

Monday, March 5

11:15 A.M. - 2:15 P.M. | LACC PETREE HALL D

DPOLY-  
FIAP

**B59: POLYMER PHYSICS FROM ACADEMIA TO INDUSTRY AND BACK**

Chair: Rohan Hule, Exxon Mobil

**Microstructural Basis for the Unexpected Radial Strength of Poly L-lactide (PLLA) Bioresorbable Vascular Scaffolds During Hydrolysis**  
Julie Kornfield, Caltech

**Polymer Physics in Self-Assembled Nanopatterns: From Block Copolymers to Polymer Grafted Nanocrystals**  
Ricardo Ruiz, Western Digital Corp

**Practical Challenges for the Implementation of Polymers into Highly Engineered Systems - an Industrial Perspective**  
Jon Degroot, Dow Performance Silicones

**Insight vs. Accuracy for Models and Experiments in industry: How to Strive for Simplicity, and the Importance of Top-down, Multi-physics Modeling**  
Sumanth Jamadagni, Modeling and Simulation, Procter & Gamble Co

**Thermoplastic Composite Solutions for Mass Markets: Opportunities and Challenges**  
Nikhil Verghese, Composites Technology and Innovations

12:00 P.M. - 2:15 P.M. | J.W. MARRIOTT PLATINUM DE

FIAP

**B61: MEET YOUR FUTURE: CAREERS IN THE PRIVATE SECTOR**

Chair: Steven Lambert, American Physical Society

This special lunchtime session features representatives from industry who will discuss their career path and answer questions about physics careers in the private sector. Topics will include research opportunities for physicists in industry, strategies for successfully pursuing industrial jobs, and advice on how to thrive in this exciting and challenging work environment. Pizza included!

2:30 P.M. - 4:54 P.M. | LACC 152

GIMS-  
FIAP

**C05: PATENTS, INNOVATIONS, AND WARS!**

Chair: Phil Wyatt, Wyatt Technology Corporation

**Laser: The Inventor, the Nobel Laureate, and the 30-year Patent War**  
Nick Taylor, Author

**The Independent Inventor's Handbook**  
Louis Foreman, Enventys Partners

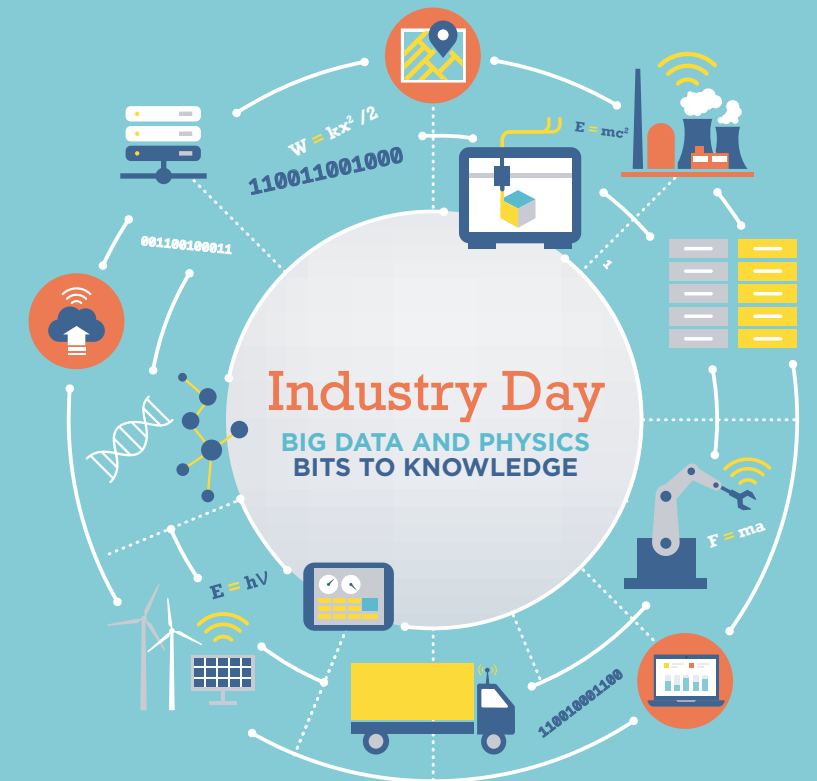
**Patent Sense: Knowing When to Pursue Patent Protection**  
Dan Krueger, Ramey & Schwaller, LLP

