner

Joan Wagner
(President 2004-2005)

Conference Schedule

SUNDAY, November 7, 2004

10:00 a.m. - 9:00 p.m.	**Nevele Grande East Conference Registration** (for onsite registration and preregistered Nevele Grande East guests), Lobby
10:00 a.m. - 9:00 p.m.	**Buffalo State College:** conference for college credit information booth, Nevele Grande East, Lobby
10:00 a.m. - 5:30 p.m.	**Nevele Grande West Conference Registration** (for preregistered Nevele Grande West guests only), Lobby
After 5:30 p.m.	All preregistered guests for the Nevele Grande West go to Nevele Grande East, Lobby
12:30 p.m. - 1:30 p.m.	**Session X**
1:45 p.m. - 2:45 p.m.	**Session Y**
3:00 p.m. - 4:00 p.m.	**Session Z**
4:00 p.m.	Earliest time for room availability and room key distribution
3:30 p.m. - 4:25 p.m.	**Welcoming Wine Reception:** Courtesy of Center for Science Teaching and Learning, Nevele Grande West, lobby and rear of Stardust Room
4:30 p.m. - 7:00 p.m.	**General Meeting of the Membership** and **Award Ceremony:** Nevele Grande West, Stardust Room **Keynote Address:** Dr. Richard Roberts, Nobel Laureate, New England Biolabs, Beverly, Massachusetts, *"Stem Cell Research – Medicine meets Politics"*
7:00 p.m. - 8:30 p.m.	*Awards and Officers Dinner:*** Nevele Grande West, Back of Main Dining Room
8:30 p.m. - 10:30 p.m.	**Exhibits Open:** Nevele Grande West, Indoor Tennis Courts
9:00 p.m. - 12:00 a.m.	**Star Observing:** Walkway behind the Nevele Grande East overlooking the golf course, weather permitting

MONDAY, November 8, 2004

7:00 a.m. - 11:00 a.m.	**Conference Registration:** Nevele Grande East, Lobby
7:00 a.m. - 11:00 a.m.	**Buffalo State College:** conference for college credit information booth, Nevele Grande East, Lobby
6:30 a.m. - 9:00 a.m.	**Breakfast**
7:00 a.m. - 9:00 a.m.	*Chemistry Breakfast Session:* Nevele Grande East, Fantasy Room, Session A-02. Meal ticket needed.
7:00 a.m. - 9:00 a.m.	*Earth Science Breakfast Session:* Nevele Grande West, back of Main Dining Room, sponsored by Glencoe, Session A-36. Meal ticket needed.
8:00 a.m. - 9:00 a.m.	**Session A**
8:00 a.m. - 12:00 p.m.	**Exhibits Open:** Nevele Grande West, Indoor Tennis Courts
9:30 a.m. - 10:30 a.m.	**Session B**
11:00 a.m. - 12:00 p.m.	**Session C**
11:00 a.m. - 2:00 p.m.	**Solar Observing:** Walkway behind the Nevele Grande East overlooking the golf course, weather permitting
12:00 p.m. - 1:15 p.m.	**Exhibits Closed**
12:00 p.m.	**Lunch** *Intermediate Level Luncheon:** Nevele Grande West, back of Main Dining Room, sponsored by Holt, Rinehart & Winston. Meal ticket needed. *Science Leadership Luncheon:** Nevele Grande East,, back of Main Dining Room. Meal ticket needed.
1:15 p.m. - 4:00 p.m.	**Exhibits Open:** Nevele Grande West, Indoor Tennis Courts
1:45 p.m. - 2:45 p.m.	**Session D**
4:00 p.m.	**Exhibits Close** for the day
4:30 p.m. - 6:00 p.m.	**Fellows Induction Ceremony and Fellows Address:** Nevele Grande West, Stardust Room Fellows Address: M. Joycelyn Elders, Professor Emeritus of Pediatric Endocrinology, at the University of Arkansas School of Medical Science, *"Preparing Students to Face Tomorrow's Challenges"*. Dr. Elders' address is sponsored by Eduware Inc.
6:00 p.m. - 7:00 p.m.	**STANYS Reception:** Nevele Grand West, Lobby
6:00 p.m. - 7:00 p.m.	**Elementary Teachers Social:** * Nevele Grande West,, Safari Lounge, sponsored by Delta Education
7:00 p.m.	**Dinner**
7:00 p.m.	*Fellows and Past Presidents Dinner:*** Nevele Grande West, back of Main Dining Room
8:30 p.m.	**Door Prize Drawing:** Nevele Grande West, Stardust Room
10:30 p.m. - 12:00 a.m.	**Star Observing:** Walkway behind the Nevele Grande East overlooking the golf course, weather permitting
10:30 p.m. - 1:00 a.m.	**Music and Dancing:** Nevele Grande West, Safari Lounge

TUESDAY, November 9, 2004

6:30 a.m. - 9:00 a.m.	**Breakfast**
7:00 a.m. - 9:00 a.m.	*Physics Breakfast Session:* Nevele Grande East, Fantasy Room, Session E-02. Meal ticket needed.
7:00 a.m. - 9:00 a.m.	*Biology Breakfast Session:* Nevele Grande West, back of Main Dining Room, Session E-36, sponsored by Prentice Hall. Meal ticket needed.
7:30 a.m. - 10:00 a.m.	**Conference Registration:** Nevele Grande East, Lobby
8:00 a.m. - 9:00 a.m.	**Session E**
8:00 a.m. - 11:30 a.m.	**Exhibits Open:** Nevele Grande West, Indoor Tennis Courts
9:00 a.m. - 12:00 p.m.	**Solar Observing:** Walkway behind the Nevele Grande East overlooking the golf course, weather permitting
9:30 a.m. - 10:30 a.m.	**Session F**
11:00 a.m. - 12:00 p.m.	**Session G**
11:30 a.m.	**Exhibits Close**
12:00 p.m.	**Lunch** *Science Honor Society Luncheon:** Nevele Grande West, back of Dining Room, Meal ticket needed.

* Preregistration required *(you must preregister on your Registration form for these events.)* ** Invitation only

Where is the STANYS 109th Annual Conference held?

The Annual Conference is held at the Nevele Grande East and Nevele Grande West Hotels in Ellenville, NY. In 1997, the hotels were consolidated into the Nevele Grande Hotels and Resort, Inc. Both hotels have undergone complete renovation of their facilities and accommodations. View these accommodations at the website http://www.Nevele.com. The hotels are located about one mile south of the downtown area of Ellenville. The main entrance is from Nevele Road, which runs from Main Street in the village, south, past the hotel entrance and back to Route 209 South, a little more than one mile below the village. The proximity of the hotels to each other makes getting from one to the other quite easy. A lighted walkway allows attendees to walk from one to the other. Since workshop sessions and large group sessions are held in both locations, and exhibits are held in the Nevele Grande West, you will likely be moving back and forth several times during the Conference. The approximate walking time is 10 minutes. For attendees needing special assistance an "on request" shuttle service is available. Contact the hotel's front desk for times and availability.

Workshop sessions numbered 1 through 19 are always in the Nevele Grande East Hotel, and workshop sessions numbered 20 and above are always in the Nevele Grande West. Adequate time is allowed between the sessions to easily move from one venue to the other. Both facilities are wheelchair-accessible.

What do you get for your Conference fee?

Your Conference registration fee allows you to register for up to **ten** workshops of your choice. Attendees are scheduled into each workshop. In this way, presenters know how many to expect. Since you are scheduled into each workshop, it is important for you to select three workshops for each session. If one of your first choices is filled when your registration form is processed, your second, then third choices are used, respectively. We strive to give each attendee their first-choice selections for each session. Despite our best efforts, however, some sessions may be canceled, or filled to capacity, and we will have to go to an attendee's alternative choices.

Your Conference badge will admit you to your workshop sessions, Conference events, and the Exhibition Hall. This year Prentice Hall is again sponsoring a tote bag for each attendee. Look for more information about the exhibits elsewhere in the brochure.

Each year the Conference features two major speakers. The Keynote Address opens the Annual Conference and the Fellows Address follows the presentation of individuals receiving the highest honor that STANYS bestows. Look for descriptions of the speakers and the topics elsewhere in the brochure.

What do you get for your hotel fee?

Your Conference hotel fee is one of the best bargains you will find, including a comfortable room at multiple occupancy rates, gratuities, and all meals, starting Sunday night dinner through lunch on Tuesday. Monday evening at the STANYS reception you will find an abundance of hot hors d'oeuvres and refreshing beverages.

Dining room service in both hotels is non-kosher and Full American Plan. You will select from a varied menu for each meal. Breakfasts offer a wide variety of hot and cold choices, with most hot choices cooked to order. Lunches and dinners include soup, salad, and a variety of entrees. Finish your lunch or dinner with a selection of desserts and coffee or tea. Prepackaged kosher meals are available on request. No prior arrangements are necessary, simply inform the maitre d' on your arrival

Both hotels have a varied selection of services and recreational facilities available to all attending the Conference.

Please note: Hotel rooms and keys will be available on Sunday after 4:00 p.m. Rooms will be held until 7:00 P.M. on the day of arrival. YOUR ROOM IS NOT GUARANTEED AFTER 7:00 P.M. If you are planning on arriving later than 7:00 P.M. you must inform the hotel prior to that time.

New STANYS Fellows —
Nancy Ridenour, Jim Overhiser, Virginia Perino, David Perino

What choices are available for a commuter attendee?

If you are a commuter attendee and wish to eat a meal in the dining room, such as a special breakfast or a luncheon meeting on Monday and/or Tuesday, you can purchase a meal ticket for a meal from the respective hotel at the **hotel** registration/reservation desk. The cost, including tax and gratuity, is $10 for breakfast, $15 for lunch, and $25 for dinner. If you are only looking for a quick bite to eat, both hotels have coffee shops where you can obtain light meals. In the Nevele Grande West you will find a new Starbucks coffee bar. Commuter attendees are invited to the STANYS reception, Monday evening, prior to dinner.

Why must I pay a STANYS membership fee to attend this Conference?

The Annual Conference is organized and run as a service to members of STANYS, and is the official Annual Meeting of the general membership. If you are not a member when you register, you pay a higher registration fee, which includes the current year's membership fee. Look elsewhere in the brochure for more information about STANYS membership categories and rates.

One happy teacher with books at the Exhibits – Grace Ann Ashley, Lexington School for the Deaf, NYC

What special events are held at the Conference?

SUNDAY, NOVEMBER 7

WELCOMING WINE RECEPTION: courtesy of Center for Science Teaching and Learning. Stop by and say hello to STANYS Officers and meet old and make new friends. Nevele Grande West, lobby and rear of Stardust Room, 3:30 - 4:25 p.m.

HOSPITALITY ROOMS: many STANYS sections hold hospitality rooms. Check the registration areas for flyers indicating times and rooms.

MONDAY, NOVEMBER 8

CHEMISTRY BREAKFAST SESSION: 7-9 a.m., Nevele Grande East. Preregister for Session A-02. A meal ticket is required of all attendees.

EARTH SCIENCE BREAKFAST SESSION: 7-9 a.m., Sponsored by Glencoe, Nevele Grande West, back of Main Dining Room, Session A-36. A meal ticket is required of all attendees

INTERMEDIATE LEVEL LUNCHEON: Noon, Sponsored by Holt, Rinehart & Winston, Nevele Grande West, back of Main Dining Room. A meal ticket is required of all attendees.

SCIENCE LEADERSHIP LUNCHEON: Noon, presented by NYSSELA, Nevele Grande East, back of Main Dining Room. Preregister on the Conference Registration form, Section 2. A meal ticket is required of all attendees.

ELEMENTARY TEACHERS SOCIAL: 6-7 p.m., Sponsored by Delta Education, Nevele Grande West, Safari Lounge. Preregister on the Conference Registration form, Section 2. Hors d'oeuvres and an open bar will be provided. This is a great opportunity for K-6 teachers, administrators, and college professors from across the state to network. Attendees are encouraged to bring multiple copies of their favorite science activity to share!

HOSPITALITY ROOMS: many STANYS sections hold hospitality rooms. Check the registration areas for flyers indicating times and rooms.

TUESDAY, NOVEMBER 9

PHYSICS BREAKFAST SESSION: 7-9 a.m., Nevele Grande East. Preregister for Session E-02. A meal ticket is required of all attendees.

BIOLOGY BREAKFAST SESSION: 7-9 a.m., Nevele Grande West, back of Main Dining Room. Preregister for Session E-36. A meal ticket is required of all attendees

SCIENCE HONOR SOCIETY LUNCHEON: Noon, Nevele Grande West, back of Main Dining Room. Preregister on the Conference Registration form, Section 2. Preregister on the Conference Registration form. A meal ticket is required of all attendees.

Why are there no Tournaments this year at the Conference?

STANYS has extended its conference workshops to Sunday by offering the X, Y and Z workshops. According to the conference evaluations, these workshops are highly valued so STANYS plans to continue this new format for this and future conferences. Participation in the tournaments has decreased considerably as most conference participants register for the Sunday offerings. However, if you choose not to participate in the Sunday workshops, you may still arrange to play tennis or golf.

What are the categories of STANYS membership?

A requisite for your participation in the STANYS Annual Conference is that you must be a current member of the organization. Membership can be established beforehand or at the time you register. Please be aware, if you establish your membership at the time of registration you will not be able to participate in the election of STANYS officers.

In order to vote in the election you must be a member by September 15, 2004.

The STANYS membership year runs from July 1 through June 30. The expiration date on your membership card must show 2005 or greater. If a membership fee is received after April 30, it will be applied to the next membership year. The categories of membership and the duration can vary according to your situation.

The categories and one-year rates include:

- ***Regular status membership*** - can be held by any classroom teacher at elementary, middle/junior, high school, or college/university levels. The annual rate is $40;
- ***Associate membership*** - can be held by persons who are employed by museums, government agencies, businesses, and community members who share our interest of quality science education. The annual rate is $40;
- ***Retired membership*** - can be held by anyone with an established history of regular membership who has retired. The annual rate is $20;
- ***Student (preservice) membership*** - First year membership is free when the application is accompanied by a letter from a professor on institution letterhead indicating eligibility. After one year of free membership, preservice students (graduate or undergraduate) pay a discount fee of $20.
- ***College Education Seniors*** - Free, one year, one time only. Application must include a letter signed by a professor on institution letterhead indicating eligibility and mailed by the student to the STANYS Office.

A savings of $2 occurs by purchasing a two-year membership. This option is available to all categories, except student, and is intended to make STANYS membership more convenient and economical. Membership payment can now be made by check or by credit card (MasterCard or Visa).

If you cannot attend the Conference, but wish to join STANYS, simply complete and return Section 1 of the Registration form.

What can membership in STANYS offer you?

- Networking with other professionals in your discipline for friendships and collaborations.
- Workshops in your region and at the state level.
- Updates on what is happening at the state level.
- Access to the STANYS Directors-at-Large and Subject Area Representatives
- Section meetings and updates. Each section of STANYS has meetings and activities for their members.
- Five issues each year of the STANYS newsletter.
- The Science Teachers Bulletin, containing philosophical issues, educational methodologies, and information about STANYS members. The Bulletin is published twice a year.
- Opportunities for inexpensive international travel.
- A voice in Albany. STANYS leaders will bring your concerns to the State Education Department and actively provide suggestions for in-service that will be helpful to the members.
- Information for you and your students about Science Olympiads and the State Science Congress.
- Representation through elected leadership to National Science Teachers Association.
- Legislative updates at the state and national level.
- Statewide representation through the Board of Directors where each active Section and each level and discipline of science education can meet and share opinions.
- The STANYS Employment Clearinghouse which operates from the perspective of helping potential employers find the desired employee and where the science educator can discover available openings that match his/her qualifications.
- Opportunities for recognition through its awards such as those for Outstanding Elementary, Middle, and High School Science Educator, STANYS Fellow, plus local Section awards.
- Opportunities for leadership in the organization.

To which STANYS section do I belong?

STANYS Sections are organized by counties. Check carefully to determine which Section contains the county in which you reside. However, you may belong to any Section you wish.

Catskill-Leatherstocking (CL)
Chenango
Delaware
Otsego

Central (CE)
Cayuga
Onondaga
Oswego

Central-Western (CW)
Livingston
Monroe
Ontario
Seneca
Wayne
Yates

Eastern (EA)
Albany
Columbia
Fulton
Greene
Hamilton
Montgomery
Rensselaer
Saratoga
Schenectady
Schoharie
Warren
Washington

Mohawk Valley (MV)
Herkimer
Madison
Oneida

Nassau (NA)
Nassau

North Central (NC)
Jefferson
Lewis
St. Lawrence

Northeastern (NE)
Clinton
Essex
Franklin

Northwestern (NW)
Genesee
Niagara
Orleans

New York City (NY)
Brooklyn
Manhattan
Queens
Staten Island

Southeastern (SE)
Dutchess
Orange
Putnam
Rockland
Sullivan
Ulster

Southern (SO)
Broome
Chemung
Cortland
Schuyler
Steuben
Tioga
Tompkins

Southwestern (SW)
Allegany
Cattaraugus
Chautauqua

Suffolk (SU)
Suffolk

Westchester (WE)
Bronx
Westchester

Western (WR)
Erie
Wyoming

keynote address

"Stem Cell Research – Medicine Meets Politics"

Dr. Richard Roberts

Nobel Laureate, New England Biolabs, Beverly, Massachusetts.

One of the most exciting prospects for the future of medicine involves the use of stem cells as a source of spare parts to repair defective organs. In this talk I will describe the basic science behind the derivation of stem cells and will explain the differences between embryonic and adult versions of stem cells. I will outline their potential uses and discuss the limitations. Stem cells come in many flavors of which embryonic stem cells appear the most versatile. However, their use raises ethical issues that affect all of us. A key question is whether we can afford to ignore their enormous potential. Can we justify not pursuing the most promising advance in medical science of the last 50 years?

Dr. Richard Roberts was jointly awarded the Nobel Prize in Medicine in 1993 with Phillip Sharp for the discovery of "split genes" (known today as introns). The discovery changed our understanding of genes in higher organisms and revealed a novel mechanism of RNA splicing that was essential for the decoding of the genetic information in higher organisms such as humans. The discovery has been of fundamental importance for today's basic biology research, as well as for more medically oriented research concerning the development of cancer and other diseases.

The main theme of Dr. Roberts work in biology has centered on the belief that we must know the structure of the molecules we work with if we are to understand how they function. This means knowing the sequence of macromolecules and cataloguing any modifications such as methylation. For proteins, 3-dimensional structure and post-translational modification are crucial.

Dr. Roberts is a Research Director at New England Biolabs, Beverly, Massachusetts. He was educated in England, attending St. Stephen's School and the City of Bath Boys' School in Bath before moving to the University of Sheffield where he obtained a B.Sc. in Chemistry in 1965 and a Ph.D. in Organic Chemistry in 1968. His postdoctoral research was carried out in Professor J.L. Strominger's laboratory at Harvard, where he studied the tRNAs that are involved in the biosynthesis of bacterial cell walls. From 1972 to 1992, he worked at Cold Spring Harbor Laboratory, reaching the position of Assistant Director for Research under Dr. J.D. Watson. He began work on the newly discovered Type II restriction enzymes in 1972 and in the next few years more than 100 such enzymes were discovered and characterized in Dr. Roberts' laboratory. His laboratory has cloned the genes for several restriction enzymes and their cognate methylases and studies of these enzymes has been a major research theme. Dr. Roberts has also been involved in studies of Adenovirus-2 beginning with studies of transcription that led to the discovery of split genes and mRNA splicing in 1977. This was followed by efforts to deduce the DNA sequence of the Adenovirus-2 genome and a complete sequence of 35,937 nucleotides was obtained. This latter project required the extensive use of computer methods, both for the assembly of the sequence and its subsequent analysis. His laboratory pioneered the application of computers in this area and the further development of computer methods of protein and nucleic acid sequence analysis continues to be a major research focus. The field of DNA methyltransferases is also an area of active research interest and crystal structures for the *Hha*I methyltransferase both alone and in complex with DNA have been obtained in collaboration with Dr. X. Cheng. The latter complex is quite remarkable as the protein causes the target cytosine base to flip completely out of the helix so that it is accessible for chemical reaction. This extreme, but elegant, distortion of the double helix had not been seen previously. A consuming interest at present is the semi-automatic identification of restriction enzyme and methylase genes within the GenBank database and the development of rapid methods to assay function. Already several new specificities have been found and it is clear that there are many more restriction enzyme genes in Nature than had been previously suspected.

Dr. Roberts enjoys music and loves to collect and play games, especially video games. He and his wife, Jean have four children, Alison, Andrew, Christopher and Amanda.

Preparing Students to Face Tomorrow's Challenges

M. Joycelyn Elders, M.D.

American youth are faced with many problems just trying to grow up in America. Science teachers can play a major role in preparing our young to face the many new challenges of the 21st century. If we don't prepare our youth, we will have a major salvage operation. Everyday we have 53 million children entering the "Temple of Betterment" we call school, preparing to take their places at the table in the 21st century. Every child must have opportunities to grow up healthy, educated, motivated and have hope for the future. Health is more than the absence of disease; it is about jobs, community, schools, neighborhoods, friends, etc. Youth are facing the most difficult problems of their lifetimes, such as changes in their body, obtaining an education, separation from family, peer acceptance, gender identity, sexual orientation and acceptance by society.

Our healthcare system is inequitable and unjust with our youth being the most underserved group. We have many social and behavioral problems impacting health, such as illicit drugs (34% have tried illicit drugs), tobacco use (39 percent), alcohol use (50% of 12 – 17 year olds), sexual activity (56% of 9th graders), STD's, HIV/AIDS, TAP, suicide, homicide, mental disorders (7000 youth severe enough for treatment), children becoming parents before they become adults and increasing poverty in children as our country becomes richer. We have increasing membership in the "5-H Club" (healthless, hungry, homeless, hugless, hopeless) and an increasing loss of a generation of bright young people because of our failure to respond. Our children are the most valuable resources that we have, they have the greatest need, the greatest potential for change, and investments made for children will last a lifetime

Science teachers can invest in children in many ways; we must use multiple strategies: 1) Educational Strategies, 2) Health access, cultural access, and transportation access, 3) Preventative strategies, 4) Intervention strategies, 5) Leadership strategies, political strategies and strategies of compassion. Science teachers can help to transform society by preparing a new generation of transformational leaders. We must "educate, educate, educate" and take science out of the laboratory and help students understand that science is everywhere and motivate them to get on board with science or get left behind. It is the role of science teachers to lay the foundation for the new creative leaders of tomorrow.

Dr. Elders is Professor Emeritus of pediatric endocrinology, at the University of Arkansas School of Medical Science. Dr. Elders never saw a physician prior to her first year in college. At the age of 15 she received a scholarship from the United Methodist Church to attend Philander Smith College in Little Rock, AR. Upon graduation at age 18, she entered the U.S. Army as a first lieutenant and received training as a physical therapist.

Dr. Elders attended the University of Arkansas Medical School (UAMS) on the G.I. Bill. After graduation in 1960, she was an intern at the University of Minnesota Hospital in Minneapolis and did a pediatric residency and an endocrinology fellowship at the University of Arkansas Medical Center in Little Rock and she ascended the academic ladder to full professorship after her fellowship and board certification in 1976. She also holds a Master of Science degree in biochemistry.

Dr. Elders joined the faculty at UAMS as a professor of pediatrics and received board certification as a pediatric endocrinologist in 1978. Based on her studies of growth in children and the treatment of hormone-related illnesses, she has written many articles for medical research publications. She was appointed Director of the Arkansas Department of Health in October of 1987. While serving as director, she was elected President of the Association of State and Territorial Health Officers.

Dr. Elders was nominated as Surgeon General of the U.S. Public Health Service by President Clinton on July 1, 1993, confirmed by the Senate, September 7, and sworn in on September 8. Dr. Elders served in this post until January 1995, following which, she returned to the University of Arkansas Children's Hospital until her retirement on June 30, 1998.

Dr. Elders has been active in civic affairs as a member of the Little Rock Chamber of Commerce, Northside YMCA and Youth Homes. She was listed in *100 Outstanding Women in Arkansas*, *Personalities of the South* and *Distinguished Women in America*. She has won awards such as the *Arkansas Democrat's Woman of the Year*, the *National Governor's Association Distinguished Service Award*, the *American Medical Association's Dr. Nathan Davis Award*, the *De Lee Humanitarian Award*, and the *National Coalition of 100 Black Women's Candace Award for Health Science*. Dr. Elders has also received multiple honorary doctorate of medical sciences degrees and honorary doctorate of letters degrees.

Star and Solar Observing

Dennis O'Connell
Corning Community College

STAR OBSERVING - Mr. O'Connell will provide several telescopes for viewing the stars, planets, and galaxies that can be seen from Ellenville. He will assist you in finding the stellar body you wish to observe and will discuss astronomy and telescopes with you. **Weather permitting, the observing will start at 9:00 p.m. on Sunday evening and 10:30 p.m. on Monday evening.** Look for telescopes on the walkway behind the Nevele Grande East overlooking the golf course. No registration is required — just come and gaze.

SOLAR OBSERVING - Mr. O'Connell will also be out, weather permitting, **on Monday from 11:00 a.m. to 2:00 p.m., and on Tuesday at various times between 9:00 a.m. and noon, depending on workshop commitments.** The safe solar observing setups will be located on the walkway behind the Nevele Grande East overlooking the golf course. You can't miss the scopes. Check out the sunspots and flares. No registration is required.

Solar Observing with Dennis O'Connell, Corning Community College

4th Annual STANYS GPS Challenge

Be There. Don't Be Square. Be Triangular!

Looking for an outdoor adventure? Like to solve puzzles? Take take the GPS Challenge!

Jim Kuhl, Central Square Middle School
Anton Ninno, OCM BOCES

Participating teams will use a GPS receiver to find several "letterbox" geocaches. Teams must provide their own GPS receiver. Each team will represent their home school, and schools may enter more than one team. Teams will use an entry form listing all the geocaches and latitude-longitude coordinates. Each box has a unique rubber stamp and an inkpad. Stamp your entry form to prove your team found each box. Turn in ONE completed team entry form for each team with all the required stamp images. Your team will be entered in a prize lottery.

