



Almanack



[IEEE Philadelphia Section Website](http://www.ieee.org/philadelphia)

Membership in the Following Counties

Pennsylvania: Bucks, Chester, Delaware, Montgomery and Philadelphia.

New Jersey: Burlington, Camden and Gloucester

| October | | | | | | |
|-----------------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| * Region 2 - Young Professionals / Women in Engineering 9AM - 6 PM | * Rowan University 11 AM - 12PM | * ADCOM Sheraton University City 6 PM - 9 PM | | | | * UAV/Drone Operator Training Endicott, NY |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | | * IEEE Section Night Sheraton University City 6 PM - 9 PM | * Temple University 12 PM-1 PM CSS DL * Villanova University 7 PM-8 PM CSS DL | | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | | | | * ElectricExpo2017 Valley Forge Casino | * ElectricExpo2017 Valley Forge Casino | * UAV/Drone Operator Training Endicott, NY |
| 29 | 30 | 31 | | | | |



INSIDE THE ALMANACK

(Click on a name to go to that page)

CURRENT EVENTS

Message from the Chair.....5

AREA EVENTS

How to Influence Middle School Students in STEM.....7

ROWAN University – Dr. John Sudano..... 8

IEEE CSS DL Program – Temple University..... 9

IEEE CSS DL Program – Villanova University.....11

IEEE CAS – Temple University.....13

VOLUNTEER OPPORTUNITIES

Product Design Engineers.....15

IPRAXIS Science Programs.....21

AREA INSTITUTIONS / COMPANIES

DREXEL ECE..... 16

EATON – Powering Business Worldwide.....16

OBITUARY

Merrill W. Buckley, Jr.....17

IEEE PHILADELPHIA SECTION

IEEE Philadelphia Section Notes..... 19

IEEE Philadelphia Section Sponsorships.....20

EDUCATIONAL PROGRAMS AND POSITIONS

Temple University-Computer & Systems Security. 22

Temple University-Non-Tenure Track Position.....23

UPCOMING EVENTS / ITEMS OF INTEREST

UAV / DRONE Operator Training.....24

Electric Expo 2017.....25

Women in Engineering Forum USA East.....26

11th Int. Conf. on Ubiquitous Computing.....27

SPMB 17 – Temple University.....29

ALMANACK

Published Monthly Nine Times per Year, January to May a Summer issue and September to December.

Publisher: Peter.silverberg@ieee.org

Editor: Michael.mayor.pe@ieee.org

Section Office: sec.philadelphia@ieee.org

IEEE Section Night

Meetings are conducted on the 3rd Tuesday of the Month, eight times per year, January through May and September through November.

ADMINISTRATIVE COMMITTEE (ADCOM)

Meetings are conducted on the 2nd Tuesday of the Month: January through June and September through December. Members are welcome to attend the meeting only. Reserve a seat by calling the office the Friday before the meeting. Phone: 484-270-5136.

IEEE SECTION NIGHT

Philadelphia Section

Meeting

Tuesday, October 17, 2017

Sponsored by the Engineering in Medicine and Biology(EMB), Electromagnetic Compatibility (EMC), Signal Processing (SP) and Consumer Electronics (CE) Societies Chapters.

Note: In the event of bad weather please call the Sheraton after 1:00 PM the day of the meeting:

215-387-8000

Ask the front desk if the meeting has been canceled.

When:

Tuesday, October 17, 2017

Dinner at 6:00 PM,

1st Speaker at 7:00 PM.

2nd Speaker at 8:00 PM.

Where:

Sheraton University City,

3549 Chestnut St,

Philadelphia, PA 19104,

(215) 387-8000

- Meal Cost: \$25 (students \$15). The meal cost is \$40 but it is subsidized by the IEEE Philadelphia Section.

- You can attend the talks only for free (with no dinner), however, we ask that you register.

- Parking is paid by the IEEE Philadelphia Section, make sure you have your parking ticket stamped at the meeting.

[Registration Link](#)

PROFESSIONAL DEVELOPMENT HOURS (PDH)

PDH Certificates are free for IEEE members. For non-members, the cost is \$9 per certificate. You can pay during registration or by check at the meeting.