**Pieces of the Patent Puzzle: A Primer**  
Diana DiBerardino, DiBerardino McGovern IP Group LLC

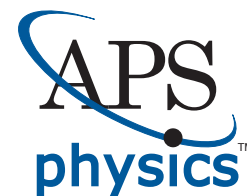
FIAP sponsors many sessions during the APS March Meeting. This is a listing of those sessions and activities that focus on industrial physics and are a part of Industry Day.

Learn More:

[aps.org/meetings/march/industry.cfm](https://aps.org/meetings/march/industry.cfm)



FIAP Invited Sessions



APS  
physics  
**MARCH**  
**MEETING 2018**  
MARCH 5-9 LOS ANGELES

## Tuesday, March 6

11:15 A.M. - 2:15 P.M. | LACC 408A

FIAP-  
FPS

### F32: ADVANCING INNOVATION FOR INDUSTRY AND SOCIETY

Chair: David Seiler, NIST

#### Fostering Innovation and Entrepreneurship at Purdue University: from the Laboratory to the Market

Ernesto Marinero, Purdue University

#### Advancing Technology at NSF

Barry Johnson, NSF

#### Sustaining Innovation in the Semiconductor Industry

Dan Armbrust, Silicon Catalyst

#### Space Innovation: The Aerospace iLab Initiative

Randy Villahermosa, The Aerospace Corporation

#### Innovating Towards a New Energy Future at TAE Technologies, Inc.

Matthew C. Thompson, TAE Technologies, Inc

12:30 P.M. - 2:00 P.M. | LACC WEST HALL B

FIAP

### F61: STUDENTS LUNCH WITH THE EXPERTS

Undergraduate and graduate students are invited to lunch with the experts. Registration for this event is located in the West Lobby.

2:30 P.M. - 5:30 P.M. | LACC 408A

GMED-  
FIAP

### H32: PHYSICS IMPACT ON MEDICINE

Chair: Larry Nagahara, Johns Hopkins University

#### Nanostructure Embedded Substrates for Detection and Characterization of Circulating Tumor Cells

Hsian-Rong Tseng, UCLA

#### Development of Wearable and Bedside Biophotonics Technologies for Personalized Health

Bruce Tromberg, UC Irvin

#### Emerging Cancer Therapeutics

Thomas Mackie, University of Wisconsin

#### MRI-guided Focused Ultrasound – Revolution in Patient Care

Kullervo Hynynen, University of Toronto

#### High-Resolution Imaging of Bone Health

Wojciech Zbijewski, Johns Hopkins University

## Wednesday, March 7

8:00 A.M. - 11:00 A.M. | LACC 408A

FECS-  
FIAP

### K32: DATA SCIENCE AS THE DRIVING FORCE FOR INDUSTRIAL PHYSICS

Chair: Jason Stewart Gardner, National Synchrotron Radiation Research Center

#### How Big Data Unlocks the New Many-body Physics of Online Threats

Neil Johnson, University of Miami

#### Solving Industrial Materials Problems By Using Machine Learning Across Diverse Computational and Experimental Data

Bryce Meredig, Citrine Informatics

#### What Physics Does and Doesn't Teach You About Data Science

David Purdy, Uber Technologies

#### Machine Learning Models vs Physics Models: The Battle for Acceptance

Sergey Yurgenson, Advanced Data Sciences at DataRobot

#### A Hitchhiker's Guide to Data Science

Sundeep Das, Netflix

11:15 A.M. - 2:15 P.M. | LACC 408A

FIAP

### L32: PHYSICS THAT CHANGED THE WORLD

Chair: Eli Yablonovitch, University of California, Berkeley

#### Oxide-Confined VCSELs

Milton Feng, University of Illinois

#### The Ubiquitous SQUID: History and Applications

John Clarke, University of California, Berkeley

#### How Organic Light Emitting Diodes Revolutionized Displays (And Maybe Lighting)

Stephen Forrest, University of Michigan

#### The Magnetic hard Disk Drive- How Information is Stored in the Cloud

Barry Stipe, Western Digital Corp.