Entry forms for the GPS Challenge will be available at the Conference Registration area in Fallsview (East) late Sunday or early Monday. Final submission deadline for team entries is 10:30 a.m. on Tuesday.

Visit these sites to learn about using GPS for science education, and to practice your skills in the geocaching game!

NYGPS: http://groups.yahoo.com/group/nygps; Geocaching: http://www.geocaching.com/

Exhibits

Be sure to visit the Exhibit Hall, where you will find more than 125 booths tended by representatives from over 100 companies. In addition, there is the STANYS Store as well as the NSTA booth.

Please note that the Exhibit Hall is located in the Nevele Grande West (Nevele) indoor tennis courts.

Here under one roof, you'll have the opportunity to view the latest in: textbooks, audiovisual equipment, software, scientific equipment, microscopes, laboratory furniture, science novelties, science T-shirts, and science classroom materials. Representatives from environmental groups and centers, weather forecasting services, and scientific societies will also be on hand.

The STANYS Conference Exhibit Hall is an excellent forum to meet other interested professionals, to exchange ideas, and to form networks. We hope you will be able to take advantage of this wonderful opportunity.

The STANYS Store

STANYS again will sponsor, in the Exhibit Hall, the STANYS Store. On sale will be numerous items featuring the embroidered STANYS logo. Included will be golf, sweatshirts, and our new all weather jacket, as well as, our STANYS embroidered cap, the very popular beaker mugs, pens and other items. Come visit the STANYS Store!

All proceeds from the sale of items in the STANYS Store will benefit the STANYS Foundation. The STANYS Foundation was established by the Board of Directors in May 1998, to support student activities, i.e. Science Congress, scholarships for student participation in summer institutes, etc.

Only cash or checks can be accepted at the STANYS STORE. We are unable to accept credit card charges. For those in need, each hotel has an ATM machine.

Earn College Credit!

STANYS is working with Buffalo State College to enable teachers attending the 2004 Annual Conference to earn credit for their participation in the conference. Program participants will have the option of earning either Continuing Education Unit credit or Graduate credits. Participant cost will be based upon the number and type of credits that are required.

Continuing Education Unit credits are awarded at a rate of 1.0 CEU for ten contact hours. Participants will earn credits based upon the total number of session hours that are completed. Participation in the Sunday Showcase sessions and sessions A-G would qualify for 1.0 CEU. Participants will be expected to meet prior to attending the Sunday Showcase; expectations for documenting participation will be outlined.

Conference participants may also earn one, two or three graduate credit hours depending upon the amount of additional work that is completed. Participants will sign a course contract that typically includes participation at sessions, written summaries of sessions, application of concepts developed in selected sessions, and a classroom project; the required components will be based upon the number of credit hours that are requested.

Buffalo State College will have an information booth in the lobby of the Nevele Grande East during registration hours: Sunday 10:00 a.m. - 9:00 p.m. and Monday 7:00 a.m. - 11:00 a.m.

If you are interested in college credit, contact Dr. Joseph Zawicki (zawickjl@buffalostate.edu) or Dr. Robin Harris (harrisrl@buffalostate.edu) for additional information.

New STANYS Conference Events

Invited Speakers

By Joan Wagner, STANYS President

The 109th STANYS conference will be adding a new feature to its annual conference called, "Invited Speakers." These presentations will focus on updates in science or other topics that will be of general interest to science educators. We will have three invited speakers. On Monday, Session B-31, Dr. Ricki Lewis, science writer and genetic counselor, will present her viewpoint on how science is reported by the press. Her presentation promises to be entertaining, yet it has many messages to take home to your classroom. You and your students will never read a science story reported in the news the same way. Following Dr. Lewis' presentation on Monday, Session C-31, will be Dr. John Delano, who had been our Fellow's speaker a few years ago. Dr. Delano is a professor at the University at Albany in the Department of Earth and Atmospheric Sciences. He is also a NASA consultant and has been working on the recent exploration of Mars with the Land Rovers, *Spirit* and *Opportunity*. He will provide us with an update on the latest mission. As always, his presentations are extremely informative and engaging. Lastly, Tuesday morning, Session F-31, we will be treated to a presentation by Dr. Marvin Druger. Dr. Druger is Chair of the Department of Science Teaching at Syracuse University and a past president of NSTA. His topic will be "Motivating the Unmotivated." Having had Dr. Druger as my professor in biology, I know you will be treated to some interesting approaches to this ubiquitous problem that challenges even the best of educators.

Special Opportunity to Start the Conference With an "Eco-Ride"

By Dr. Michael Passow

The "Eco-Trail Ride" will be limited to 10 people (maximum number of horses). Participants should meet Sunday by 10 a.m. at the Nevele Stables (follow signs). There will be a $25 fee paid to the Stables' operator. (Tips accepted.) No riding experience is necessary. We will ride along the trail discussing the geology and ecology of the area. We will also consider other aspects of its history, including the Delaware and Hudson Canal, remnants of which run through the property. We will be finished about noon. A repeat "Eco-Ride" is scheduled for workshop session D-45 on Monday. You must register for the Sunday ride with Dr. Passow. Register for D-45 on the Conference Registration Form.

For more information: Dr. Michael J. Passow, michael@earth2class.org.

Invited Speakers

Monday, November 8 • 9:30 – 10:30 a.m.
Session B-31

How the Media Mangles Science

Dr. Ricki Lewis, science writer

Scientific research makes headlines, and teachers often assign magazine or newspaper articles for students to analyze. But the science that makes it to the evening news or morning paper, often portrayed as a seemingly endless and frequently contradictory parade of breakthroughs, does not really reflect how researchers think or work. As a journalist, author, and geneticist, Ricki Lewis will take a lighthearted look at how the media identifies what is newsworthy, researches and reports it - and quite often, mangles the message.

Ricki Lewis is a science writer who earned her PhD in developmental genetics from Indiana University in 1980. She is a contributing editor to *The Scientist*; contributor to *Nature* and the *HHMI Bulletin*; author of *Human Genetics: Concepts and Applications*, published by McGraw-Hill Higher Education; co-author of three other college textbooks; and author of *Discovery: Windows on the Life Sciences* published by Blackwell Science. She has authored thousands of articles in a wide range of publications. Ricki has also been a genetic counselor for a private ob/gyn practice in Schenectady, NY, since 1984. She has a chemist husband, three daughters, and many felines.

See page 27 for session information.

Monday, November 8 • 11:00 a.m.
Session C-31

Mars Exploration Rovers: An Overview of Scientific Results

Dr. John Delano, SUNY Albany

Geochemical data collected by NASA's two robotic rovers on Mars have demonstrated that water existed on the surface of Mars sometime in its distant past. Spectral and chemical analyses show that the mineral jarosite (hydrated iron sulfate) is a major component of the salts that were precipitated from the Martian waters. Although this mineral on Earth is commonly associated with biological processes, a sample-return from Mars will be needed to establish whether Martian microbes were present on Mars.

John Delano holds the rank of Distinguished Teaching Professor in the Department of Earth and Atmospheric Sciences, and in the Department of Chemistry at the University at Albany. Since 1998, he has been an Associate Director of the New York Center for Studies on the Origin of Life, which is one of two NASA Specialized Centers of Research and Training in the United States devoted to the study of life's origin and distribution in the galaxy. He received his Ph.D. in geochemistry at Stony Brook University in 1977. John has served on numerous review panels for NASA and NSF, recently gave invited testimony to the President's Commission on the Moon, Mars and Beyond, is a principal investigator in NASA's Exobiology Program, and is the author of more than 50 scientific publications.

In 1999, John Delano was the STANYS Fellow's speaker. His presentation, "Origin of Life: A Multi-Disciplinary Scientific Quest" received rave reviews by STANYS members because of both the content and his dynamic presentation style.

See page 29 for session information.

Tuesday, November 9 • 9:30 – 10:30 a.m.
Session F-31

Motivating the Unmotivated

Dr. Marvin Druger, Syracuse University

Lack of motivation in science among students is a serious problem nationwide. Many teachers are frustrated at the severity of the problem and are eager for possible solutions. This session will suggest practical strategies and techniques to alleviate the problem and create a motivational learning environment. Included will be reference to child versus adult motivation, meaningful learning, novel teaching, making learning fun, interpersonal relations, group dynamics and special activities. The problem will be analyzed concerning learners at all levels.

Dr. Druger is Chair of the Department of Science Teaching and Professor of Biology and Science Education and Meredith Professor for Teaching Excellence at Syracuse University. He earned his bachelor's degree in biology and science education from Brooklyn College and his master's and Ph.D. degrees in zoology (genetics) from Columbia University. He has published extensively and served in many leadership roles in science education. He was twice president of the Society for College Science Teachers (SCST), president of the Association for the Education of Teachers of Science (AETS), and president of the National Science Teachers Association (NSTA). He has received many awards, including two Gustav-Ohaus Awards for Innovations in Science Teaching, and the Robert H. Carleton Award for National Leadership in the Field of Science Education. He is currently Retiring President of SCST and Secretary of the Education Section (Q) of the American Association for the Advancement of Science (AAAS).

See page 35 for session information.

STANYS Service Award Winners:
Robert Daley, Verne N. Rockcastle, and John Bartsch

Key to Reading Workshop Session Descriptions

This same format is used in the conference program.

The key below indicates the information you will find in each of the workshop session descriptions that appear on pages 14-37. Use this information and the Workshop Cross Reference List (pages 38-41) to guide your review of the workshop choices as you make your selections and complete your registration form.

SESSION-NUMBER (Letter = Session; Number = Room) PRESENTATION TITLE
Presenter's Name; Presenter's Affiliation/ Sponsor (Multiple presenters will be listed.)
Subject Area: Audience
Presentation Description (Look for special information such as extended times and/or multiple sessions.)

Session X

X-01 and Y-01 Elementary Showcase Make and Take Science Activities

Mary Jean Syrek, STANYS DAL Elementary and SARs; Patricia Zuck, SAR Mohawk ; Darylle Brent, SAR New York City; Anna Liuzzo, SAR Northwestern; Mary Thomas, SAR Central Western; Jackie Garelick, SAR Catskill-Leatherstocking; Laura Lehtonen, SAR Eastern; Karin Wheeler, SAR Central; Midge Monat, SAR Southeast; Michael Montigelli, SAR North Central

El: Elementary

This is a double workshop session involving X-01 and Y-01. Participants must register for, and attend BOTH workshops.

Come meet the elementary SARs and take home new classroom ideas for science activities. This is a wonderful opportunity to talk with teachers who are actively doing science as you move from table to table. Enjoy refreshments provided by our sponsor, Eduware, Inc.

X-02 or Y-02 Intermediate Level SAR Share-A-Thon

Polly Peterson, Union-Endicott Central School District; Cheryl Dodes, SAR Nassau; Steve Fielman, SAR Eastern; James Kuhl, SAR Central; Ron Moss, SAR Northeast; Bill Ottman, SAR Central West; David Perino, SAR Mohawk Valley; Sharon Pikul, SAR Western; Giles Reimer, SAR Southeast; Jeff Sabol, SAR Southern; Beth Truax, SAR Northwest; Gary Vorwald, SAR Sufolk.

I: General Interest, MST

This is a repeat workshop session involving X-02 or Y-02. Register for only ONE.

In this hands on workshop, Intermediate Level SARs exhibit their best practices. Roam from inquiry activity to discrepant event and leave with new and exciting ideas for your classroom.

X-03 HO Science for Grades 1-3

Loretto Canfield, St. Martin de Porres School

K-12, El: Elementary, MST

Several hands on science activities for grades 1-3 will be presented. These activities will be correlated with NYS math, science and technology standards and to the ESPET test requirements

X-04 Using Foldables to Enhance Your Science Lessons

Elsie Santiago and Kimberly LaVine, Valley Stream North High School

K-12, I, HS: Earth Science, Living Environment

This will be an exciting workshop that introduces teachers how to use foldables to enhance student understanding of Middle School Life/Earth Science and Living Environment by creating foldables in the classroom. A foldable is a paper cut out that is made to resemble a real object, like a body system.

X-05 Environmental Science SARS Sunday Showcase

David Baker, James I. O'Neill High School, retired

K-12: Environmental Science

SARS in the field of Environmental Science will present ideas, projects, and resources for teachers interested in the teaching of Environmental Science K-12. Plenty of handouts as well as hands on activities.

X-06 Science Olympiad (Div. C): Tower Building

Nigel Pratt, Kellenberg Memorial High School

HS: Physics, Research

Techniques for building a light but strong tower that fits the rules for the current year. Rule changes and modifications will also be presented.

X-07 Elementary and Middle School Students' Ideas About Electric Current

David Henry, Buffalo State College; Michael Jabot, SUNY Fredonia

El, I: Elementary, Physics

Participants will learn about the Path of Electric Current Assessment (PECA) and how it can be used to assess students' ideas about electricity. Participants will experience inquiry-based activities designed to help students develop deep understanding of electric current flow in simple circuits.

X-08 How to Create and Implement Science Web Exploration Activities

Jason Vitale, Peter Steckle, and Anthony Graziano, Bellmore-Merrick Central High School District

K-12: General Interest, Earth Science, Environmental Science

Learn how to create Internet based learning activities for use in the classroom. The workshop will focus on creating and posting web pages featuring interactive activities and methods of communicating with parents online.

X-09 Urinalysis & Health (or figuring out if ur-ine trouble!)

Jeanne Raish, Cornell Institute for Biology Teachers (CIBT)

HS: Living Environment

This hands on lab activity is a great way to introduce students to the value of urine tests as a method to screen patients for basic kidney function. Students will experience the thrill of diagnosing patients and choosing appropriate recommendations.

X-10, Y-10, and Z-10 Hands on Data Collection Your Way with Vernier LabPro®

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Chemistry, Physics

This is a triple workshop session involving X-10, Y-10, and Z-10. Participants must register for , and attend, ALL THREE.

In this hands on workshop, we will show you how to integrate our data-collection technology into your chemistry, biology, physics, math, middle school science, physical science, and earth science curriculum. Our products can be used with computers, TI graphing calculators, and Palm OS® handhelds.

X-11 LIVING ENVIRONMENT. Part D Labs: For New LIVING ENVIRONMENT Teachers

Alan Seidman, Karen Cook, De Anna Roberson, Mike Abrahamson, and Donna Bevalacqua, STANYS

HS: Living Environment

This session will present the four required Living Environment Part D labs to teachers who have not presented the labs and to teachers who have questions or suggestions about the labs.

X-12, Y-12, and Z-12 Benefits of an Inquiry Approach to Science

Brian McKinney, PASCO scientific

I, HS, Col: General Interest

This is a triple workshop session involving X-12, Y-12, and Z-12. Participants must register for , and attend, ALL THREE.

Find out how easy it is to incorporate inquiry-based probeware solutions into your science class. Learn to use probeware to help students grasp core concepts more quickly. Get students actively collecting data with sensors and dataloggers similar to the way actual scientists do.

X-13 The Physics SARs Present!

Joseph Zawicki, STANYS Physics DAL, Buffalo State College; Fred Pidgeon, SAR-Eastern Section; Maura White, SAR-Central Section; Joan Taber, SAR-Mohawk Valley Section

K-12, HS, Col: Physics

This session includes a series of presentations by STANYS SARs among these will be roller coaster physics, recent trends in New York State physics and others.

X-14 Science on Seneca as a Science Standards Based Experiential Outreach Program of the Finger Lakes Institute

Eric Primrose, Finger Lakes Institute at Hobart and William Smith Colleges

I, HS, Col: Earth Science, Environmental Science, Living Environment

Science on Seneca (SOS) has long been a successful science based educational outreach program at Hobart and William Smith Colleges. SOS enables Finger Lakes area science teachers to use The William Scandling, Hobart and William Smith Colleges' 65 ft. research vessel, as an outdoor floating classroom on Seneca Lake. With the recent inclusion of the program into the Finger Lakes Institute at HWS, a dedicated educational outreach coordinator has been able to incorporate NYS Standards based curriculum and activities into the already widely used program. These lessons and activities, developed by FLI staff, HWS education students, or teachers currently using the SOS program, were extensively peer reviewed to improve their quality and relevance in an increasingly demanding educational setting.

X-15 Creativity in the Science Classroom

Hans Persson, Institute of Education

All: General Interest

How can creativity and variety be used as powerful tools to reach the different learners in the class. How can you raise the interest in science…and keep the interest alive? Useful examples including inquiry, drama, music and stories.

X-21 Incorporating Environmental Issues in Regents Science Courses

Michael Picciotti, LaFayette Jr. Sr. High School; Kersten Merkerji and Cheryl Lendrum, Syracuse University; Nancy Hummell, LaFayette Jr. Sr. High School

I, HS: Living Environment, Chemistry, Physics

In cooperation with Syracuse University, local science teachers have created projects and lab exercises designed to use local environmental issues to illustrate science concepts in all four Regents science classes. Handouts of experiments will be provided.

X-22 The Immediate Feedback Assessment Technique Applied to Secondary School Science Courses

Sue Marcoe, Van Wyck Junior High School; John Lane, John Jay Senior High School

I, HS, Col: Research

A classroom study of the Immediate Feedback Assessment Technique, a scratch-off multiple-choice answer form, resulted in statistically significant improvements in learning and retention when compared to scan sheets. Student surveys showed high acceptance of the technique.

X-23 The Matrix Approach to Developing Global Citizens through Science Teaching

Iris Pagan, French American School of New York

I, Col, Sup: General Interest, Supervision/ Administration

This is a Power Point presentation on the matrix approach which focuses on the relationship between teacher and student, pedagogy and lesson plan, what is taught and what is learned by the student. Media examples of matrix teachers are included along with student artifacts.

X-24 Science Olympiad Road Scholar

Brendan Herlihy, retired

I, HS: General Interest, Earth Science

This workshop will help coaches or students prepare for accurate map interpretation and thinking for the Road Scholar competition in the Science Olympiad.

X-26 and Y-26 Healthy Lifestyles

Kottie Christie-Blick, South Orangetown Central School District

El: Elementary

This is a double workshop session involving X-26 and Y-26. Participants must register for, and attend, BOTH wokshops.

In this hands on session, elementary teachers experience a 3-week unit that addresses national concerns over the unhealthy lifestyle of this generation of children, especially childhood obesity. The unit fulfills national and state science standards while preparing children for the ELST.

X-27, Y-27, and Z-27 Nanotechnology: Build a Teeny Tiny Circuit

Anna Waldron, Nanobiotechnology Center; Carl Batt, Cornell University

I, HS, Col: Chemistry

This is a triple workshop session involving X-27, Y-27, and Z-27. Participants must register for, and attend, ALL THREE.

Learn about nanotechnology techniques by building a 'teeny tiny' circuit using technology specially developed for middle and high school classrooms.

X-29, Y-29, and Z-29 What's the Matter With D?

Glenn Dolphin, Union Endicott High School; Susan Sharp, Phoenix School District

HS: Earth Science

This is a triple workshop session involving X-29, Y-29, and Z-29. Participants must register for, and attend, ALL THREE.

Join the Earth Science Subject Area Representatives as they present the most up to date information of the new Performance Test for the Regents Earth Science Exam. There will be an explanation of the stations, helpful advice and parallel tasks will be discussed.

X-31 and Y-31 Chemistry Showcase – Chemistry SAR's and Associated Members Present a Variety of Exciting Demonstrations and Activities

Lance Rudiger, Potsdam Central

HS: Chemistry

This is a double workshop session involving X-31 and Y-31. Participants must register for, and attend BOTH workshops.

Chemistry SAR's and associated members will demonstrate a wide variety of their most successful, exciting or favorite demonstrations and activities.

Celebrating 30 Great Years at STANYS! (Physics) – John Johnston, The Faraday Center

X-32 RoboBilliards Coaches Clinic - Division B Science Olympiad

Scott Holdren and Matthew Miller, Ravena-Coeymans-Selkirk High School

I: General Interest, Physics, MST

This presentation and question and answer session is for Science Olympiad coaches preparing for B Division events. Competition rules, helpful hints, and scoring will be covered. Students welcome.

X-34 Teaching Marine Science in HS: A Wedding of Marine Biology and Oceanography

Thomas Greene, NYSMEA President/ Kingsborough Community College

I, HS, Col: General Interest, Environmental Science

Marine science, an interdisciplinary course containing subject matter in biology, chemistry, earth science and physics, will be presented and discussed in light of the new science standards. Participants will receive a packet containing lesson plans, labs, NY State Regents exams and a syllabus.

X-37 Mad Scientists From Upstate (no – REALLY) NY Present:

Jill Phaneuf and Susan Drollette, Plattsburgh High School

I, HS: Chemistry

Favorite chemistry demos and labs, ones we haven't seen recently at STANYS. We're going home empty handed-so lots of door prizes.

X-43 Sound of Music

Patricia Sherman, Goshen Central School

I, HS: General Interest, Physics

Any explanation of rule changes will be made and detailed explanations of the National Science Olympiad rules for the not so musically inclined will be given. Many handout available

X-44, Y-44 and Z-44 The Wright Stuff – Building and Flying Indoor Model Aircraft – Information and Demonstrations

Jesse Aronstein, Donald Typond, Alfred Shepard, and Richard Brown, Mid-Hudson Modelmasters

All: General Interest, Elementary

This is a triple workshop session involving X-44, Y-44, and Z-44. Participants must register for, and attend, ALL THREE.

A demonstration of model airplane building and flying techniques for the Science Olympiad's Wright Stuff event and after-school programs. Handout material includes plans and basic information on building, flying and sources of supplies. This is an informal walk-in session.

Session Y

Y-01 and X-01 Elementary Showcase Make and Take Science Activities

Mary Jean Syrek, STANYS DAL Elementary and SARs; Patricia Zuck, SAR Mohawk ; Darylle Brent, SAR New York City; Anna Liuzzo, SAR Northwestern; Mary Thomas, SAR Central Western; Jackie Garelick, SAR Catskill-Leatherstocking; Laura Lehtonen, SAR Eastern; Karin Wheeler, SAR Central; Midge Monat, SAR Southeast; Michael Montigelli, SAR North Central

El: Elementary

This is a double workshop session involving X-01 and Y-01. Participants must register for, and attend BOTH workshops.

Come meet the elementary SARs and take home new classroom ideas for science activities. This is a wonderful opportunity to talk with teachers who are actively doing science as you move from table to table. Enjoy refreshments provided by our sponsor, Eduware, Inc.

Y-02 or X-02 Intermediate Level SAR Share-A-Thon

Polly Peterson, Union-Endicott Central School District; Cheryl Dodes, SAR Nassau; Steve Fielman, SAR Eastern; James Kuhl, SAR Central; Ron Moss, SAR Northeast; Bill Ottman, SAR Central West; David Perino, SAR Mohawk Valley; Sharon Pikul, SAR Western; Giles Reimer, SAR Southeast; Jeff Sabol, SAR Southern; Beth Truax, SAR Northwest; Gary Vorwald, SAR Sufolk.

I: General Interest, MST

This is a repeat workshop session involving X-02 or Y-02. Register for only ONE.

In this hands on workshop, Intermediate Level SARs exhibit their best practices. Roam from inquiry activity to discrepant event and leave with new and exciting ideas for your classroom.

Y-03 Discover New Possibilities

Leslie Bettencourt, Prentice Hall Science Consultant

I: General Interest

Join Leslie Bettencourt, PH Science Consultant to discover how you can easily integrate technology into your science curriculum. Our activities make science come alive. All attendees will receive copies of the all-new Science Explorer and technology. Computer Microscope will be given away as a door prize.

Y-04 and Z-04 Bio-Rad ELISA Immuno Explorer Kit – 1.5 hours

Jana Penders and Olga Padilla, Bio-Rad Laboratories

I, HS, Col: Elementary, Living Environment

This is a double workshop session involving Y-04 and Z-04. Participants must register for, and attend BOTH workshops.

Biology's magic bullet. Explore immunology with this topical, new hands on classroom lab. ELISA (enzyme-linked immunosorbent assay) is a powerful antibody-based test used to detect diseases such as HIV/AIDS or SARS, and to trace pathogenic agents in water, food or the air whether these emerge naturally or through acts of aggression. You will perform ELISA and learn how this assay identifies agents of disease, food allergens or molecular markers of cancer, pregnancy and drug use. This kit integrates multiple standards in a single lesson, including antigen-antibody interactions and the role antibodies play in medicine, epidemiology, and biotechnology.

Y-05 To the Universe & Return IV: Using NASA & Other Sites

Marion Weaver, Steuben-Allegany BOCES Consultant

K-12: Elementary, Earth Science, Physics

Teaching using web pages, web-based activities and labs will be shared for using web sites with or without Internet access in your classroom.

Y-06 So, You Want to Teach an Astronomy Elective!

Edward G. Doran, Rondout Valley Central High School

HS: General Interest, Earth Science, Physics

Astronomy makes an excellent choice for an elective class in science. With all the recent advances and media attention in the field of astronomy, many students have a desire to learn more about the subject. This presentation will outline the methods and discuss the pitfalls of creating an astronomy elective for your school. Materials will be distributed to participants.

Y-07 Explore Active Physics

George Amann, It's About Time, Inc.

HS: Physics

Active Physics provides engaging challenges for all students. This innovative approach is strongly correlated with what we want students to know and be able to do and research on how people learn. Fantastic labs are integrated into a meaningful structure that encourages student creativity in sports, medicine, transportation, home, and communications.

Y-09 New York's Missing Ladybug

Melissa Mock, Cornell Institute for Biology Teachers; Chris Widmaier and Abraham Parker, Cornell University

K-12: Living Environment

The nine-spotted ladybug is New York State's official insect. Unfortunately, it has not been seen in the past 15 years. CIBT is inviting NYS schools to help relocate this insect. We'll discuss now to go about it, classroom extensions, and supply what you'll need.

Y-10, X-10, and Z-10 Hands on Data Collection Your Way with Vernier LabPro®

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Chemistry, Physics

This is a triple workshop session involving X-10, Y-10, and Z-10. Participants must register for , and attend, ALL THREE.