First Talk

Harnessing the Inflammatory Response for Tissue Regeneration

Kara L. Spiller, PhD

*Assistant Professor
School of Biomedical Engineering, Science,
and Health Systems
Drexel University*

Abstract: The inflammatory response plays a major role in the body's response to injury, disease, or implantation of a biomaterial. When the inflammatory response functions normally, it can be a powerful force that promotes tissue repair and regeneration, but when it goes awry, disease takes hold and healing is impaired. The goal of the Biomaterials and Regenerative Medicine Laboratory at Drexel University is to understand the mechanisms by which the inflammatory response orchestrates successful tissue regeneration and to develop novel biomaterial strategies that apply these principles to situations in which tissue regeneration is impaired. In particular, we focus on the behavior of the macrophage, which can rapidly change behavior in response to environmental stimuli to promote inflammation, vascularization, tissue deposition, or remodeling. Through their dynamic phenotypic changes, macrophages function as major regulators of healing. In this talk, we will focus on our work to investigate the role of macrophages in tissue repair, especially angiogenesis, and how this information can be used to 1) design biomaterials that promote healing through the body's natural

healing mechanisms, and 2) develop novel diagnostics in regenerative medicine that allow a personalized medicine approach to wound care.

Biography: Dr. Kara Spiller is an Assistant Professor in Drexel University's School of Biomedical Engineering, Science, and Health Systems. A member of the first class of Drexel's accelerated BS/PhD program, Dr. Spiller received bachelor's and master's degrees in biomedical engineering from Drexel University in 2007. As an NSF Graduate Research Fellow, she conducted her doctoral research in the design of semi-degradable hydrogels for the repair of articular cartilage in the Biomaterials and Drug Delivery Laboratory at Drexel and in the Shanghai Key Tissue Engineering Laboratory of Shanghai Jiao Tong University. After completing her PhD in 2010, she conducted research in the design of scaffolds for bone tissue engineering on a Fulbright fellowship in the Biomaterials, Biodegradables, and Biomimetics (the 3Bs) Research Group at the University of Minho in Guimaraes, Portugal. She then conducted post-doctoral studies towards the development of immunomodulatory biomaterials for bone regeneration in the Laboratory for Stem Cells and Tissue Engineering at Columbia, before returning to Drexel in 2013. Her current research interests include cell-biomaterial interactions, the design of immunomodulatory biomaterials, and international engineering education.





Presenter: Ms. Claire E. Witherel, Dr. Kara Spiller's fifth year Ph.D. student. Claire E. Witherel is a fifth-year PhD Candidate at Drexel University's School of Biomedical Engineering, Science and Health Systems working under Dr. Kara Spiller in the Biomaterials and Regenerative Medicine Laboratory. Claire completed her bachelor's and master's degrees in Biomedical Engineering from Drexel University in 2012. During her undergraduate career, she held positions at Integra LifeSciences, a global medical technology company, including research and development, product development, and international regulatory affairs. Additionally, she conducted academic research supporting an interna-



tional collaboration between Drexel's Biomaterials and Drug Delivery Laboratory (PI: Anthony M. Lowman) and the Key Tissue Engineering Laboratory of Shanghai Jiao Tong University (PI: Yillin Cao & Wei Liu) developing and testing a semi-degradable hydrogel for cartilage repair. For Claire's doctoral research, she received a Whitaker International Fellowship to collaborate with Dr. Paul Martin from University of Bristol, UK to explore immune cell-biomaterial interactions, aka, the foreign body response, live, using optically transparent transgenic zebrafish. Currently, Claire is focused on non-traditional industry-academic collaborations exploring how immune cells, called macrophages, change their behavior in response to commercially-available biomaterials. With this knowledge, her goal is to design novel biomaterials that harness the immune response to promote tissue repair and regeneration.



Second Talk

Software Defined Radio

Dennis Silage, Ph.D.

Professor of Electrical and Computer Engineering

Temple University

Abstract: The software defined radio (SDR) is a STEM outreach tool that is a great introduction to "wireless technology". Simple SDRs can be obtained inexpensively and can be used to engage students and engineers in this important aspect of EE other than the more expensive robots and quadcopters. The SDR can be used for interesting projects such as aircraft ACARS decoding, receiving NOAA and Meteor-M2 weather satellite images, decoding weather balloon telemetry, receiving DAB radio, decoding broadcast RDS, decoding APRS, and Inmarsat, Outernet and Iridium L-Band

satellite data. In this IEEE Section Night presentation, the range of simple SDR hardware (RTL, less than \$25) and freeware software for reception will be introduced as a gateway to Amateur Radio transmission using the next level of SDR/T (Analog Devices ADALM-PLUTO, about \$150).

Biography: Dennis Silage received the PhD in EE



from the University of Pennsylvania. He is a Professor of Electrical and Computer Engineering at Temple University, teaches digital communication, digital signal and image processing and embedded processing systems. He is the faculty adviser for the Temple University Amateur Radio Club K3TU which is integrated into the EE curriculum and a Senior Member of IEEE.