#### The Double-Heterostructure Concept in Lasers, LED's, and Solar Cells

Eli Yablonovitch, UC Berkeley

2:30 P.M. - 5:30 P.M. | LACC 408A

FIAP-  
AIP

### P32: PUT BIG DATA IN YOUR PHYSICS TOOLBOX

Co-Chairs: Steven Lambert, APS and Brad Conrad, AIP

#### Improving Electron Microscopy with Artificial Intelligence and Big Data

Eric Stach, University of Pennsylvania and Hummingbird Scientific

#### Quantum Computing at D-Wave

Aaron Lott, D-Wave

#### Polymer Discovery Using Big Data and Analytics

Jed Pitera, IBM

#### Combinatorial Experimentation and Machine Learning for Materials Discovery

Ichiro Takeuchi, University of Maryland

#### Making Big Data Work for Physicists

Paul Kassebaum, Mathworks

5:30 P.M. - 6:30 P.M. | LACC 408A

FIAP

### Q32: FIAP BUSINESS MEETING

Includes recognition of new APS Fellows and Prize winners.

- George E. Pake Prize: Richard Boudreault, Polar Knowledge Canada
- Distinguished Lectureship on Applications of Physics: Robert Kleinberg, Schlumberger

## Thursday, March 8

11:15 A.M. - 2:15 P.M. | LACC 408A

FIAP

### S32: PHYSICISTS AS ENTREPRENEURS

Chair: Matt Kim, QuantTera

#### Containerless Research, Inc., a Niche Science Enterprise

Paul Nordine, Physical Property Measurements, Inc.

#### Patent Law That Every Physicist Should Know?

George Chen, Bryan Cave

#### Exciting Opportunities for Physicists: Bridging the Chaos Between Science and Markets

Kenneth Bradly, PixelEXX Systems, Inc.

#### Entrepreneurial Physics: Finding Support for Research and Commercialization

Daniel S. Green, Office of Naval Research

#### Small to Big Company Entrepreneurship

Ken Campman, Sumika Electronic Materials

2:30 P.M. - 5:30 P.M. | LACC 408A

GIMS-  
FIAP

### V32: JOSEPH F. KEITHLEY AND INDUSTRIAL PHYSICS AWARDS

Chair: Ichiro Takeuchi, University of Maryland

#### Development of Scanning Probe Instruments and Application to the Graphene 2D Electron System

Jospeh Stroschio, NIST

#### STM Inelastic Electron Tunneling Spectroscopy and Microscopy

Wilson Ho, UC Irvine

#### From Inelastic Tunneling Spectroscopy to Electron Spin Resonance of Single Atom Spins on a Surface

Andreas Heinrich, Center for Quantum Nanoscience, Institute for Basic Science

#### mK to km: How Millikelvin Physics is Reused to Explore the Earth Kilometers Below the Surface

Robert Kleinberg, Schlumberger

#### An Ecosystem Approach to Industrial Physics: Atmospheric Moisture Harvesting Through High Temperature Plasma Surface Modification, A Case Study

Richard Boudreault, Polar Knowledge Canada

5:30 P.M. - 7:30 P.M. | LACC FOYER (OUTSIDE OF ROOMS 309 & 402B)

### INDUSTRY DAY CLOSING RECEPTION

Sponsored by FIAP-AIP-GIMS-FECS

Join your colleagues for a social time with light refreshments including beer and wine to wrap up Industry Day activities for 2018. There will be brief remarks by some of the organizers and sponsors. Hope to see you there!