In this hands on workshop, we will show you how to integrate our data-collection technology into your chemistry, biology, physics, math, middle school science, physical science, and earth science curriculum. Our products can be used with computers, TI graphing calculators, and Palm OS® handhelds.

Y-11 Assessment and Evaluation of The L.E. Part D Labs

Alan Seidman, Barbara Poseluzny, Mike DuPre, and Joyce Valenti, STANYS

HS: Living Environment

Share your experience with the June and August Part D sections. Discuss assessment techniques and evaluation methods of the new L.E. Regents exam format.

Y-12, X-12, and Z-12 Benefits of an Inquiry Approach to Science

Brian McKinney, PASCO Scientific

I, HS, Col: General Interest

This is a triple workshop session involving X-12, Y-12, and Z-12. Participants must register for , and attend, ALL THREE.

Find out how easy it is to incorporate inquiry-based probeware solutions into your science class. Learn to use probeware to help students grasp core concepts more quickly. Get students actively collecting data with sensors and dataloggers similar to the way actual scientists do.

Y-13 The Physics SARs Present 2

Joseph Zawicki, STANYS Physics DAL, Buffalo State College; William Leacock, SAR-Nassau Section; Ed McDaniels, SAR-Suffolk Section; Herb Gottlieb, SAR-New York City Section; Pam Gore, SAR-North Central Section

K-12, HS, Col: Physics

This session includes a series of presentations by STANYS SARs among these will be demonstrations that excite students, exciting demonstrations in kinematics and others.

Y-14 and Z-14 Science and Technology in the Exit Project Process

Jeffrey Piontek, NYC Department of Education

K-12, El, I, Sup: General Interest, Elementary, Earth Science, Living Environment, MST, Research, Supervision/ Administration

This is a double workshop session involving Y-14 and Z-14. Participants must register for, and attend BOTH workshops.

The workshop will entail a hands on presentation of how to complete the exit project process for Eighth grade students using the web quest format. I will explain the requirements of the Exit Project and then present the process by which a student can complete their project by using the Internet for Primary sources and informing them on how to use Technology to enhance their projects.

Y-15 Chandra and the X-Ray Universe - II

Paul Stengel, The Wright Center, Tufts University

I, HS: General Interest, Earth Science, Physics

The Chandra X-ray satellite is the most advanced X-ray observatory launched by NASA. See the latest images and find out how Chandra's observations of supernovae, colliding galaxies, and black holes are changing our theories of the cosmos. Classroom activities/handouts.

Y-21 NYLearns – Setting the Standard for Educational Web Sites

Eric Vosburgh, Center for Applied Technologies in Education

K-12: General Interest, MST, Supervision/ Administration

NYLEARNS is a dynamic, New York Standards-based, content-rich educational website for teachers, students, parents, and administrators. Participants will explore best practices and strategies for instruction and assessment while using the online resources and content development tools to improve planning and curriculum delivery.

Y-23 Literacy Strategies in the Teaching of Middle School Science

Arnie Serotsky , STANYS / SUNY Brockport Department of Education

I, HS: General Interest

Learn about and try your hand at a variety of literacy strategies especially useful in teaching inclusive middle school science classes. Included are Concept Maps, Frayer Diagrams, Inferencing Charts, 3-2-1, and Strategy Logs. Remember.... we are all reading teachers!!

Y-24 NYS Science Olympiad – Remote Sensing

Brendan Herlihy, retired

I, HS: General Interest, Earth Science, MST

Participants in this workshop will use topographic maps, historic documents, aerial and satellite images to solve some political problems.

Y-26 and X-26 Healthy Lifestyles

Kottie Christie-Blick, South Orangetown Central School District

El: Elementary

This is a double workshop session involving X-26 and Y-26. Participants must register for, and attend, BOTH wokshops.

In this hands on session, elementary teachers experience a 3-week unit that addresses national concerns over the unhealthy lifestyle of this generation of children, especially childhood obesity. The unit fulfills national and state science standards while preparing children for the ELST.

Joe Zawicki and Tom Shiland present a plaque to Diana Harding during the NYSSELA Science Leadership Luncheon

Y-27, X-27, and Z-27 Nanotechnology: Build a Teeny Tiny Circuit

Anna Waldron, Nanobiotechnology Center; Carl Batt, Cornell University

I, HS, Col: Chemistry, Physics

This is a triple workshop session involving X-27, Y-27, and Z-27. Participants must register for , and attend, ALL THREE.

Learn about nanotechnology techniques by building a 'teeny tiny' circuit using technology specially developed for middle and high school classrooms.

Y-28 and Z-28 The Use Of FERMI Problems In Teaching And Learning

Dr. Mitch Batoff, President, New Jersey Science Teachers Association

K-12, Col, Sup: General Interest, Supervision/Administration

This is a double workshop session involving Y-28 and Z-28. Participants must register for, and attend, BOTH wokshops.

This session will deal with the following topics: What are Fermi Problems or Fermi Questions? How did the name originate? More than 30 examples including a hands on activity. Educational benefits. Useful interesting handout. Also, a sharing session. Bring three of your favorite Fermi Problems and take home a collection of at least 50.

Y-29, X-29, and Z-29 What's the Matter With D?

Glenn Dolphin, Union Endicott High School; Susan Sharp, Phoenix High School

HS: Earth Science

This is a triple workshop session involving X-29, Y-29, and Z-29. Participants must register for, and attend, ALL THREE.

Join the Earth Science Subject Area Representatives as they present the most up to date information of the new Performance Test for the Regents Earth Science Exam. There will be an explanation of the stations, helpful advice and parallel tasks will be discussed.

Y-31 and X-31 Chemistry Showcase – Chemistry SAR's and Associated Members Present a Variety of Exciting Demonstrations and Activities

Lance Rudiger, Potsdam Central

HS: Chemistry

This is a double workshop session involving X-31 and Y-31. Participants must register for, and attend BOTH workshops.

Chemistry SAR's and associated members will demonstrate a wide variety of their most successful, exciting or favorite demonstrations and activities.

Y-32 Cool Tools for Waves and Sound

Dwight Putnam, Arbor Scientific

K-12, Col: General Interest, Physics

Participants will see and use innovative, hands on products related to waves and sound. Products to be demonstrated include the Super Slinky, Wave Sticks, Talkie Tapes, Thunder Drum, Singing Rods, Boomwhackers, and Audioscope software for sound analysis. Teaching tips and lesson ideas for all grade levels!

Y-37 Safety and the NYS Science Educator

Mikki Bieber, STANYS Safety Committee

All: General Interest

Are you teaching science safely? Do you know what is considered safe science? Unsafe science? What should you know about safety in the science classroom? Be informed, be prepared and be safe!

Y-43 and Z-43 The Jason Project Meets Texas Instruments

Robert Goodman, North Shore Hebrew Academy High School

El, I: Elementary, Earth Science, Environmental Science

This is a double workshop session involving Y-43 and Z-43. Participants must register for, and attend, BOTH wokshops.

The Jason Project and Texas Instruments have formed an alliance. This partnership has provided the opportunity for students to conduct over 15 Jason Activities using TI equipment. In this workshop we will explore a predator-prey event, leaf cutting ants and a topographic map through the use of a Graphing Calculator. These hands on activities are all designed to help middle school students improve their graphing skills while learning science.

Y-44, X-44, and Z-44 The Wright Stuff – Building and Flying Indoor Model Aircraft – Information and Demonstrations

Jesse Aronstein, Donald Typond, Alfred Shepard, and Richard Brown, Mid-Hudson Modelmasters

All: General Interest, Elementary

This is a triple workshop session involving X-44, Y-44, and Z-44. Participants must register for, and attend, ALL THREE.

A demonstration of model airplane building and flying techniques for the Science Olympiad's Wright Stuff event and after-school programs. Handout material includes plans and basic information on building, flying and sources of supplies. This is an informal walk-in session.

Session Z

Z-01 Tie Science Inquiry to Math and Literacy for Middle and HS Earth Science

Claudia Toback, It's-About-Time, Inc.

I, HS: Earth Science

It's-About-Time has something for teaching Earth Science; Investigating Earth Systems and Earthcomm will connect your students to science content, inquiry, literacy and math through research-based processes.

Z-02 Put Some ACTIVE Into Problem Solving Activities

Kenis Sweet and Brian Leibacher, YMCA Camp Chingachgook

All: General Interest

Using Games and scenarios, participants will work together to creatively solve physical challenges. Activities and follow-up discussions help build respect, community, self-esteem, responsibility, and trust.

Z-03 Prentice Hall Chemistry – Integrating Text & Technology

Leslie Bettencourt, Prentice Hall Science Consultant

HS: Chemistry

Join Leslie Bettencourt, Prentice Hall Science Consultant as she demonstrates how you can integrate technology to give your students all the elements of success. We will introduce the New York Chemistry text and show you the most sophisticated interactive text online. Experience the all-new Virtual ChemLab in action. Sample texts and Virtual ChemLab to all attendees.

Z-04 and Y-04 Bio-Rad ELISA Immuno Explorer Kit – 1.5 hours

Jana Penders and Olga Padilla, Bio-Rad Laboratories

I, HS, Col: Elementary, Living Environment

This is a double workshop session involving Y-04 and Z-04. Participants must register for, and attend BOTH workshops.

Biology's magic bullet. Explore immunology with this topical, new hands on classroom lab. ELISA (enzyme-linked immunosorbent assay) is a powerful antibody-based test used to detect diseases such as HIV/AIDS or SARS, and to trace pathogenic agents in water, food or the air whether these emerge naturally or through acts of aggression. You will perform ELISA and learn how this assay identifies agents of disease, food allergens or molecular markers of cancer, pregnancy and drug use. This kit integrates multiple standards in a single lesson, including antigen-antibody interactions and the role antibodies play in medicine, epidemiology, and biotechnology.

Z-05 Toyota TAPESTRY Grants for Teachers + $$$ for You School!

John (Jack) Padalino, Paul F. Brandwein Institute, Inc.

All: General Interest, Environmental Science, Supervision/Administration

Come to this session to learn how to get your share of the $550,000 in grants each year available from Toyota TAPESTRY through NSTA. The presenter chairs the environmental science judges panel.

Z-06 Engineering Activities for Grades K-6

Patrick Foster, Central Connecticut State University

El: Elementary, MST

Age- and content-appropriate engineering activities will be introduced which (A) realize national science and technological education standards and (B) correlate to the life and education of elementary children. Considerations will include materials, teaching methods, and level of project-related feedback. Handouts.

Z-07 Preparing for the ELS Performance Tasks

Jacqueline Garelick, Margaretville Central School

El: Elementary

Ideas to help teachers of grades K-4 prepare their students for the ELS Performance Tasks .

Z-08 …The Marble Domino Playground…

Todd Hill, Port Jervis High School

All, HS: General Interest, Earth Science, Living Environment

The purpose of this presentation is to discuss graveyards, specifically the tombstones in them. The talk will discuss materials used with respect to time. Weathering, ornamentation, format, and information presented on the stones will also be discussed with both a historic and an earth science emphasis. These topics will be highlighted with slides. References for future research in this area will also be presented.

Z-09 Tails of Trilobites

John Chiment, Cornell Institute for Biology Teachers

All: General Interest, Earth Science, Living Environment

An exploration in paleobiology. What can we learn about the life history of an extinct organism? Measure and graph the growth stages of the trilobite, Phacops rana.

Z-10, X-10, and Y-10 Hands on Data Collection Your Way with Vernier LabPro®

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Chemistry, Physics

This is a triple workshop session involving X-10, Y-10, and Z-10. Participants must register for, and attend, ALL THREE.

In this hands on workshop, we will show you how to integrate our data-collection technology into your chemistry, biology, physics, math, middle school science, physical science, and earth science curriculum. Our products can be used with computers, TI graphing calculators, and Palm OS® handhelds.

Z-11 Living Environment Share-A-Thon

Alan Seidman, Barbara Hobart, Sister Mary Ita O'Donnell, and Denise Reiner, STANYS

HS: Living Environment

Join other L.E. teachers in a Share-a-Thon session. Bring 40 copies of a favorite lab, demo, project or teaching tip. See what other L.E. teachers are doing to make the course exciting and meaningful.

Z-12, X-12, and Y-12 Benefits of an Inquiry Approach to Science

Brian McKinney, PASCO Scientific

I, HS, Col: General Interest

This is a triple workshop session involving X-12, Y-12, and Z-12. Participants must register for, and attend, ALL THREE.

Find out how easy it is to incorporate inquiry-based probeware solutions into your science class. Learn to use probeware to help students grasp core concepts more quickly. Get students actively collecting data with sensors and dataloggers similar to the way actual scientists do.

Z-13 The Physics SARs Present 3

Joseph Zawicki, STANYS Physics DAL, Buffalo State College; Charlene Rydgren, SAR-Northeastern Section; Robert Stewart, SAR-Southeast Section; Michael Jabot, SAR-Southwestern Section; Lowell Sylwester, SAR-Western Section

K-12, HS, Col: Physics

This session includes a series of presentations by Physics SARs among these will be using ranking tasks in the physics classroom, physics on the TI-graphing calculator, concepts in E & M and others.

Z-14 and Y-14 Science and Technology in the Exit Project Process

Jeffrey Piontek, NYC Department of Education

K-12, El, I, Sup: General Interest, Elementary, Earth Science, Living Environment, MST, Supervision/Administration

This is a double workshop session involving Y-14 and Z-14. Participants must register for, and attend BOTH workshops.

The workshop will entail a hands on presentation of how to complete the exit project process for Eighth grade students using the web quest format. I will explain the requirements of the Exit Project and then present the process by which a student can complete their project by using the Internet for Primary sources and informing them on how to use Technology to enhance their projects.

Z-15 Using the World Wide Web in Your Biology Classroom

Robin Heyden, Prentice Hall

HS: General Interest, Living Environment

What does the WWW have to offer? What makes for a worthwhile activity online? What does a classroom making full use of the web look like? And how do I get myself and my classroom Internet-ready? Robin Heyden, co-author of Biology: Exploring Life, will share resources and suggestions for using the WWW in your biology teaching.

Z-21 HERA: NASA Space Science Data Analysis in Your Classroom

Dr. James Lochner, USRA & NASA/Goddard Space Flight Center; Sara Mitchell, SP Systems & NASA/ Goddard Space Flight Center

HS: MST, Research

This workshop will show how your students can be astronomers by analyzing NASA data on black holes using NASA software. Using HERA, your students will extend basic math and science concepts into real research applications.

Z-22 Problem Based Learning

De Anna Roberson, Louis D. Brandeis High School; Barbara Poseluzny, A. Philip Randolph Campus High School

HS: Living Environment

This workshop is designed to introduce participants to world scenarios that can be utilized with their students. These scenarios will help foster and develop the critical thinking skills of students. The use of scenarios will aid in student preparation for the Living Environment Regents.

Z-23 Science Kit Presents: Juniors! Teacher Developed products for PreK - 6

Paula Loggans and Samantha Gasz, Science Kit & Boreal Laboratories

El: Elementary

For 15 years Science Kit has worked with teachers to develop exceptional classroom tested products. Come see the newest TD/CT products designed specifically to bring science into the elementary classroom. Find out how to become a teacher developer. Giveaways by drawing!

Z-24 On-line Elementary Science Professional Development with WGBH

Michael Doyle, Jennifer Sorochin, and Barbara Van Wicklin, Cattaraugus Allegany BOCES

El: Elementary, Living Environment, MST

Presentation will highlight teacher/facilitator experiences with high quality on-line professional development experiences in life science for grades k - 4. On-line learning integrates Flash and streaming video. Offerings are developed and supported by WGBH Public Television.

Z-26 Astronomy and Reach for the Stars

Tom Lewis, New York State Science Olympiad

I, HS: Earth Science

The workshop will help science olympiad coaches prepare for the astronomy events in this year's olympiad. Prep questions and web sites will be provided to help you prepare your students for this competition.

Z-27, X-27, and Y-27 Nanotechnology: Build a Teeny Tiny Circuit

Anna Waldron, Nanobiotechnology Center; Carl Batt, Cornell University

I, HS, Col: Chemistry, Physics

This is a triple workshop session involving X-27, Y-27, and Z-27. Participants must register for, and attend, ALL THREE.

Learn about nanotechnology techniques by building a 'teeny tiny' circuit using technology specially developed for middle and high school classrooms.

Z-28 and Y-28 The Use Of FERMI Problems In Teaching And Learning

Dr. Mitch Batoff, President, New Jersey Science Teachers Association

K-12, Col, Sup: General Interest, Supervision/Administration

This is a double workshop session involving Y-28 and Z-28. Participants must register for, and attend, BOTH wokshops.

This session will deal with the following topics: What are Fermi Problems or Fermi Questions? How did the name originate? More than 30 examples including a hands on activity. Educational benefits. Useful interesting handout. Also, a sharing session. Bring three of your favorite Fermi Problems and take home a collection of at least 50.

Z-29, X-29, and Y-29 What's the Matter With D?

Glenn Dolphin, Union Endicott High School; Susan Sharp, Phoenix High School

HS: Earth Science

This is a triple workshop session involving X-29, Y-29, and Z-29. Participants must register for, and attend, ALL THREE.

Join the Earth Science Subject Area Representatives as they present the most up to date information of the new Performance Test for the Regents Earth Science Exam. There will be an explanation of the stations, helpful advice and parallel tasks will be discussed.

Z-32 NYSED Grade 4 Elementary Level Science Test – Going Beyond the Content.

Bill Ottman, East Irondequoit Central Schools

El: Elementary, Supervision/Administration

Participants will look at questions from the ELS test to determine what they are really asking of students. Ideas for how this information can be used to enhance student learning will be shared and discussed.

Z-34 Canal and Rail Travel

Joanne Corey and David Corey; retired

All, Retirees: General Interest

Come find out about some fascinating trips you can take by canal and/or rail. Share your travel experiences with us.

Z-37 The Day the Circus Came to School

April Pokorny, Jamie Thom, Katherine Haack, Patty Ziparo, and Kenneth Miller, Westhampton Beach UFSD

El: General Interest, Elementary, MST

Want to excite your students? Learn how Westhampton Beach Elementary School used circus arts as an interdisciplinary theme to rev up the math, science and technology, physical education, language arts and social studies curricula.

Z-43 and Y-43 The Jason Project Meets Texas Instruments

Robert Goodman, North Shore Hebrew Academy High School

El, I: Elementary, Earth Science, Environmental Science

This is a double workshop session involving Y-43 and Z-43. Participants must register for, and attend, BOTH wokshops.

The Jason Project and Texas Instruments have formed an alliance. This partnership has provided the opportunity for students to conduct over 15 Jason Activities using TI equipment. In this workshop we will explore a predator-prey event, leaf cutting ants and a topographic map through the use of a Graphing Calculator. These hands on activities are all designed to help middle school students improve their graphing skills while learning science.

Z-44, X-44, and Y-44 The Wright Stuff – Building and Flying Indoor Model Aircraft – Information and Demonstrations

Jesse Aronstein, Donald Typond, Alfred Shepard, and Richard Brown, Mid-Hudson Modelmasters

All: General Interest, Elementary

This is a triple workshop session involving X-44, Y-44, and Z-44. Participants must register for, and attend, ALL THREE.

A demonstration of model airplane building and flying techniques for the Science Olympiad's Wright Stuff event and after-school programs. Handout material includes plans and basic information on building, flying and sources of supplies. This is an informal walk-in session.

Is it igneous, sedimentary, or metamorphic?
Earth Science Rock Swap — participants

How do I reserve an accommodation in a hotel?

What registrant data is required on the Hotel Reservation Form?

SECTION 1

EACH person attending must complete the form. Appropriate information that will enable the hotel to contact you is requested. Also requested are your dates of arrival and departure. For full Conference attendees these dates would be November 7 through November 9, 2004. The rate schedule does not apply to any dates outside this range. You are asked to provide the name(s) of the person(s) with whom you will share the room. This is vital information so that duplication of bookings can be avoided.

If you choose to have the hotel assign a roommate to you, neither STANYS nor the hotels assume any responsibility for the roommate you are assigned. It is strongly advisable to contact the person prior to the Conference to establish communication. ***This only applies to double occupancy. If a roommate cannot be found you will be charged the single room rate.***

SECTION 2

Accommodation offerings and the respective rates are indicated. While rates are offered for multiple and single occupancy, you can take advantage of substantial savings by selecting multiple occupancy and sharing the room with another. This savings is available as an incentive to use the multiple occupancy choice, helping to assure that the hotel room capacity accommodates the maximum number of persons. Please note that triple and quad rooms are subject to room availability. Visit the hotel website http://www.nevele.com/ or call 800-647-6000, for further information regarding hotel facilities and accommodations.

What payment is required for the hotel room?

SECTION 3

You must accompany your reservation with a deposit payment of $50 for each person. You can choose to pay your hotel reservation deposit (and your hotel bill) by credit card or by check. Mail the deposit payment directly to the hotel at the address shown on the form. NOTE: Your room will be held until 7:00 p.m. on the day of arrival. **YOUR ROOM IS NOT GUARANTEED AFTER 7:00 p.m.** *If you are planning to arrive later than 7:00 p.m., you must inform the hotel prior to that time.*

What are the criteria for Tax Exempt Status?

SECTION 4

Payment made to the hotel by an ***individual is not tax exempt.*** You are responsible for all taxes if you pay with cash, personal check or a personal credit card.

To receive tax exempt status your school or organization must submit a Tax Exempt Certificate along with this form and provide payment in full. Payment must be made with the school's or organization's check or credit card.

Where do I obtain help if there is any part of the registration/reservation process I do not understand?

Call Jack Higham, 800-893-0348/607-748-0348, for help

For additional hotel reservation and conference registration forms check the STANYS web site:

www.stanys.org

For current Hotel Information visit the hotel web site:

www.nevele.com

Conference attendees register at Nevele Grande East

TEAR ALONG PERFORATION

1. Registrant's Data

Each person must complete a separate reservation form. Duplicate the form as needed for other registrants with whom you plan to share accommodations. Please print all information required below. This form applies to either hotel.

PERSONAL INFORMATION

Name

Home Phone

Street Address

City State Zip

Email Address

SCHOOL/COMPANY INFORMATION

School/Company Name

School/Company Work Phone

Arrival Date

Departure Date

SHARING ACCOMMODATIONS WITH:
(Check all that apply)

❑ Spouse ❑ Roommate(s)
❑ Children ❑ Prefer Single Accommodations

Name(s) of person(s) with whom you are sharing accommodations:

PLEASE ASSIGN A ROOMMATE (Double Occupancy only):

(STANYS/Nevele Grande Hotels are not responsible for assigned roommates.) If a roommate cannot be found, attendees will be charged the single room rate.

❑ Male ❑ Smoker
❑ Female ❑ Nonsmoker

2. Hotel Accommodations

The rates below are based on a minimum two-night stay. The Full American Plan runs from after lunch on the day of arrival to after lunch on the day of departure, and includes gratuities for dining room waiter, busboys and chambermaids. (Bellmen are not included.)

Both hotels are non-kosher. Pre-packaged kosher meals are available on request. No prior arrangements are necessary, simply inform the maitre d' on your arrival.

Attendees coming for the full conference will receive priority booking over attendees coming in for one night. ***There is an additional charge of $15.00 per person per room for a one-night reservation.*** To accommodate the maximum number of persons in the hotels, we respectfully request that you consider multiple occupancies. Please check your choice for hotel accommodations and occupancy rate below.

Call hotel for room details 1-800-647-6000.

	OCCUPANCY RATES / PERSON / DAY			
HOTEL - TYPE OF ROOM	**Double**	**Triple**	**Quad**	**Single**
Nevele West - Empire (Full Conf. Stay Required)	$148 ❑	$130 ❑	$130 ❑	N/A
Nevele West - Colonnades	$133 ❑	$120 ❑	$120 ❑	$170 ❑
Nevele West - Tower	$128 ❑	$116 ❑	$116 ❑	$164 ❑
Nevele West - Golden Gate & Vacationer	$118 ❑	$110 ❑	$110 ❑	$154 ❑
Nevele East - Executive (Full Conf. Stay Required)	$133 ❑	$120 ❑	$120 ❑	$170 ❑
Nevele East - Standard	$128 ❑	$116 ❑	$116 ❑	$164 ❑
Children under 10 sharing room w/ parents	$44 ❑			
Children 10 or over sharing room w/ parents	$85 ❑			

- Rooms and keys will be available on Sunday after 4:00 p.m. Earlier arrivals are welcome to use the hotel's facilities.
- Rooms will be held until 7:00 p.m. on day of arrival. YOUR ROOM IS NOT GUARANTEED AFTER 7:00 P.M. If you are planning to arrive later than 7:00 p.m., you must inform the hotel prior to that time. Nevele Grande Hotel: 1-800-647-6000.
- Please note: You may pay by check, cash or credit card.
- Reservations can be faxed to the hotels. No reservations are taken by phone.
- **Rooms are on a first come, first served basis.** Two night minimum will be given priority.

3. Payment

A deposit of $50.00 per person is required. Reservations received on or before October 15, 2004 will be acknowledged by your hotel. Deposits will be returned if your hotel is notified of your cancellation at least 72 hours prior to 6:00 p.m. on your day of arrival.

❑ **PAYING DEPOSIT BY CREDIT CARD** ❑
Visa ❑ Master Card ❑ Amex

Print Cardholder's Name

Card Number

Expiration Date

Cardholder's Signature

Fax reservation must have complete credit card information. Nevele Grande Hotels, ***fax 845-647-3662***

❑ **PAYING DEPOSIT BY CHECK**
Please enclose a check for $50 made payable to the hotel.

Mail this form with deposit to:
Nevele Grande Hotels
Ellenville, NY 12428

4. Tax Exemption

Payment made to the hotel by an **individual** is **not** tax exempt. You are responsible for all taxes if you pay with cash, personal check or a personal credit card.

To receive tax exempt status your school or organization must submit a Tax Exempt Certificate along with this form and provide payment in full. Payment must be made with the school's or organization's check or credit card.

