# TPT *WebSights* column draft for May 2022:

*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.

**Darek Dewey’s Twitter physics videos**

<https://twitter.com/DarekDewey/>

@DarekDewey

Dewey is a HS Physics teacher at St. Michael-Albertville (MN) HS and his frequent (near daily) delightful tweets usually show some interesting bit of physics via short (usually < 1min) video tweets of sometimes classic, sometimes highly imaginative staged physics demonstrations, particularly optics and mechanics demos, often with imaginative Rube Goldberg-esque twists. Recent videos include an analyzable reverse ballistic pendulum, laser paths in a cardboard box lined with mirrors, regelation of ice, spectra from prisms, a rolling lug nut wrench raising and lowering a mass as it rolls up and down two steel lab clamp bars, collisions of carts, including (heavily) modified Atwood’s machine-like arrangements with various pulleys, resonance demonstrations, various hot wheels car demos, a Newton’s Cradle with charged balloons, tilted track friction demos, wave diffractions, ball bearing in glycerin, polarizing filters etc. Many of the videos are of traditional old chestnuts but still lots of fun new insights and challenges to ponder (I enjoyed the two balls, one rolling and the other bouncing down the ramp tracking vertical positions). A delightful daily video delivery from Darek. He and Frank Noschese are worth getting a twitter account for, and they follow a significant community of physics educators using twitter.

*Recommended by Frank Noschese @fnoschese*

**Real world civil engineering events for introductory mechanics:
The Citicorp Center, Millenium Tower (SF) and Champlain Towers South structures.**

[tinyurl.com/WS-CiticorpNYC1](https://tinyurl.com/WS-CiticorpNYC1)

[tinyurl.com/WS-CiticorpNYC2](https://tinyurl.com/WS-CiticorpNYC2)

[tinyurl.com/WS-CiticorpNYC3](https://tinyurl.com/WS-CiticorpNYC3)

[tinyurl.com/WS-SFMillenniumT1](https://tinyurl.com/WS-SFMillenniumT1)

[en.wikipedia.org/wiki/Millennium\_Tower\_(San\_Francisco)](https://en.wikipedia.org/wiki/Millennium_Tower_%28San_Francisco%29)

[en.wikipedia.org/wiki/Surfside\_condominium\_collapse](https://en.wikipedia.org/wiki/Surfside_condominium_collapse)

[youtube.com/c/BuildingIntegrity](https://www.youtube.com/c/BuildingIntegrity)

[tinyurl.com/ws-PE-SF1](https://tinyurl.com/ws-PE-SF1)

I regularly include real world engineering examples when teaching Newton’s Laws and then statics in introductory physics, particularly the example of the structural design flaw in the Midtown NYC Citicorp center skyscraper caught by an undergraduate engineering student. A positive tale of how things were caught and fixed before failure.

Kathleen Falconer reports she uses two more recent examples: The modern day “Leaning Tower of Piza” that is San Francisco’s friction pile supported Millennium Tower: A 56 story luxury condominium building tilting and turning, and the quite infamous deadly collapse of the Champlain Towers South condominium, built on subsiding surfside Miami Beach waterfront property. Both are complex situations, with analyses that have partial roots in the conceptual errors relating to soil properties and building foundations. Josh Porter’s “Building Integrity” YouTube channel has multiple strong videos about the physics, engineering design failures and economic and legal decisions and analyses of both structures. The discussion of the SF friction pile performance and the possible initiation of the surfside collapse by punching shear with a possible nighttime thermal stress cycle final trigger are two particularly good videos. Finally, Grady Hillhouse’s “Practical Engineering” channel also has great videos about The SF and Miami Beach failures (and much more).

(And the tallest building in SF is for sale cheap, if you are seeking an exceptionally poor real estate investment.)

*Submitted by Kathleen Falconer of uni-Köln Physikdidaktik.*

**Gregg Swackhamer’s HS Honors Physics website**

[swackhamer.weebly.com](http://swackhamer.weebly.com)

The modeling physics community has been fêting the honors physics website of Swackhamer, a founding ASU modeling physics developer. Jane Jackson of ASU Physics writes:

*He goes deeply and broadly into scientific models.  Each chapter of his 2 courses focuses on a model (or two). In each chapter:
-- He lists system members, system properties, system interactions.
-- He lists things that each model can explain.
-- He includes GLOWSCIPT animations and simulations that he developed.

And much more! (objectives, practice tests, videos and representations by physicists, discussions of concepts; connecting ideas for content coherence)

In Physics II, click on "chapter 14". It's a many-particle model for condensed matter. Read his discussion "What is a field?" on that webpage. Wow! Coherent. Excellent! (David Hestenes agrees.)

(Chapter 13 is on temperature and kinetic theory; these two chapters would fit into a chemistry course, too. Chapter 15 is thermodynamics.)*

*Posted by Jane Jackson to modeling@lists.asu.edu*