

➤ **“How the Internet of Things Got Hacked”** is the title of an article by Andy Greenberg and Kim Zetterin in *Wired* [Dec. 28, 2015. www.wired.com]. We live in a world of rapidly changing technology and the information technology field is a participant; producing numerous innovative products with embedded connectivity. The explosion of the Internet of Things has raised important issues regarding personal cybersecurity. Technology we strap to ourselves or install in our homes, offices and cars that are connected and controlled by a network can provide opportunities for those who cause harm. These devices can inform others when we're home, what we're saying, who we are saying it to, our finances and even our health to name but a few. Connected devices make us continuously vulnerable to hackers. Even “benign technology” like talking toys or baby monitoring cameras have proven especially vulnerable, because manufacturers don't expect a toy or a baby monitor to interest a hacker. We all need to be vigilant in our connected world. Engineers now need to have a cybersecurity awareness when designing products and services. Very lucrative career opportunities exist for those skilled in cybersecurity.

➤ **Reviews of the past year** and visions of the future emerge near the beginning of a new year. Top technology in 2016 is the theme of the January 2016 issue of *IEEE Spectrum* [www.spectrum.ieee.org]. A plethora of reports discuss breakthroughs that will make a difference. The 100 greatest innovations of the year are profiled in the December, 2015 issue of *Popular Science's* “28th Best of What's New”, [287(6):19-60 www.popsci.com December, 2015]. Categories of innovations include: entertainment, automotives, gadgets, security, aerospace, software, health, the home, recreation, and engineering. *Scientific American* profiles 10 advances that will improve life, transform computing, and have the potential to make the earth sustainable. [313(6):30-39. December, 2015. www.scientific-american.com]. Developments including “Eye-Controlled Machines”, “Microwave Rocketry”, “Injectable Electronic Brain Probes”, and “Self-learning Machines” are but a few of these. A subsequent article pp. 40-53 profiles some of the idea and inventions that have changed the world and are chronicled in the *Scientific American* archives from 170 years of publication. The January, 2016 issue of *Discover* focuses on a review of the year in science [“100 top Stories of 2015”. www.discovermagazine.com]. Stories include the stunning first images of the planet Pluto from NASA's deep space probe, the discovery of fossils in an underground cave that could bring information on a new human species, the destruc-

tion of cultural artifacts in the Middle East, climate change, new insights on comets by the Rosetta probe, ethical issues associated with altering human DNA, and many, many other stories of interest to all enthusiasts of advancements in science.

➤ **Fortune's 2015 business person** of the year is Mark Parker; CEO of Nike [*FORTUNE*. 172(7):95-102. December, 2015. www.fortune.com]. Profiled by Adam Lashinsky, Mark has doubled revenues and profits for the footwear and apparel giant accompanied with a six-fold increase in its stock price. The author describes how he accomplished this and how he plans to continue doing so. The article concludes with the statement “at Nike, there is no finish line.” Immediately following this article Scott Cendrowski et. al. profiles the other nineteen top business leaders in the ranking [pp. 104-111]. In the cover story of the September 15, 2015 issue of *FORTUNE* [172(4):90-97. September 15, 2015], Krisen Bellstrom et al. list their “Most Powerful Women List.” Nineteen of the twenty-seven women profiled are CEO's of Fortune 500 companies.

➤ **In a research report** published in *Exercise and Sport Sciences Reviews* [“The Role of Exercise-Induced Cardiovascular Adaptation in Brain Health.” 43(4):181-189. October, 2015. www.acsm.org] Takashi Tarami and Rong Zhang review scientific evidence that exercise induced cardiovascular adaptations play an important role in improving brain performance, structure, and function. A harmonic relationship exists between the intensity of exercise and brain health. The cover story in the October 2015 issue of *Discover* [pp. 25-35. www.discovermagazine.com] focuses on science and aging. Topics covered include reversing Alzheimer's disease, bionic vision, heart muscle repair, skeletal muscle building, and the aging personality. On the same topic, an article in *New Scientist* by Jessica Hamzelou [Vol 227. #3039. pp. 30-33. September 10, 2015. www.newscientist.com. “Renew Yourself: Why Ageing Isn't Irreversible”] discusses the question could “purging worn-out cells be all that it takes to



What's New in the Literature?

by **Terrance Malkinson**



stay healthy as you age?” In the 2007 film “The Bucket List” Jack Nicholson and Morgan Freeman play men terminally ill with cancer who set out to do all the things they wanted to do before “Kicking the Bucket.” We each have our own “bucket list.” Jamie Malanowsky provides 25 suggestions for surprisingly new destinations to put on your bucket list in his article “Life List: The 21st Century Don't Kick the Bucket Just Yet!” [*Smithsonian*. 46(5):25-35. September, 2015. www.smithsonian.com]. As the author states in his introduction “Get Going,” people often procrastinate until it is too late and at the end of their life regret that they will leave with dreams unfulfilled.

➤ **It is no secret** that in today's 24 x 7 world many people are not getting enough quality sleep. In his article “Sleep On It!” [*Scientific American*. 313(4): 52-57. October, 2015. www.scientificamerican.com] Robert Stickgold discusses the importance of sleep on the health of your brain and body. An excellent review of the damage that a lack of quality sleep causes. References for further reading are provided at the end of the article.

➤ **Jacob Aron discusses** how we have been able to invent tools that take us beyond our natural abilities and how computer technology is able to change our ability to think, transcending the limits of our current ingenuity. [“Beyond Knowledge: Making Discoveries Beyond the Limits of the Human Mind”. [*New Scientist*. pp. 28-31. No. 3036. August 29, 2015. www.newscientist.com]. Central to this is the ability of computational technology to extend our mathematical capabilities. As discussed in the article “the first major computer-assisted proof was published 40 years ago and it immediately sparked a row. It was a solution to the four-colour theorem, a puzzle dating back to the mid-19th century.” Continuing on “mathematicians were reluctant to accept this as a proof,” due to the possibility of an error in the computer software. The article concludes with the statement, “humans remain the ultimate judge – even if we don't always trust ourselves”.

For **Terrance Malkinson's** biography please see page 7.