Hotel Reservation Form

STANYS 109th Annual Conference • Sunday, November 7 - Tuesday, November 9, 2004

Conference Registration Form Instructions

Who must register for the Conference?

Each person attending the Conference **must** complete a *Conference Registration Form*.

If you plan to attend the Conference and stay in a hotel you **must** complete **both** *a Conference Registration Form and a Hotel Reservation Form.*

If a spouse or child attending the conference with you does **not** want to attend workshops and/or visit exhibits, there is **no** registration fee for them. **They must however, complete a Conference Registration Form separate from yours.**

PLEASE read and complete the necessary forms carefully.

What registrant information do I need to put on the Conference Registration Form?

SECTION 1

STANYS ID number. This 4-digit number is on your membership card or on the brochure's mailing label, if your brochure was mailed to your home address. If you can't find your number, or have newly joined STANYS, we will attach your number for you;

Membership status. The brochure mailing label contains the date of your membership expiration. If you find no date on the label, you are not currently a member of STANYS; then select New. If your membership expiration date is June 30 2004 or lower, your membership has expired; then select Renew. If your membership expiration is June 30, 2005 or higher, select Current.

Personal information; correct name; home address, and school/work address; The name of your school or work affiliation; Your correct home and work telephone numbers; Your complete current email address; (N.B. Your name, school or work affiliation, school/work city and state will appear on your name badge. Please be sure the wording is exactly as you want it to appear.)

STANYS section to which you belong or with which you wish to be affiliated. You can find the list of sections on page 5.

Category of STANYS membership in which you wish to be enrolled;

Specific Area(s) of Interest you teach or your position of responsibility;

Anticipated lodging. While the hotel will receive your hotel reservation form, we need to know where you plan to stay, too.

What function request should I include?

SECTION 2

Function requests, includes the special luncheons, and a social. Any Conference attendee may attend these functions, however, **preregistration is required for each.** A meal ticket for each special luncheon can be purchased at the respective hotel by registrants who are **not** lodged in either hotel. If you are lodged in one hotel and attend a special luncheon in the other hotel, you use the meal ticket for your hotel. You must preregister for the following:

- **Intermediate Level Luncheon – Monday:** open to all intermediate level teachers. A meal ticket is required.
- **Science Leaders Luncheon – Monday:** if you are a member of the New York State Science Education Leadership Association, or are interested in Science Education Leadership. This luncheon is also the Annual Meeting of the Membership of NYSSELA;
- **Elementary Teachers Social – Monday:** 6:00 p.m., if you are an elementary teacher, or are interested in networking with other elementary educators. A meal ticket is not required for this function.
- **Science Honor Society Luncheon – Tuesday:** if you are involved with a Science Honor Society chapter, or want to find out more about starting a chapter in your school.

What Conference fee should I select?

SECTION 3

"Full Conference" allows you to attend the entire conference or any combination of two days;

"Sunday only", "Monday only" or "Tuesday only" allows you to attend the conference on **the respective day** for which you register. *If you choose a one-day only category, you must arrive and depart on the same day. Your registration materials will only be available for you on the day you are registered.*

"Preservice Student" accommodates college preservice students in Science Education. Both full conference and a one-day onsite rate are available. Check the STANYS membership information elsewhere in the brochure for information about this category of STANYS membership.

"Retired" allows the retired science educator to register for the equivalent of the Full Conference category.

"Nonteaching Spouse and Child" choices are for those persons who wish to attend workshop sessions and/or visit the exhibits. The category allows participation of the person at the Full Conference level. If you are registering in this category you must complete Sections 3 and 4 as described below. The Child Conference Registration fee is for children in Grades 12 or under.

The rates for the above categories are split into two divisions; current STANYS member, and nonmember or renewal. Two rate schedules are shown that depend on when you submit your registration form. To determine which division applies to you, check for your STANYS membership expiration date, or use nonmember to obtain a new or renewed membership. Note: You can realize substantial savings if you register by the "early bird" deadline.

In order to qualify for the "early bird" rate you must submit your form with US Post Office cancellation mark dated on or before Friday, October 15, 2004.

What workshop requests should I include?

SECTION 4

Indicate which workshop you wish to attend in each of the sessions (X, Y, Z and A through G). Three priority choices are required. Workshop limits on the number of people, and room size affect your chances of being placed. Scheduling you into each session according to your highest priority or to the highest priority we can reach for you, will assure you of getting into sessions that come closest to meeting your needs. And, you are guaranteed a seat in the room no matter when you arrive for the session. Sessions will not be overbooked. **Please note: You can enter a workshop session only if the number for that session is printed on your name badge.**

What are my payment options if I register by mail?

SECTION 5

Credit card: Will accept Visa and Master Card only. Please supply all necessary information

Check: If you are submitting more than one form, the check can be written to cover all of the fees for all of the registrants. Make your check payable to "STANYS Conference"

Purchase orders are not accepted.

Mail completed form with payment to: Conference Registrar, 489 Echo Road, Vestal, NY 13850

How do I register and pay online?

STANYS offers online Conference registration with **payment by credit card, only.**

To register and pay on line:

Complete a paper registration form using the brochure form or a copy of it as a guide.

Go to the STANYS web site, www.stanys.org, and follow the directions for registering online;

Print and save the completed online Registration Form for your records.

How can I use the STANYS web site to help me with my registration if I am not registering online?

You can view the entire Conference Brochure, including the Registration and Hotel Form at the STANYS web site, www.stanys.org; and you can print out the pages of the brochure for your convenience. The Conference Registration Form and the Hotel Reservation Form are both **interactive**. This means you can fill out either one while at the web site, and then print out the completed form. You cannot pay your conference registration nor your hotel deposit this way, however. This option allows you to have legibly printed forms to send with your payment to the Conference Registrar and to the Hotel Reservations Desk.

TEAR ALONG PERFORATION

ONLINE REGISTRATION AVAILABLE BY CREDIT CARD ONLY - WWW.STANYS.ORG

1. Registrant/Membership Data

Each participant, ***including spouse and/or children,*** must complete a ***separate*** registration form. Duplicate the form as needed. Please print all information. ***Lines marked with an asterisk (*) in the form will appear on your Conference name badge. Use wording you wish to have appear on your Conference name badge.***

†† Your unique four digit STANYS ID# appears on your membership card.

STANYS ID #†† _____

Membership Status: ❑ New ❑ Renew ❑ Current (Expires 2005+)

PERSONAL INFORMATION

Name* _____ Home Phone _____

Street Address _____

City _____ State_____ Zip _____

Email Address _____

SCHOOL INFORMATION

Name* _____ Work Phone _____

Street Address _____

City* _____ State* _____ Zip _____

STANYS Section to which you wish to belong: (Circle one) *[see page 6]*

Ce CL CW Ea MV Na NC NE NW NYC SE So SW Su WE WR

Category of STANYS membership: (Check one) *[see page 6]*

Membership year runs from 7/1 - 6/30; fee not refundable.

❑ Regular ❑ Associate ❑ Retired ❑ Student (preservice) ❑ College Eduation Senior

Specific Area(s) of Interest: (Check all that apply)

❑ Elementary ❑ Intermediate ❑ High School ❑ College ❑ Administration ❑ Research
❑ Biology ❑ Chemistry ❑ Earth Science ❑ Physics ❑ Environmental

Anticipated Lodging: (Check One) ❑ Nevele West ❑ Nevele East ❑ Other ❑ Commuter

2. Function Requests

Check the functions that you wish to attend. **A hotel meal ticket is needed for any of the meal functions you check.**

— PREREGISTRATION REQUIRED FOR ALL FUNCTIONS. —

❑ **Intermediate Luncheon** (Mon., Nov. 7)

❑ **Science Leaders Luncheon** (Mon., Nov. 7)

❑ **Elementary Social** (Mon., Nov. 7)

❑ **Honor Society Luncheon** (Tues., Nov.8)

3. Registration Rates

Check the appropriate box next to the fee to indicate the registration category you want:

† Indicates STANYS membership fee is included.

	Early Bird Discount USPO cancellation mark on or before 10/15/04		Regular Fee USPO postmarked after 10/15/04 and on site	
	Current STANYS Member (2005 or greater)	Nonmember or Renewal	Current STANYS Member (2005 or greater)	Nonmember or Renewal
Full Conference	$75 ❑	$115 ❑ †	$100 ❑	$140 ❑†
Sunday only	$50 ❑	$90 ❑ †	$75 ❑	$115 ❑†
Monday only	$55 ❑	$95 ❑ †	$80 ❑	$120 ❑†
Tuesday only	$40 ❑	$80 ❑ †	$65 ❑	$105 ❑†
Preservice Student	$38 ❑	$58 ❑ †	$63 ❑	$83 ❑†
Retired	$33 ❑	$53 ❑ †	$58 ❑	$78 ❑†
Nonteaching Spouse (for workshops and/or exhibits)		$33 ❑		$58 ❑
Child (for workshops and/or exhibits)		$18 ❑		$18 ❑

4. Workshop Requests

Please enter the number for each workshop you wish to attend in each session (X, Y, Z, A, B, C, D, E, F and G). Please indicate a second and third choice for each session, also. Since sessions fill quickly, we may have to assign you to your second or third choice. You cannot enter a session at the conference unless the number for it shows on your name badge.

	SUNDAY, NOV. 7			MONDAY, NOV. 8				TUESDAY, NOV. 9		
Choice	X 12:30pm	Y 1:45pm	Z 3:00 pm	A 8:00 am	B 9:30 am	C 11:00 am	D 1:45 pm	E 8:00 am	F 9:30 am	G 11:00 am
First										
Second										
Third										

5. Payment Options

NO PURCHASE ORDERS OR FAXED FORMS WILL BE ACCEPTED.

ONLINE REGISTRATION AVAILABLE - BY CREDIT CARD ONLY. WWW.STANYS.ORG

If Paying by Check or Credit Card, send this form with payment to:
Conference Registrar, 489 Echo Road, Vestal, NY 13850

❑ **PAYING BY CREDIT CARD** ❑ Visa ❑ Master Card

Print Cardholder's Name _____

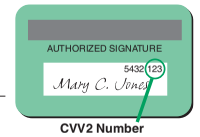
Print Billing Address of Cardholder _____

_____

Card Number __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ Exp. Date __ __ / __ __

CVV2 Code __ __ __ (Last three digits in the signature panel on the back of the credit card)

Cardholder's Signature _____



CVV2 Number

❑ **PAYING BY CHECK – make payable to:** STANYS Conference

For Office Use Only:	Reg No.	Date R'cvd	Check No.	Cash / MC / V	Payment Amt.	Member Status

109th STANYS Conference Registration Form - 2004

Session A

A-01 Robot Ramble - Science Olympiad Division C

James Boyd, CJ Hooker Middle School, Goshen Central Schools

HS, Sup: General Interest, MST

This will be a presentation on the Robot Ramble event in the C Division of Science Olympiad. Rules will be explained and strategies discussed.

A-02 Chemistry Breakfast

Lance Rudiger, Potsdam Central School Schools

HS: Chemistry

Chemistry Breakfast - A time for new and continuing Chemistry teachers to gather together, share ideas, thoughts, innovations and discuss with peers the exhilarating process of teaching Chemistry! Attendees must have a hotel breakfast meal ticket. For those not staying at the hotel, a ticket may be purchased at th e hotel reservation desk for $10.
(NOTE TIMES: 7:00 - 9:00 a.m.)

A-03 School of Invertebrates

Fred Arnold and Tom Bird, Elementary Science Program

El, I: Elementary, Living Environment

Keep animals in the classroom to master some of the concepts found in the Living Environment part of the Science Cores. Instead of a class guinea pig, why not pillbugs, redworms, or a hay infusion? Join us to explore culture methods, lesson ideas, and more.

A-05 Multi-level, Interdisciplinary Environmental Research – The Beaver Swamp Brook Project

Nick Pagliuca and Chris O'Gorman, Rye Neck High School/Rye Neck UFSD

I, HS: Earth Science, Environmental Science, Living Environment

The Toshiba Grant Award winning project centers around Beaver Swamp Brook which flows though the Rye Neck property. Students from 9th through 12th grade are involved in a long term research project using skills and concepts from all four Regents sciences and from A.P. courses.

A-06 Wild Blue Wonders - Learning About Meteorology with Help from Microsoft Flight Simulator 2004

James Kuhl, Central Square Middle School

I, HS, Col: Earth Science, Physics, MST

Wild Blue Wonders is a national, middle school competition developed by The Experimental Aircraft Association. Microsoft Flight Simulator 2004 is the basis for flight experience within the competition. Learn how WBW can be integrated into your meteorology and physical science units.

A-07 The Core and More : Preparing for the I Level Science Test

Peggy Lomaga and Amy Schneider, Longwood Junior High School

I: General Interest

Tried techniques to prepare your students for the Intermediate Level Science Test without sacrificing science content and science fun. Feel free to bring your own ideas as well.

A-08 Repair and Maintenance of Microscopes, Balances and Other Lab Equipment

Raoul Bovelle, Mel Sobel Microscopes, Ltd.

All: General Interest

Proper care and basic repair of various microscopes, balances (both mechanical and electronic) and other lab equipment. Actual demonstration of repairs with Q&A.

A-09 and B-09 Pseudomonas-Plant Interactions: HS Connect Modules

Robert Suran and Melissa Mock Cornell Institute for Biology Teachers; Nicole Markelz, Plant Genomics Research Project; Joanne Morello, Cornell University

I, HS, Col: Environmental Science, Living Environment, Research

This is a double workshop session involving A-09 and B-09. Participants must register for, and attend BOTH workshops.

Demonstrates interactions between plants and bacteria in the classroom! In these inquiry-based activities, students design experiments that demonstrate the specificity of the hypersensitive response (a plant's immune response) and exchange of genetic material between strains of bacteria. Developed in conjunction with CIBT.

A-10 and B-10 Science Data Collection with Palm OS® handhelds

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Living Environment, Chemistry, Physics

In this hands on workshop, we will show you how to integrate Vernier technology into your classroom! Learn to use the award-winning Vernier LabPro® interface to collect data with Palm OS® handhelds. Perform experiments using Vernier auto-ID sensors.

A-11 Those who can do, those who understand, teach! Exploring PCK: The Professional Knowledge of Teachers

Kathleen Lesniak, SUNY Fredonia; Lucia Guarino, St. John Fisher College; Joe Zawicki, Dan McIssac, and Kathleen Falconer, Buffalo State College; Ann Wright, Canisius College; Ethel Petrou, Erie Community College; Gail Zichittella, Cheekowaga Central High School

K-12, Sup: General Interest, Research

How do we know what our students understand, and how do we address that understanding? This session describes how PCK can give us a common language to analyze our teaching and students' learning. Sessions following will focus on the teaching of conceptually difficult topics.

A-12 Benefits of an Inquiry Approach to Middle School Science

Brian McKinney, PASCO Scientific

El, I, Sup: Earth Science, Environmental Science, Living Environment

Learn to use probeware to help students grasp core concepts such as light, sound waves, force and motion more quickly. Get students actively collecting data with sensors and dataloggers similar to the way actual scientists do. You'll also get a chance to explore a Palm handheld-based solution for middle school science data acquisition and analysis.

A-13 The Ensemble Method of Weather Forecasting

Richard Townsend, Sidney High School

I, HS: General Interest, Earth Science, Research

You and your students can learn to forecast like weather professionals! Learn how to retrieve and interpret radar, satellite, and computer model data from the Internet, and put that information to use in your classroom.

A-14 Utilizing Live Animals in the Classroom

Christopher Dossena and Paul Frisch, Fox Lane High School

K-12: General Interest, Environmental Science, Living Environment

The overall project goal is to develop a professional presentation that will demonstrate the benefits of utilizing both aquatic and terrestrial animals in the science classroom. The presentation will include live animal demonstrations, printed material, and discussion of the following: Providing information on age appropriate organisms in the classroom, and animals conducive to a classroom environment: A review of NYS regulations regarding animal husbandry in the classroom; An information guide on animal husbandry and ways to obtain materials to keep them prospering; and Lessons that will demonstrate the use of animals in the classroom.

A-15 and B-15 Bio-Rad DNA Fingerprinting Kit – 1.5 hours

Jana Penders and Olga Padilla, Bio-Rad Laboratories

HS, Col: Living Environment

This is a double workshop session involving A-15 and B-15. Participants must register for, and attend BOTH workshops.

Who done it? Forensic biotechnology answers the question. You will learn to use gel electrophoresis to analyze prepared DNA samples from 1 crime scene and 5 suspects. This activity integrates multiple life science standards in a single lesson using real-world biotechnology techniques to generate DNA fingerprints. Read more: explorer.bio-rad.com

A-21 SUNY-ESF Onondaga Lake Educational Unit

Dr. Rick Beal, SUNY ESF; Heidi Busa and John Birmingham, Marcellus High School

I, HS: General Interest, Environmental Science, MST

This presentation outlines the strengths of a new innovative interdisciplinary instructional unit designed to address NYS standards in MST, Social Studies, and English. Unit focuses on the environmental, economic, and social impacts on Onondaga Lake by human development in the watershed.

A-22 An Effective Approach to Bringing High School Students in to Teach Elementary Science

Deborah Zeman, Thomas High School, Webster

K-12: General Interest

Would you like your students to see what it's like to be a teacher to an authentic audience? The presenter has 6 years experience organizing and preparing physics classes to teach elementary students topics their teachers have requested. While the preparation takes a little time away from high school content, the rewards are more than worth it!

A-23 Managing Effective Mentor/ Student Teacher Relationships

Don Duggan-Haas, Colgate University; Jim Nicholas, Hamilton High School; Sarah Miller, Colgate University

All: General Interest

This interactive session will suggest some strategies for making the mentor/student teacher relationship an effective part of the professional development of all involved.

A-24 Designing Inquiry Lessons for the Middle School Classroom

Mary Hanchar and Catey Merriman, Niskayuna School District

I: General Interest, Earth Science, Living Environment, MST, Research

This presentation will include strategies for writing and implementing inquiry-based teaching and learning into the middle school science classroom. Included in this workshop will be use of the Vernier Lab Pro, probes and graphing calculator to enhance inquiry learning.

A-25 TIPS in Critical Thinking and Project-Based Learning

Mario D'Auria and Donna Baratta, Mildred E. Strang Middle School

El, I: Environmental Science, MST, Research

Technology Information Power Strategies (TIPS) provides participants with the opportunity to develop new ideas for project-based learning in science. See successful research strategies, technology integration and sharing of knowledge with local and global communities using multimedia presentations and the Internet.

A-26 Physics of Light Emitting Diodes

Monica Plisch, Cornell University

HS: Physics

The basic physics of light emitting diodes (LEDs) will be explained including conversion of electrical energy to light and the inverse process. Inorganic and organic LEDs and applications will be discussed. Provides background for The Phantastic Photon and Light Emitting Diodes labs.

A-27 Build a Safe Bottle Rocket and be Carried Away by McDougal Littell Middle School Science

Alice Kasten, McDougal Littell; Nancy Spaulding, Elmira Free Academy, Retired

I: General Interest

McDougal Littell's brand new Middle School Science series features true differentiated instruction, inquiry, and daily hands on activities correlated to NY standards. Enjoy several activities and learn how McDougal Littell Science reaches all students, no matter what their learning style.

A-28 Experimental Design Coaches Clinic – Division C Science Olympiad

Matthew Miller and Scott Holdren, Ravena-Coeymans-Selkirk High School

I, HS: General Interest, MST, Research

This presentation and question and answer session is for Science Olympiad coaches preparing for C Division events. Competition rules, helpful hints, and scoring will be covered. Students and B Division coaches welcome.

A-29 BaP/ Key Leader Share-A-Thon

Nancy Ridenour, Douglas Reynold, and Rodney Doran, BaP State Coordinators

All: General Interest

BaP Key Leaders will meet to share successes and challenges in their sections for identifying and training Points of Contact and implementing collaborations between STANYS leaders and Mentor networks.

A-32 Physics Part C Laboratory Activities

William Leacock, W. C. Mepham High School; Ed McDaniels, Massapequa High School

HS: Physics

Explore possible laboratory activities and applications that can help prepare students for Physics Part C regents questions.

A-33 and B-33 Hands On Image Processing Using The Flexible Camera Series Curriculum Guide

David Doty, Clear One Communications; David Sandomir, Micro Optics

All: Living Environment, General Interest, MST, Research

This is a double workshop session involving A-33 and B-33. Participants must register for, and attend, BOTH workshops.

Teachers will be provided with hands on experience with the ClearOne products used for classroom instruction. Images created by teachers during this workshop can be posted to the Internet, shared among students, gathered into digital portfolios, and analyzed with simple, but sophisticated software developed by ArcSoft and the National Institute of Health. In this workshop we provide HO experience with lap top computers and Flex Cams. Participants will receive a packet containing instructional materials, images, and software on CD-Rom.

A-35 How many angels can dance on the head of a pin?

Carl Batt and Anna Waldron, Cornell University

All: General Interest, Research

Learn about the latest discoveries in nanotechnology. How do we see things too small to see? How do we make things too small to see? Find out in this introduction to nanotechnology.

A-36 Earth Science Breakfast

Glenn Dolphin, Union Endicott High School

HS: Earth Science

Join us for Breakfast, Earth Science conversation, Updates in information, a guest speaker, plenty of giveaways, a NESTA raffle, And much, much more. Attendees must have a hotel breakfast meal ticket. For those not staying at the hotel, a ticket may be purchased at th e hotel reservation desk for $10.
(NOTE TIMES: 7:00 - 9:00 a.m.)

A-37 Formative Assessment: Small Strategies that Work in a Big Way

Mary Colvard, STANYS

I, HS: General Interest

Quick and easy formative assessment strategies will be modeled during this session. A discussion of when and how to use several of the techniques will follow activities during which participants work through a variety of formative assessment activities designed to provide feedback on student learning.

A-43 I Labs

Lauren Javitz, Christine Baron, Cheryl Rogers, and Theresa Billington, Cobleskill - Richmondville Middle School

I: Living Environment, Chemistry, Physics

Range of hands on activities and labs directed toward Grades 6-8. Life Science, Physics, Chemistry and Earth Science areas will be covered.

B-02 Action Research Poster Session

Joseph Zawicki, Buffalo State College; Lucia Guarino, St. John Fisher College

All: General Interest

This session will focus on the action research projects conducted by classroom teachers. Do you need to complete a project? Come and see what we've done!

B-03 and C-03 Everyday Technology as a Theme for Science

Gary Benenson, CITY TECHNOLOGY; Angel Gonzalez, New York City Public Schools; Mary Flores Camacho, Claremont Community School

El: Elementary

This is a double workshop session involving B-03 and C-03. Participants must register for, and attend, BOTH wokshops.

Technology is all around us, and includes far more than computers! Participants will engage in analysis and design of mechanisms, packages, symbols, maps and games; then share outcomes and discuss how technology projects can inform science education and meet standards.

B-04 Visitors from Outer Space in Your Classroom! Building Cloud Chambers and Observing Cosmic Rays

Lora Hine, LEPP - Cornell University

HS: Physics

Learn about the origin of cosmic rays and how to observe these subatomic particles in your own classroom. A teacher's guide providing valuable background information is accompanied by a student handout containing procedure steps for your students to assemble their own cloud chamber.

B-05 Polymers 101. Plastics and Other Neat Stuff

David Teegarden, Eastman Kodak Company

K-12: Elementary, Environmental Science, Research, Chemistry

We'll begin with an introduction to polymers including an overview of the major types, why they behave as they do, and how they are made. Intriguing demonstrations will illustrate physical science principles and some properties of polymeric materials (e.g., solutions and gels).

B-06 Mt. St. Helens vs. Hawaiian Volcanoes

Len Sharp, APAST President; Susan Sharp, Mississippi State University, Teacher in Geoscience Program

All, K-12, HS: General Interest, Earth Science, MST

My wife and I have hiked Mt. St. Helens and Kilauea several times on grants. Share our adventures! Learn how they differ and how you can participate in a future field study. PowerPoint, activities, and handouts.

B-07 and C-07 Science Activities Grades 5-8 using TI Technology

Tara Windle, Hayes Intermediate School

El, I: Elementary

This is a double workshop session involving B-07 and C-07. Participants must register for, and attend BOTH workshops.

This hands on session will explore 5 science activities using the TI-73 graphing calculator, CBL2 with temperature, light, and voltage probes, microphones, and CBR motion detector. All have been tested with grade 5 students! Lot's of fun!

B-08 Digital/Video Microscopy

Raoul Bovelle, Mel Sobel Microscopes, Ltd.

All: General Interest

Using digital and video cameras with your microscopes, including Q&A on computer and video connections, built-in digital/video microscopes, the VideoFlex, accessories, software, etc.

B-09 and A-09 Pseudomonas-Plant Interactions: HS Connect Modules

Robert Suran and Melissa Mock Cornell Institute for Biology Teachers; Nicole Markelz, Plant Genomics Research Project; Joanne Morello, Cornell University

I, HS, Col: Environmental Science, Living Environment, Research

This is a double workshop session involving A-09 and B-09. Participants must register for, and attend BOTH workshops.

Demonstrates interactions between plants and bacteria in the classroom! In these inquiry-based activities, students design experiments that demonstrate the specificity of the hypersensitive response (a plant's immune response) and exchange of genetic material between strains of bacteria. Developed in conjunction with CIBT.

B-10 and A-10 Science Data Collection with Palm OS® handhelds

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Living Environment, Chemistry, Physics

This is a double workshop session involving A-10 and B-10. Participants must register for, and attend, BOTH wokshops.

In this hands on workshop, we will show you how to integrate Vernier technology into your classroom! Learn to use the award-winning Vernier LabPro® interface to collect data with Palm OS® handhelds. Perform experiments using Vernier auto-ID sensors.

B-11 Teaching Tough Concepts in Physics Using PCK

Kathleen Falconer, Buffalo State College; Dan MacIssac, Buffalo State College; Marie Plumb, Jamestown Community College; Ann Wright, Canisius College; Ethel Petrou, Erie Community College; Gail Zichittella, Cheekowaga Central High School

K-12, Sup: General Interest, Elementary, Physics, Research

What concepts are difficult for you to teach, and students to learn? This workshop will draw from our experiences teaching and student conception research to share some strategies for helping students learn difficult concepts.

