# TPT *WebSights* column draft for February 2024:

*WebSights* features announcements and reviews of select sites of interest to learners and teachers of introductory physics. This column is available as a web page at [PhysicsEd.BuffaloState.Edu/pubs/WebSights/](http://PhysicsEd.BuffaloState.Edu/pubs/WebSights/).

If you have successfully used a physics website that you feel is appropriate for *WebSights*, please email me the URL and describe how you use it to teach or learn physics. macisadl@buffalostate.edu.

**Demos and apparatus from the Aichi Physics Circle (Stray Cats) Japanese physics teacher’s website**

<https://www2.hamajima.co.jp/ikiikiwakuwaku/index.htm>

Chris Chiaverina writes *“I have a site to recommend that may have already appeared in your column many years ago. It's the Aichi Physics Circle's, aka Stray Cats, amazing collection of hundreds of ideas for demonstrations, hands-on experiments and homemade apparatus. When you access their URL, you will find that it's in Japanese. No worries -- just click on the URL to be taken to the Circle's homepage. There you will see that the page contains five rectangular boxes -- select the green box at top center. Once you open this link you will be rewarded with a mind-boggling collection of activities that have been presented at Aichi Circle's meetings over the last 20-plus years. While the contents most often appear in Japanese, many photos and diagrams are self-explanatory and all can be translated. Warning: If you go to this site, you run the risk of whiling away hours and hours exploring and learning.”*

[Editor: I am currently mining these for teacher meetings and class activities; note that many web browsers can incorporate on-the-fly translation to English – E.g. Google translate can be used within the Chrome browser. ]

*Submitted by Chris Chiaverina, New Trier HS physics retired, and past president of the AAPT.*

**2023 Nobel Peace Prize awarded to Iranian physicist Narges S. Mohammadi**

<http://tinyurl.com/WS-IranianPhysicistPeace>

<https://en.wikipedia.org/wiki/Narges_Mohammadi>

<https://en.wikipedia.org/wiki/Defenders_of_Human_Rights_Center>

<https://en.wikipedia.org/wiki/Sakharov_Prize>

<https://www.nobelprize.org/prizes/peace/1975/sakharov/facts/>

Imprisoned Iranian physicist and human rights activist Narges S. Mohammadi was recently honored in absentia at a December ceremony as the 2023 Nobel Peace Prize recipient. She is vice president of the “Defenders of Human Rights Center” based in Tehran –known for their famous slogan “Woman – Life – Freedom.” Mohammadi is also the 2018 recipient of the Sakharov Prize of the European Parliament, named after Soviet nuclear weapons physicist and disarmament activist Andrei Sakharov, the 1975 Nobel Peace Prize Laureate.

**Is gravity a force or not? A tale of scientific models.**

<http://tinyurl.com/WS-gforcesabine>

<https://phyphox.org/>

<http://tinyurl.com/WS-gforcelincoln>

<http://tinyurl.com/WS-gforcederekm>

There are a number of wonderful YouTube videos that discuss whether gravity is or isn’t a force, or “a force in the classical or Newtonian sense” etc. Herr Professor Dr. Einstein (and his teacher Herr Prof. Dr. Minkowski) redefined gravity and under Einstein’s model of general relativity, gravity is not a force. Sabine Hossenfelder makes a great case for this direct observation using smart phone accelerometer data (you can read your phone’s accelerometer via the free phyphox app) and argues the case that we must accelerate while “standing still” on the surface of the Earth in a gravitational field from those very real data. Don Lincoln points out that (unvalidated) theories of quantum gravity make gravity a force yet again. Derek Muller makes a nice convincing presentation illustrating frames of reference, non-inertial frames of reference and geodesics, shows a gravitational field tensor equation and illustrates the Eddington confirmation of Einstein’s General Relativity.

For introductory physics teachers, this is another great reason to use the word interaction rather than force, and to try to plan for students who could very well learn more sophisticated models later in their lives. Knowing the domain and range for models we use to teach with is important. I particularly enjoy the simple gedenkenexperiment about two people walking in a straight line North from various points on the equator and realizing that they are “attracted” together by a “force” as they approach the pole, and then the reverse -- walking S from the N pole they would be “repelled” by a similar “force.” Fun stuff to think about, maybe not the place to start Newtonian mechanics, but there are videos out there that your students may see and you may have to discuss with some students.