Dan MacIsaac, Column Editor, Physics Department
SUNY-Buffalo State College, Buffalo, NY 14222; macisadl@buffalostate.edu

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• *ElectroBOOM*

www.edn.com/electronics-blogs/benchtalk/4433531/Engineer-goes-BOOM
www.electroboom.com/?page_id=302
www.youtube.com/user/msadaghd
facebook.com/ElectroBOOM
www.electroboom.com/?p=602
www.electroboom.com/?p=450
www.electroboom.com/?p=151
www.electroboom.com/?p=688
en.wikipedia.org/wiki/Automated_external_defibrillator

A forewarning: If you regularly teach introductory circuits/electronics/electrical safety, then *you* (but perhaps not your students) really should know about ElectroBOOM. Iranian-Canadian electrical engineer and YouTube personality Mehdi Sadaghdar has an adult slapstick comedy channel dedicated to simple and interesting electrical projects going inevitably, horribly wrong—think Mr. Bean or Jerry Lewis with small electrical explosions, sparks, partial expletives, and much bleeping. As certain as the demise of a redshirted crewman in a "Star Trek" episode, an electrolytic capacitor in a ElectroBOOM video will explode, oscilloscope probes will spectacularly short 120VAC to ground, output transistors will melt, and Mr S. will inevitably and comically be shocked and/or burned multiple times. Having said this, many of his projects, safety discussions, and un-safety demonstrations are quite intriguing—I had never seen anyone measure resistance between their eyeballs with a DMM; and recharging a car battery with AA cells was also new to me. But don't let Mehdi's apparent bumbling mislead you; it is quite clear that he's being insightfully sophisticated and calculating in his risk-taking when he produces sparks and shocks himself (e.g., power bar cutouts, lifting feet off the floor, hitting return first with the back of his fingers in his "Electric Guitar" project; also the "Biba Stuja the Battery Man" discussion)—so don't let your students try this. Also, his videos are *not* entirely focused on STEM content; he often includes songs, off-topic political and social rants, impressions, and low-brow (or uni-brow) humor that will offend some. Recall stereotypical undergraduate engineer behaviors.

I first learned of ElectroBOOM through online engineering industry periodicals while looking to update my deliberately super boring freshman electrical safety presentation, and his extensive un-safety video demonstrations on shocks (current vs. voltage as the 'killer') and the pain associated with shocks (AC vs. DC; frequency dependence; measuring body capacitance) remind me of the historical experimental observations Cavendish and Maxwell documented before meters were widespread or even existed—estimating electric current strength by describing their body shock and discomfort (Google Maxwell electric shock). His "Electrocution in Water" and practical "GFCI" outlet videos are practically informative for instructors as well. ElectroBOOM isn't usually technically, linguistically, or conceptually pretty physics—he's definitely an electrical engineer—but nonetheless this is powerfully practical stuff. After several ElectroBOOM videos my gut hurt so much from laughter I sponsored him on Patreon—and I hope he uses a spotter with an AED when recording future videos. When watching ElectroBOOM, your mileage will definitely vary.

• *Cassini-Huygens Saturn mission ends spectacularly*

tinyurl.com/WS-CassiniNASA1
nyti.ms/2y0JLYW
iopscience.iop.org/book/978-1-6817-4497-1

After 20 years, Cassini has explored the Saturn system of moons, delivering the European Heygens probe to Titan and diving through the gap between the rings and the planet 22 times. The NY Times best 100 images are breathtaking. This is the kind of science for which we look to NASA. IOP has released a free eBook: The Ringed Planet: Cassini's Voyage Of Discovery At Saturn by Joshua Colwell, University of Central Florida.

• *2017 Nobel Prize in Physics announced to Rainer Weiss, Barry C. Barish, and Kip S. Thorne for gravitational waves*

www.nobelprize.org/nobel_prizes/physics/laureates/2017/press.html
ligo.org/
www.theguardian.com/science/2017/oct/03/nobel-prize-physics-discovery-gravitational-waves-ligo
tinyurl.com/WSGravWavesSep2017

In perhaps the most anticipated announcement of the year, the 2017 Nobel Prize in physics has been announced "for decisive contributions to the LIGO detector and the observation of gravitational waves" to Weiss, Barish and Thorne. First observed in September 2015, gravitational wave event observations of black hole collisions have most recently been announced just last week by the NSF.

Posted to phys-l Listserv by John S. Denker