B-12 or C-12 Real-Time, Real-World Scientific Concepts

Brian McKinney, PASCO Scientific

HS, Col, Sup: Physics

This is a repeat workshop session involving B-12 or C-12. Register for only ONE.

Find out how probeware can help high school students gain a solid understanding of a variety of scientific phenomena. No matter which science you're exploring, sensors, interfaces, software and lab manuals provide complete, standards-based units that are easy to integrate into your current curriculum and allow students to see scientific data in real-time. You'll also get a chance to explore a Palm handheld-based solution for science data acquisition and analysis.

B-13 Mars Research (MSIP)

Charles Kuenzel, Melinda Anderson, and Mike Leonard, Saratoga Springs High School

El, I, HS: Earth Science

A presentation of how to involve students in the Mars Student Imaging Program (MSIP) at Arizona State University. MSIP is a NASA sponsored program that allows students to use the Mars Odyssey satellite to do original research on the planet Mars.

B-14 Science Supervisors: Let's Talk!

Peggy Lomaga, Longwood Junior High School

Sup: Supervision/Administration

An open forum for past, present, and future science supervisors. During this forum we will share ideas, concerns, and solutions that affect our role as science supervisors and instructional leaders.

B-15 and A-15 Bio-Rad DNA Fingerprinting Kit - 1.5 hours

Jana Penders and Olga Padilla, Bio-Rad Laboratories

HS, Col: Living Environment

This is a double workshop session involving A-15 and B-15. Participants must register for, and attend BOTH workshops.

Who done it? Forensic biotechnology answers the question. You will learn to use gel electrophoresis to analyze prepared DNA samples from 1 crime scene and 5 suspects. This activity integrates multiple life science standards in a single lesson using real-world biotechnology techniques to generate DNA fingerprints. Read more: explorer.bio-rad.com

B-21 Inquiry-based Learning Through the NASA Student Observation Network

James Thieman, NASA; Carolyn Ng, SP Systems, Inc.

K-12, El, I, HS, Col: Earth Science, Physics, Research

NASA's Student Observation Network offers a number of inquiry-based, standards-aligned activities using NASA's space science subject areas. These are being used in the NASA Explorer Schools and will work in your classroom as well.

B-22 Motivational Strategies

Thomas DePaola, Farmingdale High School

I, HS: General Interest, Living Environment, Chemistry

This workshop will allow participants to learn some new instructional strategies for use in their science classrooms. These techniques can be used during review sessions, before vacations, or just to try something new.

B-23 Problem-Based Learning in Science

Deborah Zeman and Richard Christman, Webster Thomas High School

K-12: Environmental Science, Living Environment, Physics

Do you want your students to care about and understand science content at a deeper level? Problem-based learning allows students to explore new topics from diverse and personal perspectives. With guidance and resources, teachers can lead their students to more authentic learning. The presenters will share experiences and models and provide an opportunity for exchanging ideas.

B-24 A Science Lab for Elementary School Students (Gr.4th-6th) & Science Lab on Wheels (Gr.3)

Karen Dupre, Chenango Bridge Elementary School; Cindy Gates, Port Dickinson Elementary School, Chenango Valley School District

K-12, El, Sup: General Interest, Elementary, Supervision/Administration

Overview of Elementary Science Lab (500 students) - Science Lab Teacher provides hands on activities to enhance curriculum taught by Classroom Teachers. In another building, Enrichment Teacher provides Science Lab on Wheels. (PowerPoint slideshow & handouts: Elem. Sci. Labs, Websites, sample schedules...)

B-25 and C-25 NASA Solar Research, The Standards, and The Classroom

Dennis Christopher, NASA's Goddard Space Flight Center

I, HS: Earth Science, Research

This is a double workshop session involving B-25 and C-25. Participants must register for, and attend, BOTH wokshops.

The participants will be given activities on sun-earth research that will deal with magnetism, light, scale and distance, and human factors. Each participant will get an incredible AV package with NASA imagery.

B-26 The Phantastic Photon

Monica Plisch, Cornell University; Jim Overhiser, Groton Central School

HS: Physics

Different colors of light are directly related to the energy and wavelength of the photons which compose that light. Learn a hands on activity that allows students to investigate these relationships by shining colored light from LEDs onto fluorescent paint and glow-in-the-dark tape.

B-27 and C-27 Mental Gymnastics You Can Use In Your Classroom Tomorrow

Dr. Mitch Batoff, President, New Jersey Science Teachers Association

K-12, Col, Sup: General Interest, Elementary, Supervision/Administration

This is a double workshop session involving B-27 and C-27. Participants must register for, and attend, BOTH wokshops.

More than 90 mind-boggling,thought-provoking queries and problems relevant to the physical and biological sciences. Many integrate mathematics and science. Some hands on activities will be included. Free materials for the first 20 people. Interesting useful handout.

B-28 Blood Spatter Analysis

Irene Gruber, Pelham Memorial High School; Jennifer Wagner, Tuckahoe High School

I, HS: General Interest

Forensic Science: For any teacher who is interested in conducting laboratory activities for blood spatter. Jennifer Wagner and I are being trained by Herb MacDonell, a foremost expert in blood spatter analysis.

B-29 BaP/ Section Liaison Share-A-Thon

Nancy Ridenour, Douglas Reynolds, and Rodney Doran, BaP State Coordinators

All: General Interest

Section Liaisons will meet to discuss successes and challenges in identifying and training Key Leaders and to discuss the next steps in collaborations with STANYS leaders (SAR's) and Mentor Network mentors.

INVITED SPEAKER

B-31 How the Media Mangles Science

Dr. Ricki Lewis, Science writer

All: General Interest

Scientific research makes headlines, and teachers often assign magazine or newspaper articles for students to analyze. But the science that makes it to the evening news or morning paper, often portrayed as a seemingly endless and frequently contradictory parade of breakthroughs, does not really reflect how researchers think or work. As a journalist, author, and geneticist, Ricki Lewis will take a lighthearted look at how the media identifies what is newsworthy, researches and reports it – and quite often, mangles the message.

B-32 and C-32 New Yorks State Science Olympiad Site Coordinator's Meeting

Harold Miller and Harry Kranepool, New York State Science Olympiad

I, HS: General Interest, Earth Science, Living Environment, Chemistry, Physics

This is a double workshop session involving B-32 and C-32. Participants must register for, and attend BOTH workshops.

Meeting of the site coordinators to view rules, new events, regulations, etc. ONLY SITE COORDINATORS WILL BE ADMITTED.

B-33 and A-33 Hands On Image Processing Using The Flexible Camera Series Curriculum Guide

David Doty, Clear One Communications; David Sandomir, Micro Optics

All: Living Environment, General Interest, MST, Research

This is a double workshop session involving A-33 and B-33. Participants must register for, and attend, BOTH workshops.

Teachers will be provided with hands on experience with the ClearOne products used for classroom instruction. Images created by teachers during this workshop can be posted to the Internet, shared among students, gathered into digital portfolios, and analyzed with simple, but sophisticated software developed by ArcSoft and the National Institute of Health. In this workshop we provide HO experience with lap top computers and Flex Cams. Participants will receive a packet containing instructional materials, images, and software on CD-Rom.

B-34 Elementary Science Methods Course Share-A-Thon

Thomas O'Brien, Binghamton University, School of Education & Human Development; Pat Price, College of Saint Rose

Col, Sup: Elementary, Supervision/Administration

The presenters will share overviews of their courses as a catalyst to initiate an exchange of syllabi and collegial discussion about the challenges & rewards of preparing K-6 teachers of science. Please bring ~20 copies of your syllabi to share with your colleagues.

B-35 Science Kit Presents: Teacher Developed Classroom Tested Products for Biology and Earth Science

Paula Loggans and Samantha Gasz; Science Kit & Boreal Laboratories

I, HS: Earth Science, Environmental Science, Living Environment

Science Kit works with teachers to develop activities, labs, demonstrations, and manipulatives. Come see some of these tried and proven ideas for your biology, environmental science, or earth science class. Find out how you can become a teacher developer. Giveaways by drawing!

B-37 Light & Color: Hands On—Minds On Demonstrations

Dwight Putnam, Arbor Scientific

K-12: General Interest, Physics

A hands on workshop using the Arbor Scientific Light Box and Optical Set. Participants will learn how to use the Light Box and other equipment to teach optics, reflection, refraction, color, and diffraction. A Teachers Guide has been written to accompany the Light Box. Sample lessons are included in the handout. Limit to 30 participants.

Session C

C-01 Science Olympiad: Fossils

Nigel Pratt, Kellenberg Memorial High School

I, HS: Earth Science, Research

How to prepare your students for the Fossil Event in Science Olympiad. Both Div. B and Div. C coaches are invited to attend.

C-02 or D-02 SED UPDATE

Ann Crotty, Dianne Tanner, and Will Jaacks State Education Department

General: General Interest

This is a repeat workshop session involving C-02 or D-02. Register for only ONE.

This session will provide the latest information related to science education in New York State.

C-03 and B-03 Everyday Technology as a Theme for Science

Gary Benenson, CITY TECHNOLOGY; Angel Gonzalez, New York City Public Schools; Mary Flores Camacho, Claremont Community School

El: Elementary

This is a double workshop session involving B-03 and C-03. Participants must register for, and attend, BOTH wokshops.

Technology is all around us, and includes far more than computers! Participants will engage in analysis and design of mechanisms, packages, symbols, maps and games; then share outcomes and discuss how technology projects can inform science education and meet standards.

C-04 Retiree Roundtable: Stayin' in Science

Robert Dayton, NYS Biology - Chemistry Coordinating Mentor; Michael DuPre, Dept. of Environmental Medicine, University of Rochester; Fred Oberst, STANYS DAL for Retirees; Uriel Goldsmith, Westchester SAR for Retirees; Claudia Toback, President, NMLSTA; Dennis Desain, SED Consultant, Test Development

All: General Interest

Retired? Still interested in science education? We need to talk! This session is a roundtable discussion of opportunities for retired teachers who still want to be involved in science education. Other than substituting in a science classroom, what else is there to do? Come to this session and find out. Be prepared to share your expertise and experiences. A panel of retired science teachers will share what they do as part-time involvement in various facets of science education. Then an open discussion will generate other ideas for retired science teachers and more. Join us for a look at staying active in retirement. A good science education mind is a terrible thing to waste.

C-05 Polymers 201. Unique properties of plastics and other neat stuff.

David Teegarden, Eastman Kodak Company

K-12: Chemistry

In this session we'll extend our understanding of the properties of polymers. Why is a silicone rubbery, polystyrene brittle, and polyethylene somewhere in the middle? Demonstrations of pure polymers and their solutions will help us understand.

C-06 Exploring Mars Geology on Earth

Susan Sharp, NASA - JPL Solar System Ambassador, Phoenix School District

I, HS: Earth Science, MST

Find out how planetary events such as catastrophic flooding, volcanic eruption, sedimentation, glaciation, and earthquake faulting correlate to Mars geology. Standards-based classroom/lab activities. Handouts.

C-07 and B-07 Science Activities Grades 5-8 using TI Technology

Tara Windle, Hayes Intermediate School

El, I: Elementary

This is a double workshop session involving B-07 and C-07. Participants must register for, and attend BOTH workshops.

This hands on session will explore 5 science activities using the TI-73 graphing calculator, CBL2 with temperature, light, and voltage probes, microphones, and CBR motion detector. All have been tested with grade 5 students! Lot's of fun!

C-08 Teaching tough concepts in Chemistry using PCK

Gail Zichittella, Cheektowaga Central High School; Kathleen Lesniak, SUNY at Fredonia

HS: Chemistry

What concepts are difficult for you to teach, and students to learn? This workshop will draw from our experiences teaching and student conception research to share some strategies for helping students learn difficult concepts.

C-09 and D-09 Measuring Behavior

Mike Yerky, Cornell University

HS, Col: Living Environment

This is a double workshop session involving C-09 and D-09. Participants must register for, and attend BOTH workshops.

An introduction to the methods and design of behavioral studies. Hands on work with video clips of chimpanzees using scoring sheets. Lab available on CD-ROM from CIBT.

C-10 and D-10 Science Data Collection with Texas Instruments Handhelds

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Living Environment, Chemistry, Physics

This is a double workshop session involving C-10 and D-10. Participants must register for, and attend, BOTH wokshops.

In this hands on workshop, we will show you how to integrate Vernier technology into your classroom! Learn to use the award-winning Vernier LabPro® interface to collect data with Texas Instruments handhelds. Perform experiments selected from our popular lab manuals (correlated to state and national standards) using Vernier auto-ID sensors.

C-11 What are the Students' Misconceptions in Human Biology: Assessing Prior Knowledge

Ann Wright, Biology Department, Canisius College

All: General Interest, Elementary, Earth Science, Environmental Science, Living Environment, Chemistry, Physics, MST, Supervision/Administration, Research

The reasons for determining students' misconceptions prior to learning, during learning, and after learning will be explained. Ideas will be suggested on how to use information about students' misconceptions to help students to learn.

C-12 or B-12 Real-Time, Real-World Scientific Concepts

Brian McKinney, PASCO Scientific

HS, Col, Sup: Chemistry, Physics

This is a repeat workshop session involving B-12 or C-12. Register for only ONE.

Find out how probeware can help high school students gain a solid understanding of a variety of scientific phenomena. No matter which science you're exploring, sensors, interfaces, software and lab manuals provide complete, standards-based units that are easy to integrate into your current curriculum and allow students to see scientific data in real-time. You'll also get a chance to explore a Palm handheld-based solution for science data acquisition and analysis.

C-13 Home, Desk and Lab Activities in Electricity & Magnetism

Robert Stewart, Sullivan County Community College

HS: Physics

A potpourri of activities that can be used to involve students in active learning of DC circuits and magnetism at their home, desk, or in lab will be demonstrated and discussed.

C-14 Why Not the Best? Science Teacher Recruitment and Retention

Bruce Tulloch, National Science Education Leadership Association

K-12, Col, Sup: General Interest, Supervision/Administration

If you are involved in the recruitment and retention of science teachers or in the preparation of science teachers, bring your questions, concerns, strategies, and experiences to share at this session. Let's help each other get the best!

C-21 SCHOOL POWER…NATURALLY℠ Level II/III Innovative Solar Education Program in 50 NY Schools using live data

Linda Anne Burtis, Solar Works, Inc.; Judy Jarnefeld, New York State Energy Research and Development Authority; Leigh Seddon, Solar Works, Inc.; Clayton Handleman, Heliotronics, Inc.; Christopher Mason, NorthEast Sustainable Energy Association; Mary Colvard, Solar Works, Inc.

El, I, HS: General Interest, Earth Science, Environmental Science

Discussion of the 50 schools in NY that received PV systems. Demonstration of performance data and educational software, including computerized, up-to-the-minute results. Attendees will learn how any school can log on and use this data, including 45 new lesson plans.

C-22 NYSSELA: Providing a New Perspective on Science Teaching

Joseph Zawicki, NYSSELA; Tom Shiland, NYSSELA Perspectives Editor, Past-President; Bob Sorensen, NYSSELA Perspectives Editor

All: General Interest, Research, Research

NYSSELA is a statewide network of committed teachers and leaders in science education. Our quarterly newsletter, Perspectives, includes timely articles on current topics. Learn about NYSSELA and how you can impact science education debates in New York State.

C-23 Earth Science: The Physical Setting, Amsco's new textbook for the New York Core Curriculum

Thomas McGuire and Midge Pearce Amsco School Publications

I, HS, Sup: Earth Science, Supervision/ Administration

Author Thomas McGuire will guide you through Amsco's new textbook specifically written for the New York Core Curriculum for the Physical Setting—Earth Science. The presentation will highlight features that help your students prepare for the Regents exam.

C-24 Using Technology in the Science Classroom

Lee Roberts, Tuxedo Union Free School District

All, HS: General Interest, Living Environment, Chemistry

This session will show examples on using available technology to teach science. Microsoft Office, probes, and multimedia software will be discussed. Come and learn how you can use what you already have to create a more technology rich curriculum.

C-25 and B-25 NASA Solar Research, The Standards, and The Classroom

Dennis Christopher, NASA's Goddard Space Flight Center

I, HS: Earth Science, Research

This is a double workshop session involving B-25 and C-25. Participants must register for, and attend, BOTH wokshops.

The participants will be given activities on sun-earth research that will deal with magnetism, light, scale and distance, and human factors. Each participant will get an incredible AV package with NASA imagery.

C-26 Light Emitting Diodes

Monica Plisch, Cornell University; Ralph Greco, Whitesboro High School

HS: Physics

Using super-bight light-emitting diodes (LEDs) students investigate the conversion of electrical energy into light. Measuring and comparing the energy lost by each electron with the frequency of the emitted light for several LED colors allows students to determine Plank's constant.

C-27 and B-27 Mental Gymnastics You Can Use In Your Classroom Tomorrow

Dr. MITCH BATOFF, President, New Jersey Science Teachers Association

K-12, Col, Sup: General Interest, Elementary, Supervision/Administration

This is a double workshop session involving B-27 and C-27. Participants must register for, and attend, BOTH wokshops.

More than 90 mind-boggling,thought-provoking queries and problems relevant to the physical and biological sciences. Many integrate mathematics and science. Some hands on activities will be included. Free materials for the first 20 people. Interesting useful handout.

C-28 New York State Science Honor Society: An Adjunct to Your H.S. Science Program

Marilyn H. Reiner, Chairperson, New York State Science Honor Society

HS: General Interest

Beginning its second decade, the New York State Science Honor Society, the first such honor society in the country, was established to encourage interest and understanding of science and science-related careers and to recognize academic achievement in the study of science. Find out how its presence can achieve such objectives and how you may establish a chapter in your school to strengthen the science program.

C-29 BaP/Points of Contact Share-A-Thon

Nancy Ridenour, Douglas Reynolds, and Rodney Doran, BaP State Coordinators

All: General Interest

Building a Presence Points of Contact and those interested in becoming Points of Contact will have an opportunity to find out more about BaP, practice on line Internet communication, and to discuss their successes and challenges for being a PoC

INVITED SPEAKER

C-31 Mars Exploration Rovers: An Overview of Scientific Results

Dr. John Delano, University at Albany

All: General Interest, Earth Science

Geochemical data collected by NASA's two robotic rovers on Mars have demonstrated that water existed on the surface of Mars sometime in its distant past. Spectral and chemical analyses show that the mineral jarosite (hydrated iron sulfate) is a major component of the salts that were precipitated from the Martian waters. Although this mineral on Earth is commonly associated with biological processes, a sample-return from Mars will be needed to establish whether Martian microbes were present on Mars.

C-32 and B-32 New Yorks State Science Olympiad Site Coordinator's Meeting

Harold Miller and Harry Kranepool, New York State Science Olympiad

I, HS: General Interest, Earth Science, Living Environment, Chemistry, Physics

This is a double workshop session involving B-32 and C-32. Participants must register for, and attend BOTH workshops.

Meeting of the site coordinators to view rules, new events, regulations, etc. ONLY SITE COORDINATORS WILL BE ADMITTED.

C-33 Fun with Microorganisms

Lee Kowalsky, Utica City School District; Jack Demma, Parco Scientific Co.

K-12: Elementary, Environmental Science, Living Environment

Participants will learn and observe some microorganisms (rotifers, amoebae, paramecium, green algae, etc.) using a FlexCam and demoslides. You will receive some enrichment activities that emphasize microscope skills and dichotomous keys. A PARCO microscope will be raffled off to one participant.

C-35 Demo Time! Having Fun with Physics-Part II

Paul Stengel, Shoreham-Wading River High School-retired; Herb Gottlieb, New York City Physics-retired; Bob Spira, Ward Melville High School; Dave Wicks, East Hampton High School

I, HS: General Interest, Physics, MST

For novice and veteran teachers alike, there's nothing like an effective demo to capture students' attention and engage their minds. These favorites are proven, inquiry-based physical science demos that appeal to students in general science and physics. Lots of handouts and door prizes.

C-37 NASA Earth To Orbit Engineering Design Challenge Thermal Protection Systems

Kenneth Huff, Mill Middle School

I: MST

Design a model thermal protection system for the next generation of space transportation vehicles and test it over a propane torch.

D-02 or C-02 SED Update

Ann Crotty, Dianne Tanner, and Will Jaacks
State Education Department

General: General Interest

This is a repeat workshop session involving C-02 or D-02. Register for only ONE.

This session will provide the latest information related to science education in New York State.

D-03 GPS (Satellites + Maps) = Big Fun

James Kuhl, Central Square Middle School; Anton Ninno, OCM BOCES

I, HS, Col, Sup, Ret: General Interest, Earth Science, MST

Learn about the Global Positioning System, how to operate a GPS receiver and try our cool student activities. We'll be outside playing hide and seek.

D-04 Fishbanks - A Simulation of How Overfishing Becomes Reality

David Baker and Michael Mallon, James I. O'Neill High School

I, HS, Col: General Interest, Environmental Science, Living Environment

This presentation will introduce the computer simulation Fishbanks. Students set up their own fishing companies and work buying and selling gear, going into different ocean areas to catch fish and selling fish and equipment to the market and other fishing interests. Based on real numbers and real scenarios, this simulation introduces students to the whys and hows over harvesting can and does occur. This is a hands on workshop.

D-05 Polymers 301. Why don't we recycle more plastics, anyway?

David Teegarden, Eastman Kodak Company

I, HS: Environmental Science, Chemistry

The plastics that enter our lives so readily are eventually discarded. We'll review the common types and major applications of polymers. Then we'll examine options and limitations for their recycling or disposal. Finally we'll top it off with some demonstrations that illustrate basic principles.

D-06 Interpreting Event Diagrams Generated from e+ e- Particle Collisions

Lora Hine, LEPP - Cornell University

HS: Physics

This session includes a brief introductory presentation to CLEO, the modern particle detector at Cornell University's Wilson Laboratory. Using images from the detector, along with basic ground rules for interpreting particle collisions, participants will determine the identity of decay particles created following electron-positron annihilation.

D-07 Introduction To Project Learning Tree

Richard Rommel, New York Project Learning Tree; Larry Rand, Ellenville School District

All, K-12, Col: General Interest, Environmental Science, Living Environment

Project Learning Tree(PLT) is an award winning environmental education program designed for teachers and other educators working with students in grades Pre-K-12 using the environment as a teaching tool.

D-08 Teaching Tough Concepts in Biology Using PCK

Ann Wright, Canisius College; Joe Zawicki, Buffalo State College

I, HS: Living Environment

What concepts are difficult for you to teach, and students to learn? This workshop will draw from our experiences teaching and student conception research to share some strategies for helping students learn difficult concepts

D-09 and C-09 Measuring Behavior

Mike Yerky, Cornell University

HS, Col: Living Environment

This is a double workshop session involving C-09 and D-09. Participants must register for, and attend BOTH workshops.

An introduction to the methods and design of behavioral studies. Hands on work with video clips of chimpanzees using scoring sheets. Lab available on CD-ROM from CIBT.

D-10 and C-10 Science Data Collection with Texas Instruments Handhelds

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Living Environment, Chemistry, Physics

This is a double workshop session involving C-10 and D-10. Participants must register for, and attend, BOTH wokshops. In this hands on workshop, we will show you how to integrate Vernier technology into your classroom! Learn to use the award-winning Vernier LabPro® interface to collect data with Texas Instruments handhelds. Perform experiments selected from our popular lab manuals (correlated to state and national standards) using Vernier auto-ID sensors.

D-13 Science Classroom Design based on Science Standards

Neal Berkin, Pace University/Manhattanville College

All: General Interest

School districts across NYS and the USA, as a whole, are remodeling or building new science labs. Most of our current science classrooms are 40+years old and can not support student centered teaching that has a foundation in the extensive use of technology. I have successfully planned and supervised the construction of 20 new science labs in Westchester. I will offer advice on effective designs and the process needed to move through the process from start to finish.

D-14 Share-A-Thon for Science Education Leaders

Bruce Tulloch, National Science Education Leadership Association

K-12, Sup: General Interest, Supervision/ Administration

Whether you are a new or veteran science education leader in your school, bring your problems and solutions to this session and we will share strategies, experiences, and ideas to help you in your role.

D-15 Jump-Starting Students With Inquiry Activities

Herbert Koenig, N&N Publishing Company, Inc.; Robert Bush, STANYS

All, K-12: General Interest

From the old to the new using established science activities to jump-start students in inquiry-based education. Participants will witness the use of easily acquired materials to initiate problem solving in classroom performance.

Amanda E. Schulz and Laura J. Hurteau, SUNY Oneonta, demonstrate a "A Simple Dynamic Model for Paired Convection Cells and Rifting" during the Earth Science: Share-a-Thon

D-21 Earth Science Share-A-Thon

Tom Lewis, SAR Earth ScienceCentral Western STANYS; Peggy Lomaga, Longwood Junior High School; Peter Wilder, Fabius-Pompey Central School; Sandra Russell, Star Point High School; Sheila Ornstein, South Junior High School; Mike Passow, White Plains Middle School; Michelle Ebert, Greece Arcadia High School; Brad Pendergraft, Salmon River Central School; Irv Soden, Windsor High School, retired; Peggy Warren, Kendall Jr-Sr. High School

I, HS: Earth Science

Come and get the ideas from some of the best earth science teachers in the state. Labs, activities, ideas all shared by the individual teachers as they share their new ideas.

D-22 Division C Science Olympiad Coaches Information Meeting

Antonia Martin, New York State Science Olympiad

HS: Earth Science, Environmental Science, Living Environment, Chemistry, Physics, MST

Meeting for the 2004-2005 Science Olympiad Coaches to discuss this year's events as well as rules modifications and changes. Schools may register at this meeting

D-23 Celebrating 31 Great Years at STANYS

John B. Johnston, The Faraday Center

HS: Physics

More good mechanics demos from the past and new, important demos on friction, electricity, and magnetism. A good demonstration still stimulates interest, inquiry, and learning.

D-24 Science Olympiad New Coaches Information Meeting

Patricia Sherman, New York State Science Olympiad; Virginia Curry, United States Environmental Protection Agency

I, HS: Earth Science, Environmental Science, Living Environment, Chemistry, Physics, MST

Meeting of coaches who will be, or are considering participating for the first time in the 2004-2005 year. Rules, competition, events and how to organize a team will be discussed.

D-25 Serving the Third Course

Kathaleen Burke, Buffalo Science Teachers Network

HS: Earth Science, Environmental Science, Living Environment, Chemistry

Participants will examine challenging approaches to integrated science using several activities supported by NSF and correlated to National Science Standards.

D-26 Water Analogy to Electric Circuits

Monica Plisch, Cornell University; Hallie Snoman, Ithaca High School

HS: Physics

Properties of electric circuits such as current, potential, and resistance are often taught using a water analogy. This lab allows a hands on investigation of water circuits including flow, pressure, resistance, and series and parallel arrangements. The water circuit analogy provides a visual introduction to electric circuits.

D-27 Build Your Own Eurypterid

Glenn Dolphin, Union-Endicott High School

All, I, HS: Earth Science, Living Environment

Learn about a wonderful educational opportunity for you and or your students digging for fossil Eurypterids in upstate New York. In this hands on workshop you will also build your own paper Eurypterid.

D-28 Inquiring Minds Solve Problems

Mary Thomas and Douglas Brucker, Elementary Science Program, Monroe 2 BOCES

All: General Interest, Elementary

Learn about Whirligigs, Motorcycle Mike and more problem solving activities appropriate for all ages. Handouts and directions will be provided. Thinkers need only apply.

D-32 Big Ideas in Earth Science

Don Duggan-Haas and Sarah Miller, Colgate University

HS, Col: Earth Science

What ideas cut across the Earth science curriculum? Can we identify a small set of essential ideas that we hope our students will hold onto (the enduring understandings Wiggins & McTighe refer to)? How do big ideas differ from topics?

D-33 The New HO-Plastics Is Even Better

Claudia Toback, NMLSTA; Cora Walter, St. James Middle School

K-12: Chemistry

Find out how HO-Plastics is a perfect companion for teaching many chemistry concepts at any level. The material is user friendly and best of all... FREE.

Dee Miller, DAL Chemistry spins the drum during the ever exciting Door Prize evening

D-34 SCIENCE 21 — Science for the 21st Century

Abby Bergman, Putnam/Northern Westchester BOCES; John Ballard, Tri-Valley Central School District

El, Sup: Elementary, Research, Supervision/ Administration

This is an awareness session of a popular science inquiry program developed by teachers for teachers at Putnam/ Northern Westchester BOCES. SCIENCE 21 is closely aligned with the NYS Standards for MST and provides a strong literature support component.

D-35 Chemistry Share-A-Thon

Peggy Warren, Kendall Jr. Sr. High School; Robert Dayton, Chemistry SAR; Dee Miller, Alden High School, retired; Milissa Albano, Southwestern High School, Jamestown; Bea Werdon, New Rochelle High School; Linda Padwa, SUNY Stony Brook; Jeanne Garrisi, Canastota High School; Connie Duff, Assistant Superintendent for Instruction/Science Consultant Erie 2 CC BOCES; Marc Rosner, Hastings High School; Janice Menz, LeRoy Jr. Sr. High School

HS: Chemistry

Several Chemistry teachers from around the state will be sharing lesson plans and activities.

D-37 Climographs

Carol Dunbar and Sandra George, Frontier Central School District

I, HS: Earth Science

This activity has students using the Internet to collect data from several locations on the same line of latitude. They then take the data they have collected and determine which climate factors affect the climate at each location. There are several extended activities that can be done with this activity as well.

D-45 Eco-Trail Ride

Michael Passow, White Plains Middle School

All: General Interest

Join us for an informative horseback ride on the Nevele's trails, during which you will learn about our Conference's geologic setting and ecosystem, and the historic Delaware-Hudson Canal. This two-hour program requires a special $30 fee payable at the Stables. Session time is 1:45 p.m. to 3:45 p.m. Session is limited to a maximum of 10.

E-01 Will This Be On the Test? Strategies for Successful Assessment

Linda Lundgren, Glencoe McGraw-Hill

I, HS: General Interest, Living Environment, Supervision/Administration

Classroom proven strategies to help get your students prepared to be successful on standardized science tests. Learn time saving strategies, hands on techniques, and easy technology to help students succeed. Methods you can use right away. Drawing for door prizes.

E-02 Physics Breakfast: Understanding Freshman Physics Students

Joseph Zawicki, STANYS Physics DAL, Buffalo State College; Karen Cummings, Southern Connecticut State University

HS, Col, Sup: Physics, Research

Dr. Karen Cummings, from Southern Connecticut State University, will discuss the understandings of students enrolled in introductory physics courses in a presentation titled,Observation and Experimentation as the Foundation of Introductory Science Instruction. Dr. Cummings is nationally known for her work in physics teaching and learning. Attendees must have a hotel breakfast meal ticket. For those not staying at the hotel, a ticket may be purchased at th e hotel reservation desk for $10.
(NOTE TIMES: 7:00 - 9:00 a.m.)

E-05 Science Research and the New York State Science Congress

Joan Wagner, and Patricia Sherman, STANYS

I, HS: Research

There are many State and Federal laws that regulate research on human subjects, handling of vertebrates, pathogens, recombinant DNA, radioactive materials, carcinogenic chemicals and high voltage equipment. Beginning in 2005, the New York State Science Congress will be requiring all participating schools to form a Scientific Review Committee and Institutional Review Board (SRC/IRB)to review student proposals for research before they begin research. All teachers who will have students participating in the New York State Science Congress and all Section Fair Directors hosting a Science Congress should attend this important workshop.

E-06 The New York Botanical Garden - A Great Place to Learn

Donald Fulton, Ed.D., and Christina Colon, Ph.D., The New York Botanical Garden

K-12: Elementary, Environmental Science, Living Environment

The presentation will encompass several elements: 1. overview of programs and facilities for students and teachers; 2. Local Curriculum Development - Garden Adventure SEEDS; 3. National Curriculum Development - Ethnobotany Explorers; 4. Professional Development for Teachers at the Garden. It will be part Power Point, part VHS video, and part hands on demonstration.

E-07 Plant Genomics: What's New in Plant Biology

Nicole Markelz, Boyce Thompson Institute/ Cornell University

I, HS, Col: Environmental Science, Living Environment, Research

This presentation will bring the audience up to speed on advances in the field of plant biology and will provide a demonstration of lab exercises designed to teach this material.

E-08 and F-08 Science Notebooks: Using ELA Strategies to Assess Science Content & Learning

Laura Lehtonen, Capital Region BOCES; Terri O'Brien, Watervliet City School District

El: Elementary

This is a double workshop session involving E-08 and F-08. Participants must register for, and attend, BOTH wokshops.

We will examine the use of notebooks as tools to increase student learning in an inquiry-based science program. Notebooks support content development, increase the quality of learning, and provide assessment strategies for science lessons.

E-09 DLESE – The Digital Library for Earth System Education

Neil Holzman, Lamont-Doherty Earth Observatory of Columbia University

I, HS: Earth Science

What is DLESE, how can you benefit from using DLESE and how to contribute to DLESE. hands on familiarization with DLESE and opportunity to explore DLESE resources.

E-11, F-11, and G-11 HOPE - the Hydrogen Economy

Mary-Rose de Valladares and Ken Kenyon, M.R.S. Enterprises, LLC

HS: General Interest, Environmental Science, Chemistry

This is a triple workshop session involving E-11, F-11, and G-11. Participants must register for, and attend, ALL THREE.

This 3 hour secondary level workshop will train teachers in hydrogen fundamentals and use of the Hydrogen Outreach Program for Education Pilot (HOPE PilotTM) via exercises, lecture and fuel cell demonstrations. Participants receive curriculum, videos, CDROM and Regenerative Fuel Cell kit (first 50).

E-12 and F-12 NYSUT presents Middle School Key Information and Curricula with Additional Activities including FDA

Lance Rudiger, NYSUT

I: General Interest, Living Environment, MST

This is a double workshop session involving E-12 and F-12. Participants must register for, and attend BOTH workshops.

NYSUT will present a key packet of Middle School information and documents for science. Members of the Science Committee will present. In addition, top ranked activities and hands on learning experiences will be shared with the participants.

E-13 Wheeled Vehicles - Science Olympiad Division B

James Boyd, CJ Hooker Middle School, Goshen Central Schools

I, Sup: General Interest, MST

This will be a presentation on the Wheeled Vehicles event in the B Division of Science Olympiad. Rules will be explained and strategies discussed.

E-14, F-14,and G-14 Concepts of Watershed Hydrology

Peter Black, SUNY ESF

HS, Col, Sup, Ret: Earth Science, Environmental Science, Supervision/Administration

This is a triple workshop session involving E-14, F-14, and G-14. Participants must register for, and attend, ALL THREE.

Concepts of Watershed Hydrology© is a $20 animated/ narrated auto-tutorial short course CD/workbook (reproduction of slides, implications, study questions). Created for ninth grade Earth Science classes and up, it presents basics of water in the natural environment with technical terms explained. The workshop purpose is to familiarize participants with substance and and enable questions on presentation details, and discussion of study questions.

E-21 New SUNY-ESF Sustainable Communities Instructional Unit

Dr. Rick Beal, SUNY ESF; Heidi Busa, Marcellus High School

I, HS: General Interest, Environmental Science, MST

Presentation outlines the strengths of a new innovative interdisciplinary instructional unit designed to address NYS standards in MST, Social Studies, and English. Unit stresses themes such as sustainability, human-dominated ecosystems, systems thinking, and ecological footprint.

E-22 Learning from an Analysis of the Regents Chemistry Exam

Thomas Shiland, Saratoga Springs High School

HS: Chemistry

A detailed analysis of student mistakes on the June 2004 Regents chemistry exam will be presented, along with a discussion of what this means for instruction.

E-23 Division B Science Olympiad Coaches Information Meeting

Brendan Herlihy, New York State Science Olympiad

I: Earth Science, Living Environment, Chemistry, Physics, MST

Meeting for the 2004-2005 Science Olympiad Division B coaches to discuss the year's rules, modifications and changes, Schools may register at this meeting.

E-24 Downsizing the Internet for Your Classroom in 3 Easy Steps.

Joyce Knox, ABGS Middle School

All: General Interest

Filamentality is a site offered to educators for no cost, as part of a grant from Pacific Bell. This site has hundreds of links to many different topics, which are accessible through an easy subject search. Teachers can also make their own webquests, hotlists and treasure hunts. I plan to introduce the site and train teachers on how to create their own projects. Easy access and teacher control over web searches make this an invaluable tool.

E-25 and F-25 Dare to Dream… Teaching Science Through Technology

Ninette Cannon and Nancy Earnest, The University of Alabama

El, I: General Interest

This is a double workshop session involving E-25 and F-25. Participants must register for, and attend, BOTH wokshops.

Attendees participate in a demonstration of a full multimedia lesson loaded with group tasks, mini activities, technology including relevant web links, and a complete corresponding hands on activity. Participants leave with activity ideas and ready-to-use sample lessons on CD-ROM.

E-28 TI Graphing Calculators in the Science Classroom

Melody DeRosa, Texas Instruments

I, HS: Environmental Science, Living Environment, Chemistry, Physics

TI Graphing calculators are hand held computers with software for science! Come explore hands on applications and receive resource/support materials for your classroom. TI is a NSTA and Jason Project partner. Bring your graphing calculator if you have one for free upgrades and Apps. Loan units will be available.

E-32 Virtual Geologic Journey Through the Mid-Hudson Valley

Russell Agostaro, Newburgh Enlarged City School District

I, HS, Col: Earth Science

Through a virtual field trip participants will decipher the geologic history of the Mid-Hudson Valley and the Hudson Lowlands (continuation of the Valley and Ridge Physiographic Province) by visiting several classic outcrops. Highlights of tectonic, sedimentological, paleontological, and glacial signatures will be discussed and illustrated.

E-33 Planting the Seeds of Inquiry

Dolores Miller, Alden High School, retired

El: Elementary

Germinate bird seeds in a baggie and learn about various inquiry activities with plants. Make a student multipurpose display board to share the results in the classroom. hands on activities and handouts will be provided.

E-34 and F-34 Methods of Teaching Intermolecular Attractions

Mark Langella, PWISTA

HS, Col: Chemistry

This is a double workshop session involving E-34 and F-34. Participants must register for, and attend, BOTH wokshops.

This session will focus on ways of demonstrating Intermolecular attractions and it effects on Physical and Chemical Change. Topics will include surface chemistry, vapor pressure, boiling points, viscosity, colligative properties, hydrogen bonding, London dispersion forces, and much more.

E-35 Down By The River

Richard Townsend, Todd Paternoster, and David Pysnik, Sidney High School

I, HS, Col: Living Environment, Chemistry, Research

An introduction to the Upper Susquehanna Watershed Project. You will learn how to use your local watershed as an interdisciplinary tool, using simple biological, chemical, and meteorological assessments. Resources and data from our project will be available for your use.

E-36 The Biology Breakfast

Alan Seidman, DAL Biology - STANYS

HS, Sup: Living Environment, Supervision/ Administration

Focus on Evolution as a unifying theme in Biology. Dr. Kenneth Miller, Brown University and co-author of the Prentice-Hall 'Dragonfly' text will be the featured speaker. SED update, status of the new Part D labs, Bio Mentor update. The Bio Breakfast is sponsored by Prentice-Hall. Attendees must have a hotel breakfast meal ticket. For those not staying at the hotel, a ticket may be purchased at th e hotel reservation desk for $10.
(NOTE TIMES: 7:00 - 9:00 a.m.)

E-37 Bringing Biotechnology to the Classroom

Doug Welles, Frey Scientific

I, HS: General Interest, Environmental Science, Living Environment

You hear the word biotechnology everyday. Come and explore how your school can incorporate the basics of biotechnology with an exciting new set of labs from Frey Scientific. Our hands on workshop will introduce you to key biotechnology topics, and how biotechnology is used in medicine, agriculture, forensics, and to help our environment.

Laura Lehtonen, Eastern Section Elementary SAR shares material during the "Make and Take Elementary Science Activities" workshop

Session F

F-01 Teaching Biology in a Dynamic Classroom

Linda Lundgren, Glencoe McGraw-Hill

I, HS: General Interest, Living Environment

Biology the Dynamics of Life brings you new, classroom-proven strategies, hands on activities, inquiry, friendly new technology, and unique ways to reach all students and prepare them for assessment. Dive into the whale book so your students will learn it now and remember it later. Door Prize Drawing.

F-02 The Caching Craze Continues!

Gib Brown, AuSable Valley Central School; K.D. Chimene, West Genesee Middle School

I, HS: Earth Science, Environmental Science, Living Environment

Get the kids out of classroom using GPS technology to locate a cache containing a brand new set of Earth and Living Environment investigations. Learn the techniques of educaching and take part in some fun outdoor science activities. (And we promise no one will get lost this year!)

F-04 and G-04 Teaching Female Reproduction with Cow Parts

Denise Reiner, Westhill High School; Marian Klik, Nazareth College

HS, Col: General Interest, Living Environment

This is a double workshop session involving F-04 and G-04. Participants must register for, and attend BOTH workshops.

Participants in this workshop will dissect a pregnant reproductive tract of a cow. Comparisons between humans and bovine anatomy will be made. Fetal development and the menstrual cycle will also be included in these labs.

F-05 How to Include a Research Paper in Middle Level Science

Patricia Sherman, Linda Kowalczyk, Nadina Alarcon, and Laura Muller, Goshen Central School/Science Congress

I: General Interest, Research

Teachers from a smaller school district will show the evolution of the research paper through the middle grades from the scientific method, research, and experimentation to the final product. Includes meeting standards, benchmarks, and involvement with Science Congress. Many handouts.

F-06 and G-06 How to Save Taxes, Legal Fees and Protect Your Assets From Nursing Home Costs

Michael Ettinger, The Ettinger Law Firm, PC

Ret: General Interest

This is a double workshop session involving F-06 and G-06. Participants must register for, and attend, BOTH wokshops.

Elder law attorney Mike Ettinger will talk about health care proxies, powers of attorney, avoiding the new inheritance tax, reducing legal fees at death, three ways to shelter your assets from a long-term care situation and deferring taxes on qualified plans.

F-07 and G-07 Bio-Rad Genes in a Bottle Kit – 1.5 hours

Jana Penders and Olga Padilla, Bio-Rad Laboratories

I, HS, Col: General Interest, Living Environment

This is a double workshop session involving F-07 and G-07. Participants must register for, and attend BOTH workshops.

Extract and bottle your own DNA. Introduce your students to molecular biology with their own DNA! In this activity, you will extract and bottle the DNA from your own cheek cells to make a necklace. This real-world laboratory procedure is used to extract DNA from many different organisms for a variety of applications and integrates multiple life science standards in a single lesson. Seeing DNA makes it real. Be the first at your school to wear your DNA! Read more: explorer.bio-rad.com

F-08 and E-08 Science Notebooks: Using ELA Strategies to Assess Science Content & Learning

Laura Lehtonen, Capital Region BOCES; Terri O'Brien, Watervliet City School District

El: Elementary

This is a double workshop session involving E-08 and F-08. Participants must register for, and attend, BOTH wokshops.

We will examine the use of notebooks as tools to increase student learning in an inquiry-based science program. Notebooks support content development, increase the quality of learning, and provide assessment strategies for science lessons.

F-09 Prepare For New Earth Science Performance Exam Using Glencoe's Textbook

Dr. Fran Hess and Len Sharp, Glencoe McGraw-Hill

HS: Earth Science

Learn how Glencoe's textbook and activities prepare students for the new Earth Science Performance Exam. Textbooks and handouts for all. Valuable classroom door prize.

F-10 and G-10 Science Data Collection with Computers

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Living Environment, Chemistry, Physics

This is a double workshop session involving F-10 and G-10. Participants must register for, and attend, BOTH wokshops.

In this hands on workshop, we will show you how to integrate Vernier technology into your classroom! Learn to use the award-winning Vernier LabPro® interface to collect data with computers. Perform experiments selected from our popular lab manuals (correlated to state and national standards) using Vernier auto-ID sensors.

F-11, E-11, and G-11 HOPE - the Hydrogen Economy

Mary-Rose de Valladares and Ken Kenyon, M.R.S. Enterprises, LLC

El, I, HS: General Interest, Environmental Science, Chemistry

This is a triple workshop session involving E-11, F-11, and G-11. Participants must register for, and attend, ALL THREE.

This 3 hour secondary level workshop will train teachers in hydrogen fundamentals and use of the Hydrogen Outreach Program for Education Pilot (HOPE Pilot™) via exercises, lecture and fuel cell demonstrations. Participants receive curriculum, videos, CDROM and Regenerative Fuel Cell kit (first 50).

F-12 and E-12 NYSUT presents Middle School Key Information and Curricula with Additional Activities including FDA

Lance Rudiger, NYSUT

I: General Interest, Living Environment, MST

This is a double workshop session involving E-12 and F-12. Participants must register for, and attend BOTH workshops.

NYSUT will present a key packet of Middle School information and documents for science. Members of the Science Committee will present. In addition, top ranked activities and hands on learning experiences will be shared with the participants.

F-13 Selecting a Boat Slip as an Analog for Double Slit Interference, and Other Practical Physics Teaching Models

Michael Mangini, Dryden High School

HS: Physics

The physics of the small and invisible phenomena can be difficult for students to visualize. Teaching by larger scale analogies that can be demonstrated in the classroom makes the knowledge more accessible to students. A variety of short lessons will be explained and demonstrated, including double slit interference, thin film interference, concave mirror image projection, pinhole camera ray tracing, sinusoidal nature of a vertical spring oscillator, rotation about the center of mass, and more.

F-14, E-14, and G-14 Concepts of Watershed Hydrology

Peter Black, SUNY ESF

HS, Col, Sup, Ret: Earth Science, Environmental Science

This is a triple workshop session involving E-14, F-14, and G-14. Participants must register for, and attend, ALL THREE.

Concepts of Watershed Hydrology© is a $20 animated/narrated auto-tutorial short course CD/workbook (reproduction of slides, implications, study questions). Created for ninth grade Earth Science classes and up, it presents basics of water in the natural environment with technical terms explained. The workshop purpose is to familiarize participants with substance and and enable questions on presentation details, and discussion of study questions.

F-15 NYS Science Education Consortium – Leading the Good Fight for Science Education

Joseph Zawicki and Bruce Tulloch, New York State Science Education Consortium

All: General Interest

The NYS Science Education Consortium is a cooperative venture of a number of organizations, including STANYS, NYSSELA, SCONYC, the Catholic Science Council, and Science Mentors. The group has represented its members in discussions with SED over the past several years. Learn about your voice in Albany and how you can impact science teaching and learning.

F-21 Ancient Observatories, Sun Watchers, and Human Technologies: Connecting NASA with Various Cultures

Carolyn Ng and Jim Thieman, NASA Sun-Earth Connection Education Forum

K-12: General Interest, Earth Science, Physics

Observe the dynamic sun, sunspots, solar storms, auroras, and seasons with diverse cultures using multimedia resources and different technologies. Learn about webcasts from Chaco Canyon and Chichen Itza for schools and museums in 2005. Participants will receive NASA education materials.

F-22 Chemistry Teachers Club of New York Presents

Joan Laredo-Liddell, Marymount College of Fordham University; Abby Kurnit, Pelham Memorial High School; Jean Delfiner, American Chemical Society; Ivi Tamm, Taft High School, Bronx; Al Delfiner, Chemistry Teachers Club of NY

HS: Chemistry

Members will present ideas and demonstrations that will be beneficial to all teachers, including a chemistry mentor update. Enjoy an exciting hour of chemistry!

F-23 Dynamic Physics Demonstrations that Motivate Thinking

Herbert H. Gottlieb, American Association of Physics Teachers

I, HS, Col: General Interest, Physics

Several of Herb Gottlieb's favorite physics demonstrations that require little, or no, specialized apparatus will be presented. In each case, the apparatus used is either readily available or very easy to construct using ordinary hand tools and supplies.

F-24 NASA Messenger Mission Education Modules(MEMs): Staying Cool

Sandra Russell and Jane Gilbride, Starpoint Central Senior High School

I, HS: General Interest, Earth Science, MST

The Messenger Education Modules(MEMs) are diverse packages of educational materials developed for the Messenger mission to Mercury. The focus of this activity is to examine how science can be used to solve problems related to sunlight, heat, and staying cool in a hot environment. Presenters are NASA Messenger Educational Fellows.

F-25 and E-25 Dare to Dream… Teaching Science Through Technology

Ninette Cannon and Nancy Earnest, The University of Alabama

El, I: General Interest

This is a double workshop session involving E-25 and F-25. Participants must register for, and attend, BOTH wokshops.

Attendees participate in a demonstration of a full multimedia lesson loaded with group tasks, mini activities, technology including relevant web links, and a complete corresponding hands on activity. Participants leave with activity ideas and ready-to-use sample lessons on CD-ROM.

F-26 and G-26 Lake Ontario Floating Classroom

Rosemary Catlin, Kristeena Cyr, Donald Chmielowiec, David Kleehammer, and Scott Siegel, Brockport High School; Kathy Hoppe, Boces2

HS: Earth Science, Environmental Science, Living Environment

This is a double workshop session involving F-26 and G-26. Participants must register for, and attend, BOTH wokshops.

Experience what it's like to take your students on a boat which becomes a floating classroom. An overview of the program will be provided emphasizing the Living Environment Ecology Unit, APES, and AP Biology curriculums. Hands on activities will be provided. This program can be adapted for use on smaller water bodies.

F-27 and G-27 Project Watershed: A Water Quality Education Opportunity

Bill Legg, Liverpool Central School District, retired; Patty Weisse, Centers for Nature Education at Baltimore Woods

I, HS, Col, Sup, Ret: Earth Science, Environmental Science, Living Environment, Chemistry

This is a double workshop session involving F-27 and G-27. Participants must register for, and attend, BOTH wokshops.

A consortium of environmental educators, Project Watershed provides stream monitoring experiences for high school students and adult volunteers. Participants conduct physical, chemical and biological measurements at a local stream site. Bring water wear.

F-28 and G-28 An Alternate Approach to State Examinations in Science Education

Paul Zachos, ACASE (Association for the Cooperative Advancement of Science and Education); Tom Shiland, Saratoga Springs High School/STANYS; Jason Brechko, and Stephen Danna Glens Falls City School District; Rod Doran, SUNY Buffalo; Michael Jabot, SUNY Fredonia/Institute for Research in Science Teaching; William E. J. Doane, ACASE

I, HS, Sup: General Interest, MST, Research

This is a double workshop session involving F-28 and G-28. Part I. Activity (Paul Zachos and William E. J. Doane, Presenters). Part II. P Discussion (Tom Shiland, Facilitator). Participants must register for and attend BOTH workshops.

Can the demands of high stakes testing be reconciled with the concept of backwards design of educational programs? Can Regents Examinations serve a useful purpose for teachers and students, as well as state planners? A key to resolving these dilemmas will be found in the use of operational learning objectives (OLO), units of information that simultaneously support planning, evaluation, and program improvement at the classroom, school district, and state levels. In Part I, session attendees will participate in an assessment activity that will give them a direct experience of the processes and methods described. In Part II, a Panel of discussants will consider the above questions. Time will be devoted for questions from attendees in both parts of the presentation.

INVITED SPEAKER

F-31 Motivating the Unmotivated

Dr. Marvin Druger, Syracuse University

All: General Interest

Lack of motivation in science among students is a serious problem nationwide. Many teachers are frustrated at the severity of the problem and are eager for possible solutions. This session will suggest practical strategies and techniques to alleviate the problem and create a motivational learning environment. Included will be reference to child versus adult motivation, meaningful learning, novel teaching, making learning fun, interpersonal relations, group dynamics and special activities. The problem will be analyzed concerning learners at all levels.

F-32 and G-32 The Literacy of Science

Delores Anderson and Robert Tyrell, Buffalo Public Schools/Campus West

K-12, El, I: General Interest, Elementary

This is a double workshop session involving F-32 and G-32. Participants must register for, and attend, BOTH wokshops.

Participants will become familiar with a variety of rubrics that assist teachers and students in developing literacy using science instruction. Concrete examples of how to utilize existing science instruction materials will be used.

F-33 Teaching Science Using Fire by Friction

Tony Carbone, Charlton School

El, I, HS: Elementary, Living Environment, Physics

Participants will take part in a lab using the bow drill method of fire making to teach physical science concepts, math and teamwork. Connections to biology and chemistry will be addressed. Teaching suggestions and a materials list will be provided.

F-34 and E-34 Methods of Teaching Intermolecular Attractions

Mark Langella, PWISTA

HS, Col: Chemistry

This is a double workshop session involving E-34 and F-34. Participants must register for, and attend, BOTH wokshops.

This session will focus on ways of demonstrating Intermolecular attractions and it effects on Physical and Chemical Change. Topics will include surface chemistry, vapor pressure, boiling points, viscosity, colligative properties, hydrogen bonding, London dispersion forces, and much more.

F-35 Science Kit Presents: Teacher Developed Classroom Tested Products for Chemistry, Physics, & Physical Science

Paula Loggans and Samantha Gasz; Science Kit & Boreal Laboratories

I, HS: Chemistry

Science Kit works with teachers to develop classroom tested products, including activities, labs, demonstrations, and manipulatives. Discover! Come see some of these tried and proven ideas for your chemistry, physics, or physical science class. Find out how to become a teacher developer. Giveaways by drawing!

F-37 Inquiry: Myths and Methods

Kathaleen Burke, Buffalo Science Teachers Network

I: General Interest

Participants will examine common myths about inquiry teaching and develop a common understanding of essential elements using NSF supported activities.

Session G

G-01 Sound Science in 5 Ez Steps

Thomas O'Brien, Binghamton University, School of Education & Human Development

El, I, Col: Elementary

Experience an overview of a sound unit and the NSF-funded project that uses Graduate Teaching Fellows to help gr. 3-6 teachers use research-informed 5 E units.

G-02 The Ten Months of Chemistry

Regina Reals and Tracey Dooley, Burnt Hills - Ballston Lake Central School District

I, HS: Chemistry

In the first month of Chemistry, my teacher gave to me some cool demos regarding lab safety. In the second month of Chemistry, my teacher showed me, the screaming gummy bear and lots of Stoichiometry. In this session, we will share favorite activities and demos from the first half of the year.

G-04 and F-04 Teaching Female Reproduction with Cow Parts

Denise Reiner, Westhill High School; Marian Klik, Nazareth College

HS, Col: General Interest, Living Environment

This is a double workshop session involving F-04 and G-04. Participants must register for, and attend BOTH workshops.

Participants in this workshop will dissect a pregnant reproductive tract of a cow. Comparisons between humans and bovine anatomy will be made. Fetal development and the menstrual cycle will also be included in these labs.

G-05 Projectile Motion

Dwight Putnam, Arbor Scientific

K-12: General Interest, Physics

Attendees will see and use the Arbor Scientific Air-Powered Projectile. This is a fun, safe, and consistent alternative to rockets. The Projectiles can be launched at different speeds and at different angles.

G-06 and F-06 How to Save Taxes, Legal Fees and Protect Your Assets From Nursing Home Costs

Michael Ettinger, The Ettinger Law Firm, PC

Ret: General Interest

This is a double workshop session involving F-06 and G-06. Participants must register for, and attend, BOTH wokshops.

Elder law attorney Mike Ettinger will talk about health care proxies, powers of attorney, avoiding the new inheritance tax, reducing legal fees at death, three ways to shelter your assets from a long-term care situation and deferring taxes on qualified plans.

G-07 and F-07 Bio-Rad Genes in a Bottle Kit - 1.5 hours

Jana Penders and Olga Padilla, Bio-Rad Laboratories

I, HS, Col: General Interest, Living Environment

This is a double workshop session involving F-07 and G-07. Participants must register for, and attend BOTH workshops.

Extract and bottle your own DNA. Introduce your students to molecular biology with their own DNA! In this activity, you will extract and bottle the DNA from your own cheek cells to make a necklace. This real-world laboratory procedure is used to extract DNA from many different organisms for a variety of applications and integrates multiple life science standards in a single lesson. Seeing DNA makes it real. Be the first at your school to wear your DNA! Read more: explorer.bio-rad.com

G-08 Physics Programs in New York State

Joseph Zawicki, Buffalo State College; Kevin McFarland, University of Rochester, Fermilab; Monica Plisch, Cornell University; Dan MacIsaac, Buffalo State College

HS, Col, Sup: General Interest, Physics, Supervision/Administration

New York State has a rich history of professional development programs in physics education. This session will focus on the Quarknet Project (Kevin McFarland, University of Rochester), The Cornell Physics Teacher Institute (Monica Plisch), and Physics Teaching Pathways (Dan MacIsaac, Buffalo State College).

G-09 Exploring the Hot Universe with the Coolest Instrument in Orbit

Dr. James Lochner, USRA & NASA/Goddard Space Flight Center; Sara Mitchell, SP Systems & NASA/ Goddard Space Flight Center

HS: Physics, MST, Research

This workshop will probe the high-temperature universe utilizing the cold, millikelvin instrument aboard the Astro-E2 satellite. Includes classroom activities on the technology (optics and spectroscopy) and the science, as well as opportunities for students to obtain mission data.

G-10 and F-10 Science Data Collection with Computers

Diana Gordon, Dan Holmquist, and Walter Rohr, Vernier Software & Technology

I, HS, Col: Earth Science, Environmental Science, Living Environment, Chemistry, Physics

This is a double workshop session involving F-10 and G-10. Participants must register for, and attend, BOTH wokshops.

In this hands on workshop, we will show you how to integrate Vernier technology into your classroom! Learn to use the award-winning Vernier LabPro® interface to collect data with computers. Perform experiments selected from our popular lab manuals (correlated to state and national standards) using Vernier auto-ID sensors.

G-11, E-11, and F-11 HOPE - the Hydrogen Economy

Mary-Rose de Valladares and Ken Kenyon, M.R.S. Enterprises, LLC

El, I, HS: General Interest, Environmental Science, Chemistry

This is a triple workshop session involving E-11, F-11, and G-11. Participants must register for, and attend, ALL THREE.

This 3 hour secondary level workshop will train teachers in hydrogen fundamentals and use of the Hydrogen Outreach Program for Education Pilot (HOPE PilotTM) via exercises, lecture and fuel cell demonstrations. Participants receive curriculum, videos, CDROM and Regenerative Fuel Cell kit (first 50).

G-12 Spaulding & Namowitz - The Proven Earth Science Leader Assures Regents Success

Alice Kasten, McDougal Littell; Nancy Spaulding, Elmira Free Academy, retired

HS: Earth Science

The newest edition of the New York State favorite, Earth Science by Spaulding & Namowitz, is still the best for meeting the needs of New York State teachers. Includes new labs and a tour of McDougal Littell's exciting interactive website.

G-14, E-14, and F-14 Concepts of Watershed Hydrology

Peter Black, SUNY ESF

HS, Col, Sup, Ret: Earth Science, Environmental Science

This is a triple workshop session involving E-14, F-14, and G-14. Participants must register for, and attend, ALL THREE.

Concepts of Watershed Hydrology© is a $20 animated/ narrated auto-tutorial short course CD/workbook (reproduction of slides, implications, study questions). Created for ninth grade Earth Science classes and up, it presents basics of water in the natural environment with technical terms explained. The workshop purpose is to familiarize participants with substance and and enable questions on presentation details, and discussion of study questions..

G-15 Earth Science Rock Swap

Alan Gelatt, Romulus Central School

All: Earth Science

Share rocks from your area with participants from across the state. Please bring 65 pre-bagged sets (zippered-type bags) with a written description of each to share with your colleagues. Please contact Alan Gelatt at the Fallsview Desk, as soon as you are checked in, so that a set can be donated to the Monday night door prize drawing!

G-21 Enhance Your Class with DataStreme

Michael J. Passow, White Plains Middle School

All: Earth Science, Environmental Science

American Meteorological Society DataStreme programs provide your students with web-based access to information and activities. Learn how to utilize DStreme Atmosphere, DStreme Ocean, and DStreme Water in the Earth System to enhance your program.

G-22 The Success of the Aesthetic Realism Teaching Method

Rosemary Plumstead, Fiorello H. LaGuardia High School

K-12: Living Environment

Experience a lesson on the heart illustrating this kind, greatly effective method. Students LEARN through seeing the heart's aesthetic structure—it puts together gentleness and force, contraction and expansion—and how these opposites, so beautifully one in the heart are related to themselves.

G-23 Chemistry Demos and Projects from NSTA

Alan Seidman, Margaretville Central School; Fred Pidgeon, The Albany Academy

I, HS: Chemistry

Join us for a variety of neat, engaging, and easy activities we picked up at the National NSTA Convention in Atlanta. Use them to supplement your chemistry teaching. Handouts and take-home materials will be provided.

G-24 Labs and Activities across the ILS Core Curriculum

Steve Fielman, Elisabeth Milot, Lynn Nardacci, Shari Dowling, and Terry Petroccione, Ichabod Crane Middle School; Matt Fuller, Taconic Hills High School

I: Earth Science, Living Environment, Physics

Teachers will be given the opportunity to complete various hands on activities that cover areas in the Intermediate Level Science Core Curriculum. Presenters will also show valuable Internet websites that enhance the core information being demonstrated in these labs.

G-25 Improving Laboratory Report Writing Skills in the Middle School Science Classroom

Rebecca Dudek and John Holden, Greece Athena Middle School

I: General Interest

Middle school students typically have difficulty writing organized laboratory reports. Participants will use a problem-based lab template and rubric that has been successfully implemented into 6-8 classrooms to work through a laboratory investigation.

G-26 and F-26 Lake Ontario Floating Classroom

Rosemary Catlin, Kristeena Cyr, Donald Chmielowiec, David Kleehammer, and Scott Siegel, Brockport High School; Kathy Hoppe, Boces2

HS: Earth Science, Environmental Science, Living Environment

This is a double workshop session involving F-26 and G-26. Participants must register for, and attend, BOTH wokshops.

Experience what it's like to take your students on a boat which becomes a floating classroom. An overview of the program will be provided emphasizing the Living Environment Ecology Unit, APES, and AP Biology curriculums. Hands on activities will be provided. This program can be adapted for use on smaller water bodies.

G-27 and F-27 Project Watershed: A Water Quality Education Opportunity

Bill Legg, Liverpool Central School District, retired; Patty Weisse, Centers for Nature Education at Baltimore Woods

I, HS, Col, Sup, Ret: Earth Science, Environmental Science, Living Environment, Chemistry

This is a double workshop session involving F-27 and G-27. Participants must register for, and attend, BOTH wokshops.

A consortium of environmental educators, Project Watershed provides stream monitoring experiences for high school students and adult volunteers. Participants conduct physical, chemical and biological measurements at a local stream site. Bring water wear.

G-28 and F-28 An Alternate Approach to State Examinations in Science Education

Paul Zachos, ACASE (Association for the Cooperative Advancement of Science and Education); Tom Shiland, Saratoga Springs High School/STANYS; Jason Brechko, and Stephen Danna Glens Falls City School District; Rod Doran, SUNY Buffalo; Michael Jabot, SUNY Fredonia/Institute for Research in Science Teaching; William E. J. Doane, ACASE

I, HS, Sup: General Interest, MST, Supervision/Administration

This is a double workshop session involving F-28 and G-28. Part I. Activity (Paul Zachos and William E. J. Doane, Presenters). Part II. P Discussion (Tom Shiland, Facilitator). Participants must register for and attend BOTH workshops.

Can the demands of high stakes testing be reconciled with the concept of backwards design of educational programs? Can Regents Examinations serve a useful purpose for teachers and students, as well as state planners? A key to resolving these dilemmas will be found in the use of operational learning objectives (OLO), units of information that simultaneously support planning, evaluation, and program improvement at the classroom, school district, and state levels. In Part I, session attendees will participate in an assessment activity that will give them a direct experience of the processes and methods described. In Part II, a Panel of discussants will consider the above questions. Time will be devoted for questions from attendees in both parts of the presentation.

G-31 SED- LASER

Ann Crotty, Dianne Tanner, and Will Jaacks State Education Department

General: General Interest

G-32 and F-32 The Literacy of Science

Delores Anderson and Robert Tyrell, Buffalo Public Schools/Campus West

K-12, El, I: General Interest, Elementary

This is a double workshop session involving F-32 and G-32. Participants must register for, and attend, BOTH wokshops.

Participants will become familiar with a variety of rubrics that assist teachers and students in developing literacy using science instruction. Concrete examples of how to utilize existing science instruction materials will be used.

G-33 Integrating the NYS Learning Standards into Your Science Curriculum

Stephen Steuerman, Peoples Publishing Group

El, I: Elementary, Earth Science, Living Environment

This presentation explores methods of integrating the NY State Learning Standards in the everyday science curriculum. In various stations participants will work hands on with their specific science subject including physical, earth, and living environment. Applies to grades 3-8.

G-34 Writing for the Science Teachers Bulletin

Scott Robinson, SUNY Brockport

All: General Interest, MST, Research

Come to this session to learn what's involved in having an article published in the STANYS journal: the Science Teachers Bulletin. We will brainstorm ideas and review submission guidelines.

G-35 The Virtual Chemistry Laboratory, Simulation Software

Dave Barnes, Arbor Scientific

El, I, HS, Col: Chemistry

Enhance students' lab experience with Crocodile Chemistry software, an interactive, fun virtual lab where students can create realistic experiments that couldn't be done in an actual lab. Free demo disks. (30) Enhance students' lab experience with Crocodile Chemistry software, an interactive, fun virtual lab where students can create realistic experiments. Free demo disks.

G-37 Mastodonts in the Muck

Jutta Siefert Dudley, STANYS

All: General Interest, Earth Science

Clues about the demise of the mastodonts lie hidden in the sediments and bones found in swamps across New York State. The best story is unfolding at a watering hole near Byron.

Workshop Cross Reference List

Please refer to pages 14 - 37 for complete workshop descriptions.

Key

Session No. **Audience**
Workshop Title

Chemistry

X-10, Y-10 & Z-10 Triple **I,HS,Col**
Hands on Data Collection Your Way with Vernier LabPro®

X-21 **I,HS**
Incorporating Environmental Issues in Regents Science Courses

X-27, Y-27 & Z-27 Triple **I,HS,Col**
Nanotechnology: Build a Teeny Tiny Circuit

X-31 & Y-31 Double **HS**
Chemistry Showcase - Chemistry SAR's and Associated Members Present a Variety of Exciting Demonstrations and Activities

X-37 **I,HS**
Mad Scientists From Upstate (no-REALLY) NY Present:

Z-03 **HS**
Prentice Hall Chemistry – Integrating Text & Technology

A-02 **HS**
Chemistry Breakfast

A-10 & B-10 Double **I,HS,Col**
Science Data Collection with Palm OS® handhelds

A-43 **I**
I Labs

B-05 **K-12**
Polymers 101. Plastics and Other Neat Stuff

B-32 & C-32 Double **I,HS**
New Yorks State Science Olympiad Site Coordinator's Meeting

C-05 **K-12**
Polymers 201. Unique properties of plastics and other neat stuff.

C-08 **HS**
Teaching tough concepts in Chemistry using PCK

C-10 & D-10 Double **I,HS,Col**
Science Data Collection with Texas Instruments Handhelds

C-24 **All,HS**
Using Technology in the Science Classroom

D-05 **I,HS**
Polymers 301. Why don't we recycle more plastics, anyway?

D-22 **HS**
Division C Science Olympiad Coaches Information Meeting

D-24 **I,HS**
Science Olympiad New Coaches Information Meeting

D-25 **HS**
Serving the Third Course

D-33 **K-12**
The New HO-Plastics Is Even Better

D-35 **HS**
Chemistry Share-A-Thon

E-11, F-11 & G-11 Triple **HS**
HOPE - the Hydrogen Economy

E-22 **HS**
Learning from an Analysis of the Regents Chemistry Exam

E-23 **I**
Division B Science Olympiad Coaches Information Meeting

E-28 **I,HS**
TI Graphing Calculators in the Science Classroom

E-34 & F-34 Double **HS,Col**
Methods of Teaching Intermolecular Attractions

E-35 **I,HS,Col**
Down By The River

F-10 & G-10 Double **I,HS,Col**
Science Data Collection with Computers

F-22 **HS**
Chemistry Teachers Club of New York Presents

F-27 & G-27 Double **I,HS,Col,Sup,Ret**
Project Watershed: A Water Quality Education Opportunity

F-35 **I,HS**
Science Kit Presents: Teacher Developed Classroom Tested Products for Chemistry, Physics, & Physical Science

G-02 **I,HS**
The Ten Months of Chemistry

G-23 **I,HS**
Chemistry Demos and Projects from NSTA

G-35 **El,I,HS,Col**
The Virtual Chemistry Laboratory, Simulation Software

Earth Science

X-04 **K-12,I,HS**
Using Foldables to Enhance Your Science Lessons

X-08 **K-12**
How to Create and Implement Science Web Exploration Activities

X-10, Y-10 & Z-10 Triple **I,HS,Col**
Hands on Data Collection Your Way with Vernier LabPro®

X-14 **I,HS,Col**
Science on Seneca as a Science Standards Based Experiential Outreach Program of the Finger Lakes Institute

X-24 **I,HS**
Science Olympiad Road Scholar

X-29, Y-29 & Z-29 Triple **HS**
What's the Matter With D?

Y-05 **K-12**
To the Universe & Return IV: Using NASA & Other Sites

Y-06 **HS**
So, You Want to Teach an Astronomy Elective!

Y-14 & Z-14 Double **K-12,El,I,Sup**
Science and Technology in the Exit Project Process

Y-15 **I,HS**
Chandra and the X-Ray Universe-II

Y-24 **I,HS**
NYS Science Olympiad- Remote Sensing

Y-43 & Z-43 Double **El,I**
The Jason Project Meets Texas Instruments

Z-01 **I,HS**
Tie Science Inquiry to Math and Literacy for Middle and HS Earth Science

Z-08 **All,HS**
...The Marble Domino Playground...

Z-09 **All**
Tails of Trilobites

Z-26 **I,HS**
Astronomy and Reach for the Stars

A-05 **I,HS**
Multi-level, Interdisciplinary Environmental Research - The Beaver Swamp Brook Project

A-06 **I,HS,Col**
Wild Blue Wonders - Learning About Meteorology with Help from Microsoft Flight Simulator 2004

A-10 & B-10 Double **I,HS,Col**
Science Data Collection with Palm OS® handhelds

A-12 **El,I,Sup**
Benefits of an Inquiry Approach to Middle School Science

A-13 **I,HS**
The Ensemble Method of Weather Forecasting

A-24 **I**
Designing Inquiry Lessons for the Middle School Classroom

A-36 **HS**
Earth Science Breakfast

B-06 **All,K-12,HS**
Mt. St. Helens vs. Hawaiian Volcanoes

B-13 **El,I,HS**
Mars Research (MSIP)

B-21 **K-12,El,I,HS,Col**
Inquiry-based Learning Through the NASA Student Observation Network

B-25 & C-25 Double **I,HS**
NASA Solar Research, The Standards, and The Classroom

B-32 & C-32 Double **I,HS**
New Yorks State Science Olympiad Site Coordinator's Meeting

B-35 **I,HS**
Science Kit Presents: Teacher Developed Classroom Tested Products for Biology and Earth Science

C-01 **I,HS**
Science Olympiad: Fossils

C-06 **I,HS**
Exploring Mars Geology on Earth

C-10 & D-10 Double **I,HS,Col**
Science Data Collection with Texas Instruments Handhelds

C-21 **El,I,HS**
School Power... Naturally℠ Level II/III Innovative Solar Education Program in 50 NY Schools using live data

C-23 **I,HS,Sup**
Earth Science: The Physical Setting, Amsco's new textbook for the New York Core Curriculum

C-31 **All**
Mars Exploration Rovers: An Overview of Scientific Results

D-03 **I,HS,Col,Sup,Ret**
GPS (Satellites + Maps) = Big Fun

D-21 **I,HS**
Earth Science Share-A-Thon

D-22 **HS**
Division C Science Olympiad Coaches Information Meeting

D-24 **I,HS**
Science Olympiad New Coaches Information Meeting

D-25 **HS**
Serving the Third Course

D-27 **All,I,HS**
Build Your Own Eurypterid

D-32 **HS,Col**
Big Ideas in Earth Science

D-37 **I,HS**
Climographs

E-09 **I,HS**
DLESE – The Digital Library for Earth System Education

E-14, F-14 & G-14 Triple **HS,Col,Sup,Ret**
Concepts of Watershed Hydrology

E-23 **I**
Division B Science Olympiad Coaches Information Meeting

E-32 **I,HS,Col**
Virtual Geologic Journey Through the Mid-Hudson Valley

F-02 **I,HS**
The Caching Craze Continues!

F-09 **HS**
Prepare For New Earth Science Performance Exam Using Glencoe's Textbook

F-10 & G-10 Double **I,HS,Col**
Science Data Collection with Computers

F-21 **K-12**
Ancient Observatories, Sun Watchers, and Human Technologies: Connecting NASA with Various Cultures

F-24 **I,HS**
NASA Messenger Mission Education Modules(MEMs): Staying Cool

F-26 & G-26 Double **HS**
Lake Ontario Floating Classroom

F-27 & G-27 Double **I,HS,Col,Sup,Ret**
Project Watershed: A Water Quality Education Opportunity

G-12 **HS**
Spaulding & Namowitz - The Proven Earth Science Leader Assures Regents Success

G-15 **All**
Earth Science Rock Swap

G-21 **All**
Enhance Your Class with DataStreme

G-24 **I**
Labs and Activities across the ILS Core Curriculum

G-33 **El,I**
Integrating the NYS Learning Standards into Your Science Curriculum

G-37 **All**
Mastodonts in the Muck

Elementary

X-01 & Y-01 Double **El**
Elementary Showcase Make and Take Science Activities

X-03 **K-12,El**
HO Science for Grades 1-3

X-07 **El,I**
Elementary and Middle School Students' Ideas About Electric Current

X-26 & Y-26 Double **El**
Healthy Lifestyles

X-44, Y-44 & Z-44 Triple **All**
The Wright Stuff - Building and Flying Indoor Model Aircraft - Information and Demonstrations

Y-04 & Z-04 Double **I,HS,Col**
Bio-Rad ELISA Immuno Explorer Kit – 1.5 hours

Y-05 **K-12**
To the Universe & Return IV: Using NASA & Other Sites

Y-14 & Z-14 Double **K-12,El,I,Sup**
Science and Technology in the Exit Project Process

Y-43 & Z-43 Double **El,I**
The Jason Project Meets Texas Instruments

Z-06 **El**
Engineering Activities for Grades K-6

Z-07 **El**
Preparing for the ELS Performance Tasks

Z-23 **El**
Science Kit Presents: Juniors! Teacher Developed products for PreK - 6

Z-24 **El**
On-line Elementary Science Professional Development with WGBH

Z-32 **El**
NYSED Grade 4 Elementary Level Science Test – Going Beyond the Content.

Z-37 **El**
The Day the Circus Came to School

A-03 **El,I**
School of Invertebrates

INTENDED AUDIENCE
Col-college, El-elementary, HS-high school, I-intermediate, Sup-supervision, Ret-retired

Workshop Cross Reference List

Please refer to pages 14 - 37 for complete workshop descriptions.

B-03 & C-03 Double **El**
Everyday Technology as a Theme for Science
B-05 **K-12**
Polymers 101. Plastics and Other Neat Stuff
B-07 & C-07 Double **El,I**
Science Activities Grades 5-8 using TI Technology
B-11 **K-12,Sup**
Teaching Tough Concepts in Physics Using PCK
B-24 **K-12,El,Sup**
A Science Lab for Elementary School Students (Gr.4th-6th) & Science Lab on Wheels (Gr.3)
B-27 & C-27 Double **K-12,Col,Sup**
Mental Gymnastics You Can Use In Your Classroom Tomorrow
B-34 **Col,Sup**
Elementary Science Methods Course Share-A-Thon
C-33 **K-12**
Fun with Microorganisms
D-28 **All**
Inquiring Minds Solve Problems
D-34 **El,Sup**
SCIENCE 21 — Science for the 21st Century
E-06 **K-12**
The New York Botanical Garden - A Great Place to Learn
E-08 & F-08 Double **El**
Science Notebooks: Using ELA Strategies to Assess Science Content & Learning
E-33 **El**
Planting the Seeds of Inquiry
F-32 & G-32 Double **K-12,El,I**
The Literacy of Science
F-33 **El,I,HS**
Teaching Science Using Fire by Friction
G-01 **El,I,Col**
Sound Science in 5 Ez Steps
G-33 **El,I**
Integrating the NYS Learning Standards into Your Science Curriculum

Environmental Science

X-05 **K-12**
Environmental Science SARS Sunday Showcase
X-08 **K-12**
How to Create and Implement Science Web Exploration Activities
X-10, Y-10 & Z-10 Triple **I,HS,Col**
Hands on Data Collection Your Way with Vernier LabPro®
X-14 **I,HS,Col**
Science on Seneca as a Science Standards Based Experiential Outreach Program of the Finger Lakes Institute
X-34 **I,HS,Col**
Teaching Marine Science in HS: A Wedding of Marine Biology and Oceanography
Y-43 & Z-43 Double **El,I**
The Jason Project Meets Texas Instruments
Z-05 **All**
Toyota TAPESTRY Grants for Teachers + $$$ for You School!
A-05 **I,HS**
Multi-level, Interdisciplinary Environmental Research - The Beaver Swamp Brook Project
A-09 & B-09 Double **I,HS,Col**
Pseudomonas-Plant Interactions: HS Connect Modules
A-10 & B-10 Double **I,HS,Col**
Science Data Collection with Palm OS® handhelds
A-12 **El,I,Sup**
Benefits of an Inquiry Approach to Middle School Science
A-14 **K-12**
Utilizing Live Animals in the Classroom
A-21 **I,HS**
SUNY-ESF Onondaga Lake Educational Unit
A-25 **El,I**
TIPS in Critical Thinking and Project-Based Learning
B-05 **K-12**
Polymers 101. Plastics and Other Neat Stuff
B-23 **K-12**
Problem-Based Learning in Science
B-35 **I,HS**
Science Kit Presents: Teacher Developed Classroom Tested Products for Biology and Earth Science
C-10 & D-10 Double **I,HS,Col**
Science Data Collection with Texas Instruments Handhelds
C-21 **El,I,HS**
School Power... Naturally℠ Level II/III Innovative Solar Education Program in 50 NY Schools using live data
C-33 **K-12**
Fun with Microorganisms
D-04 **I,HS,Col**
Fishbanks - A Simulation of How Overfishing Becomes Reality
D-05 **I,HS**
Polymers 301. Why don't we recycle more plastics, anyway?
D-07 **All,K-12,Col**
Introduction To Project Learning Tree
D-22 **HS**
Division C Science Olympiad Coaches Information Meeting
D-24 **I,HS**
Science Olympiad New Coaches Information Meeting
D-25 **HS**
Serving the Third Course
E-06 **K-12**
The New York Botanical Garden - A Great Place to Learn
E-07 **I,HS,Col**
Plant Genomics: What's New in Plant Biology
E-11, F-11 & G-11 Triple **HS**
HOPE - the Hydrogen Economy
E-14, F-14 & G-14 Triple **HS,Col,Sup,Ret**
Concepts of Watershed Hydrology
E-21 **I,HS**
New SUNY-ESF Sustainable Communities Instructional Unit
E-28 **I,HS**
TI Graphing Calculators in the Science Classroom
E-37 **I,HS**
Bringing Biotechnology to the Classroom
F-02 **I,HS**
The Caching Craze Continues!
F-10 & G-10 Double **I,HS,Col**
Science Data Collection with Computers
F-26 & G-26 Double **HS**
Lake Ontario Floating Classroom
F-27 & G-27 Double **I,HS,Col,Sup,Ret**
Project Watershed: A Water Quality Education Opportunity
G-21 **All**
Enhance Your Class with DataStreme

General Interest

X-02 or Y-02 Repeat **I**
Intermediate Level SAR Share-A-Thon
X-08 **K-12**
How to Create and Implement Science Web Exploration Activities
X-12, Y-12 & Z-12 Triple **I,HS,Col**
Benefits of an Inquiry Approach to Science
X-15 **All**
Creativity in the Science Classroom
X-23 **I,Col,Sup**
The Matrix Approach to Developing Global Citizens through Science Teaching
X-24 **I,HS**
Science Olympiad Road Scholar
X-32 **I**
RoboBilliards Coaches Clinic - Division B Science Olympiad
X-34 **I,HS,Col**
Teaching Marine Science in HS: A Wedding of Marine Biology and Oceanography
X-43 **I,HS**
Sound of Music
X-44, Y-44 & Z-44 Triple **All**
The Wright Stuff - Building and Flying Indoor Model Aircraft - Information and Demonstrations
Y-03 **I**
Discover New Possibilities
Y-06 **HS**
So, You Want to Teach an Astronomy Elective!
Y-14 & Z-14 Double **K-12,El,I,Sup**
Science and Technology in the Exit Project Process
Y-15 **I,HS**
Chandra and the X-Ray Universe-II
Y-21 **K-12**
NYLearns - Setting the Standard for Educational Web Sites
Y-23 **I,HS**
Literacy Strategies in the Teaching of Middle School Science
Y-24 **I,HS**
NYS Science Olympiad- Remote Sensing
Y-28 & Z-28 Double **K-12,Col,Sup**
The Use Of FERMI Problems In Teaching And Learning
Y-32 **K-12,Col**
Cool Tools for Waves and Sound
Y-37 **All**
Safety and the NYS Science Educator
Z-02 **All**
Put Some ACTIVE Into Problem Solving Activities
Z-05 **All**
Toyota TAPESTRY Grants for Teachers + $$$ for You School!
Z-08 **All,HS**
...The Marble Domino Playground...
Z-09 **All**
Tails of Trilobites
Z-15 **HS**
Using the World Wide Web in Your Biology Classroom
Z-34 **All,Retirees**
Canal and Rail Travel
Z-37 **El**
The Day the Circus Came to School
A-01 **HS,Sup**
Robot Ramble - Science Olympiad Division C
A-07 **I**
The Core and More : Preparing for the I Level Science Test
A-08 **All**
Repair and Maintenance of Microscopes, Balances and Other Lab Equipment
A-11 **K-12,Sup**
Those who can do, those who understand, teach! Exploring PCK: The Professional Knowledge of Teachers
A-13 **I,HS**
The Ensemble Method of Weather Forecasting
A-14 **K-12**
Utilizing Live Animals in the Classroom
A-21 **I,HS**
SUNY-ESF Onondaga Lake Educational Unit
A-22 **K-12**
An Effective Approach to Bringing High School Students in to Teach Elementary Science
A-23 **All**
Managing Effective Mentor/Student Teacher Relationships
A-24 **I**
Designing Inquiry Lessons for the Middle School Classroom
A-27 **I**
Build a Safe Bottle Rocket and be Carried Away by McDougal Littell Middle School Science
A-28 **I,HS**
Experimental Design Coaches Clinic - Division C Science Olympiad
A-29 **All**
BaP/ Key Leader Share-A-Thon
A-33 & B-33 Double **All**
Hands On Image Processing Using The Flexible Camera Series Curriculum Guide
A-35 **All**
How many angels can dance on the head of a pin?
A-37 **I,HS**
Formative Assessment: Small Strategies that Work in a Big Way
B-02 **All**
Action Research Poster Session
B-06 **All,K-12,HS**
Mt. St. Helens vs. Hawaiian Volcanoes
B-08 **All**
Digital/Video Microscopy
B-11 **K-12,Sup**
Teaching Tough Concepts in Physics Using PCK
B-22 **I,HS**
Motivational Strategies
B-24 **K-12,El,Sup**
A Science Lab for Elementary School Students (Gr.4th-6th) & Science Lab on Wheels (Gr.3)
B-27 & C-27 Double **K-12,Col,Sup**
Mental Gymnastics You Can Use In Your Classroom Tomorrow
B-28 **I,HS**
Blood Spatter Analysis
B-29 **All**
BaP/ Section Liaison Share-A-Thon
B-31 **All**
How the Media Mangles Science
B-32 & C-32 Double **I,HS**
New Yorks State Science Olympiad Site Coordinator's Meeting
B-37 **K-12**
Light & Color: Hands On—Minds On Demonstrations
C-02 or D-02 Repeat **General**
SED UPDATE
C-04 **All**
Retiree Roundtable: Stayin' in Science
C-11 **All**
What are the Students' Misconceptions in Human Biology: Assessing Prior Knowledge
C-14 **K-12,Col,Sup**
Why Not the Best? Science Teacher Recruitment and Retention

INTENDED AUDIENCE
Col-college, El-elementary, HS-high school, I-intermediate, Sup-supervision, Ret-retired

Workshop Cross Reference List

Please refer to pages 14 - 37 for complete workshop descriptions.

C-21 **El,I,HS**
School Power... Naturally℠ Level II/III Innovative Solar Education Program in 50 NY Schools using live data

C-22 **All**
NYSSELA: Providing a New Perspective on Science Teaching

C-24 **All,HS**
Using Technology in the Science Classroom

C-28 **HS**
New York State Science Honor Society: An Adjunct to Your H.S. Science Program

C-29 **All**
BaP/ Points of Contact Share-A-Thon

C-31 **All**
Mars Exploration Rovers: An Overview of Scientific Results

C-35 **I,HS**
Demo Time! Having Fun with Physics-Part II

D-03 **I,HS,Col,Sup,Ret**
GPS (Satellites + Maps) = Big Fun

D-04 **I,HS,Col**
Fishbanks - A Simulation of How Overfishing Becomes Reality

D-07 **All,K-12,Col**
Introduction To Project Learning Tree

D-13 **All**
Science Classroom Design based on Science Standards

D-14 **K-12,Sup**
Share-A-Thon for Science Education Leaders

D-15 **All,K-12**
Jump-Starting Students With Inquiry Activities

D-28 **All**
Inquiring Minds Solve Problems

D-45 **All**
Eco-Trail Ride

E-01 **I,HS**
Will This Be On the Test? Strategies for Successful Assessment

E-11, F-11 & G-11 Triple **HS**
HOPE - the Hydrogen Economy

E-12 & F-12 Double **I**
NYSUT presents Middle School Key Information and Curricula with Additional Activities including FDA

E-13 **I,Sup**
Wheeled Vehicles - Science Olympiad Division B

E-21 **I,HS**
New SUNY-ESF Sustainable Communities Instructional Unit

E-24 **All**
Downsizing the Internet for Your Classroom in 3 Easy Steps.

E-25 & F-25 Double **El,I**
Dare to Dream...Teaching Science Through Technology

E-37 **I,HS**
Bringing Biotechnology to the Classroom

F-01 **I,HS**
Teaching Biology in a Dynamic Classroom

F-04 & G-04 Double **HS,Col**
Teaching Female Reproduction with Cow Parts

F-05 **I**
How to Include a Research Paper in Middle Level Science

F-06 & G-06 Double **Ret**
How to Save Taxes, Legal Fees and Protect Your Assets From Nursing Home Costs

F-07 & G-07 Double **I,HS,Col**
Bio-Rad Genes in a Bottle Kit – 1.5 hours

F-15 **All**
NYS Science Education Consortium — Leading the Good Fight for Science Education

F-21 **K-12**
Ancient Observatories, Sun Watchers, and Human Technologies: Connecting NASA with Various Cultures

F-23 **I,HS,Col**
Dynamic Physics Demonstrations that Motivate Thinking

F-24 **I,HS**
NASA Messenger Mission Education Modules(MEMs): Staying Cool

F-31 **All**
Motivating the Unmotivated

F-32 & G-32 Double **K-12,El,I**
The Literacy of Science

F-37 **I**
Inquiry: Myths and Methods

G-05 **K-12**
Projectile Motion

G-08 **HS,Col,Sup**
Physics Programs in New York State

G-25 **I**
Improving Laboratory Report Writing Skills in the Middle School Science Classroom

G-28 & F-28 Double **I,HS,Sup**
An Alternate Approach to State Examinations in Science Education

G-31 **General**
SED- LASER

G-34 **All**
Writing for the Science Teachers Bulletin

G-37 **All**
Mastodonts in the Muck

Living Environment

X-04 **K-12,I,HS**
Using Foldables to Enhance Your Science Lessons

X-09 **HS**
Urinalysis & Health (or figuring out if ur-ine trouble!)

X-11 **HS**
Living Environment. Part D Labs: For New Living Environment Teachers

X-14 **I,HS,Col**
Science on Seneca as a Science Standards Based Experiential Outreach Program of the Finger Lakes Institute

X-21 **I,HS**
Incorporating Environmental Issues in Regents Science Courses

Y-04 & Z-04 Double **I,HS,Col**
Bio-Rad ELISA Immuno Explorer Kit – 1.5 hrs.

Y-09 **K-12**
New York's Missing Ladybug

Y-11 **HS**
Assessment and Evaluation of The L.E. Part D Labs

Y-14 & Z-14 Double **K-12,El,I,Sup**
Science and Technology in the Exit Project Process

Z-08 **All,HS**
...The Marble Domino Playground...

Z-09 **All**
Tails of Trilobites

Z-11 **HS**
Living Environment Share-A-Thon

Z-15 **HS**
Using the World Wide Web in Your Biology Classroom

Z-22 **HS**
Problem Based Learning

Z-24 **El**
On-line Elementary Science Professional Development with WGBH

A-03 **El,I**
School of Invertebrates

A-05 **I,HS**
Multi-level, Interdisciplinary Environmental Research - The Beaver Swamp Brook Project

A-09 & B-09 Double **I,HS,Col**
Pseudomonas-Plant Interactions: HS Connect Modules

A-10 & B-10 Double **I,HS,Col**
Science Data Collection with Palm OS® handhelds

A-12 **El,I,Sup**
Benefits of an Inquiry Approach to Middle School Science

A-14 **K-12**
Utilizing Live Animals in the Classroom

A-15 & B-15 Double **HS,Col**
Bio-Rad DNA Fingerprinting Kit - 1.5 hours

A-24 **I**
Designing Inquiry Lessons for the Middle School Classroom

A-33 & B-33 Double **All**
Hands On Image Processing Using The Flexible Camera Series Curriculum Guide

A-43 **I**
I Labs

B-23 **K-12**
Problem-Based Learning in Science

B-32 & C-32 Double **I,HS**
New Yorks State Science Olympiad Site Coordinator's Meeting

B-35 **I,HS**
Science Kit Presents: Teacher Developed Classroom Tested Products for Biology and Earth Science

C-09 & D-09 Double **HS,Col**
Measuring Behavior

C-10 & D-10 Double **I,HS,Col**
Science Data Collection with Texas Instruments Handhelds

C-24 **All,HS**
Using Technology in the Science Classroom

C-33 **K-12**
Fun with Microorganisms

D-04 **I,HS,Col**
Fishbanks - A Simulation of How Overfishing Becomes Reality

D-07 **All,K-12,Col**
Introduction To Project Learning Tree

D-08 **I,HS**
Teaching Tough Concepts in Biology Using PCK

D-22 **HS**
Division C Science Olympiad Coaches Information Meeting

D-24 **I,HS**
Science Olympiad New Coaches Information Meeting

D-25 **HS**
Serving the Third Course

D-27 **All,I,HS**
Build Your Own Eurypterid

E-01 **I,HS**
Will This Be On the Test? Strategies for Successful Assessment

E-06 **K-12**
The New York Botanical Garden – A Great Place to Learn

E-07 **I,HS,Col**
Plant Genomics: What's New in Plant Biology

E-12 & F-12 Double **I**
NYSUT presents Middle School Key Information and Curricula with Additional Activities including FDA

E-23 **I**
Division B Science Olympiad Coaches Information Meeting

E-28 **I,HS**
TI Graphing Calculators in the Science Classroom

E-35 **I,HS,Col**
Down By The River

E-36 **HS,Sup**
The Biology Breakfast

E-37 **I,HS**
Bringing Biotechnology to the Classroom

F-01 **I,HS**
Teaching Biology in a Dynamic Classroom

F-02 **I,HS**
The Caching Craze Continues!

F-04 & G-04 Double **HS,Col**
Teaching Female Reproduction with Cow Parts

F-07 & G-07 Double **I,HS,Col**
Bio-Rad Genes in a Bottle Kit - 1.5 hours

F-10 & G-10 Double **I,HS,Col**
Science Data Collection with Computers

F-26 & G-26 Double **HS**
Lake Ontario Floating Classroom

F-27 & G-27 Double **I,HS,Col,Sup,Ret**
Project Watershed: A Water Quality Education Opportunity

F-33 **El,I,HS**
Teaching Science Using Fire by Friction

G-22 **K-12**
The Success of the Aesthetic Realism Teaching Method

G-24 **I**
Labs and Activities across the ILS Core Curriculum

G-33 **El,I**
Integrating the NYS Learning Standards into Your Science Curriculum

Math, Science & Technology

X-02 or Y-02 Repeat **I**
Intermediate Level SAR Share-A-Thon

X-03 **K-12,El**
HO Science for Grades 1-3

X-32 **I**
RoboBilliards Coaches Clinic - Division B Science Olympiad

Y-14 & Z-14 Double **K-12,El,I,Sup**
Science and Technology in the Exit Project Process

Y-21 **K-12**
NYLearns - Setting the Standard for Educational Web Sites

Y-24 **I,HS**
NYS Science Olympiad- Remote Sensing

Z-06 **El**
Engineering Activities for Grades K-6

Z-21 **HS**
HERA: NASA Space Science Data Analysis in Your Classroom

Z-24 **El**
On-line Elementary Science Professional Development with WGBH

Z-37 **El**
The Day the Circus Came to School

A-01 **HS,Sup**
Robot Ramble - Science Olympiad Division C

A-06 **I,HS,Col**
Wild Blue Wonders - Learning About Meteorology with Help from Microsoft Flight Simulator 2004

A-21 **I,HS**
SUNY-ESF Onondaga Lake Educational Unit

A-24 **I**
Designing Inquiry Lessons for the Middle School Classroom

A-25 **El,I**
TIPS in Critical Thinking and Project-Based Learning

INTENDED AUDIENCE
Col-college, El-elementary, HS-high school, I-intermediate, Sup-supervision, Ret-retired

Workshop Cross Reference List

Please refer to pages 14 - 37 for complete workshop descriptions.

A-28 **I,HS**
Experimental Design Coaches Clinic - Division C Science Olympiad

A-33 & B-33 Double **All**
Hands On Image Processing Using The Flexible Camera Series Curriculum Guide

B-06 **All,K-12,HS**
Mt. St. Helens vs. Hawaiian Volcanoes

C-06 **I,HS**
Exploring Mars Geology on Earth

C-35 **I,HS**
Demo Time! Having Fun with Physics-Part II

C-37 **I**
NASA Earth To Orbit Engineering Design Challenge Thermal Protection Systems

D-03 **I,HS,Col,Sup,Ret**
GPS (Satellites + Maps) = Big Fun

D-22 **HS**
Division C Science Olympiad Coaches Information Meeting

D-24 **I,HS**
Science Olympiad New Coaches Information Meeting

E-12 & F-12 Double **I**
NYSUT presents Middle School Key Information and Curricula with Additional Activities including FDA

E-13 **I,Sup**
Wheeled Vehicles - Science Olympiad Division B

E-21 **I,HS**
New SUNY-ESF Sustainable Communities Instructional Unit

E-23 **I**
Division B Science Olympiad Coaches Information Meeting

F-24 **I,HS**
NASA Messenger Mission Education Modules(MEMs): Staying Cool

G-09 **HS**
Exploring the Hot Universe with the Coolest Instrument in Orbit

G-28 & F-28 Double **I,HS,Sup**
An Alternate Approach to State Examinations in Science Education

G-34 **All**
Writing for the Science Teachers Bulletin

Physics

X-06 **HS**
Science Olympiad (Div. C): Tower Building

X-07 **El,I**
Elementary and Middle School Students' Ideas About Electric Current

X-10, Y-10 & Z-10 Triple **I,HS,Col**
Hands on Data Collection Your Way with Vernier LabPro®

X-13 **K-12,HS,Col**
The Physics SARs Present!

X-21 **I,HS**
Incorporating Environmental Issues in Regents Science Courses

X-32 **I**
RoboBilliards Coaches Clinic - Division B Science Olympiad

X-43 **I,HS**
Sound of Music

Y-05 **K-12**
To the Universe & Return IV: Using NASA & Other Sites

Y-06 **HS**
So, You Want to Teach an Astronomy Elective!

Y-07 **HS**
Explore Active Physics

Y-13 **K-12,HS,Col**
The Physics SARs Present 2

Y-15 **I,HS**
Chandra and the X-Ray Universe-II

Y-32 **K-12,Col**
Cool Tools for Waves and Sound

Z-13 **K-12,HS,Col**
The Physics SARs Present 3

A-06 **I,HS,Col**
Wild Blue Wonders - Learning About Meteorology with Help from Microsoft Flight Simulator 2004

A-10 & B-10 Double **I,HS,Col**
Science Data Collection with Palm OS® handhelds

A-26 **HS**
Physics of Light Emitting Diodes

A-32 **HS**
Physics Part C Laboratory Activities

A-43 **I**
I Labs

B-04 **HS**
Visitors from Outer Space in Your Classroom! Building Cloud Chambers and Observing Cosmic Rays

B-11 **K-12,Sup**
Teaching Tough Concepts in Physics Using PCK

B-12 or C-12 Repeat **HS,Col,Sup**
Real-Time, Real-World Scientific Concepts

B-21 **K-12,El,I,HS,Col**
Inquiry-based Learning Through the NASA Student Observation Network

B-23 **K-12**
Problem-Based Learning in Science

B-26 **HS**
The Phantastic Photon

B-32 & C-32 Double **I,HS**
New Yorks State Science Olympiad Site Coordinator's Meeting

B-37 **K-12**
Light & Color: Hands On– Minds On Demonstrations

C-10 & D-10 Double **I,HS,Col**
Science Data Collection with Texas Instruments Handhelds

C-13 **HS**
Home, Desk and Lab Activities in Electricity & Magnetism

C-26 **HS**
Light Emitting Diodes

C-35 **I,HS**
Demo Time! Having Fun with Physics-Part II

D-06 **HS**
Interpreting Event Diagrams Generated from e+ e- Particle Collisions

D-22 **HS**
Division C Science Olympiad Coaches Information Meeting

D-23 **HS**
Celebrating 31 Great Years at STANYS

D-24 **I,HS**
Science Olympiad New Coaches Information Meeting

D-26 **HS**
Water Analogy to Electric Circuits

E-02 **HS,Col,Sup**
Physics Breakfast: Understanding Freshman Physics Students

E-23 **I**
Division B Science Olympiad Coaches Information Meeting

E-28 **I,HS**
TI Graphing Calculators in the Science Classroom

F-10 & G-10 Double **I,HS,Col**
Science Data Collection with Computers

F-13 **HS**
Selecting a Boat Slip as an Analog for Double Slit Interference, and Other Practical Physics Teaching Models.

F-21 **K-12**
Ancient Observatories, Sun Watchers, and Human Technologies: Connecting NASA with Various Cultures

F-23 **I,HS,Col**
Dynamic Physics Demonstrations that Motivate Thinking

F-33 **El,I,HS**
Teaching Science Using Fire by Friction

G-05 **K-12**
Projectile Motion

G-08 **HS,Col,Sup**
Physics Programs in New York State

G-09 **HS**
Exploring the Hot Universe with the Coolest Instrument in Orbit

G-24 **I**
Labs and Activities across the ILS Core Curriculum

Research

X-06 **HS**
Science Olympiad (Div. C): Tower Building

X-22 **I,HS,Col**
The Immediate Feedback Assessment Technique Applied to Secondary School Science Courses

Y-14 & Z-14 Double **K-12,El,I,Sup**
Science and Technology in the Exit Project Process

Z-21 **HS**
HERA: NASA Space Science Data Analysis in Your Classroom

A-09 & B-09 Double **I,HS,Col**
Pseudomonas-Plant Interactions: HS Connect Modules

A-11 **K-12,Sup**
Those who can do, those who understand, teach! Exploring PCK: The Professional Knowledge of Teachers

A-13 **I,HS**
The Ensemble Method of Weather Forecasting

A-24 **I**
Designing Inquiry Lessons for the Middle School Classroom

A-25 **El,I**
TIPS in Critical Thinking and Project-Based Learning

A-28 **I,HS**
Experimental Design Coaches Clinic - Division C Science Olympiad

A-33 & B-33 Double **All**
Hands On Image Processing Using The Flexible Camera Series Curriculum Guide

A-35 **All**
How many angels can dance on the head of a pin?

B-05 **K-12**
Polymers 101. Plastics and Other Neat Stuff

B-11 **K-12,Sup**
Teaching Tough Concepts in Physics Using PCK

B-21 **K-12,El,I,HS,Col**
Inquiry-based Learning Through the NASA Student Observation Network

B-25 & C-25 Double **I,HS**
NASA Solar Research, The Standards, and The Classroom

C-01 **I,HS**
Science Olympiad: Fossils

C-22 **All**
NYSSELA: Providing a New Perspective on Science Teaching

D-34 **El,Sup**
SCIENCE 21 — Science for the 21st Century

E-02 **HS,Col,Sup**
Physics Breakfast: Understanding Freshman Physics Students

E-05 **I,HS**
Science Research and the New York State Science Congress

E-07 **I,HS,Col**
Plant Genomics: What's New in Plant Biology

E-35 **I,HS,Col**
Down By The River

F-05 **I**
How to Include a Research Paper in Middle Level Science

G-09 **HS**
Exploring the Hot Universe with the Coolest Instrument in Orbit

G-34 **All**
Writing for the Science Teachers Bulletin

Supervision/ Administration

X-23 **I,Col,Sup**
The Matrix Approach to Developing Global Citizens through Science Teaching

Y-14 & Z-14 Double **K-12,El,I,Sup**
Science and Technology in the Exit Project Process

Y-21 **K-12**
NYLearns - Setting the Standard for Educational Web Sites

Y-28 & Z-28 Double **K-12,Col,Sup**
The Use Of FERMI Problems In Teaching And Learning

Z-05 **All**
Toyota TAPESTRY Grants for Teachers + $$$ for You School!

Z-32 **El**
NYSED Grade 4 Elementary Level Science Test – Going Beyond the Content.

B-14 **Sup**
Science Supervisors: Let's Talk !

B-24 **K-12,El,Sup**
A Science Lab for Elementary School Students (Gr.4th-6th) & Science Lab on Wheels (Gr.3)

B-27 & C-27 Double **K-12,Col,Sup**
Mental Gymnastics You Can Use In Your Classroom Tomorrow

B-34 **Col,Sup**
Elementary Science Methods Course Share-A-Thon

C-14 **K-12,Col,Sup**
Why Not the Best? Science Teacher Recruitment and Retention

C-23 **I,HS,Sup**
Earth Science: The Physical Setting, Amsco's new textbook for the New York Core Curriculum

D-14 **K-12,Sup**
Share-A-Thon for Science Education Leaders

D-34 **El,Sup**
SCIENCE 21 — Science for the 21st Century

E-01 **I,HS**
Will This Be On the Test? Strategies for Successful Assessment

E-14, F-14 & G-14 Triple **HS,Col,Sup,Ret**
Concepts of Watershed Hydrology

E-36 **HS,Sup**
The Biology Breakfast

G-08 **HS,Col,Sup**
Physics Programs in New York State

G-28 & F-28 Double **I,HS,Sup**
An Alternate Approach to State Examinations in Science Education

INTENDED AUDIENCE
Col-college, El-elementary, HS-high school, I-intermediate, Sup-supervision

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