

Explorer Viewpoints Topics

February 2019

3D PRINTING

- 3D-Printed Batteries
- 3D Printing for Bone Implants

ARTIFICIAL INTELLIGENCE

- A Skills Gap in AI Hiring
- AI for Physics

BIOCATALYSIS

- Opportunities in Biobanking
- Impacts of Photosynthesis Engineering

BIG DATA

- Cloudera's New Era
- Big Data and Alzheimer's

BIOMATERIALS

- Brain Imaging through Quantum Dots
- Intraocular-Pressure-Sensor Implant

BIOPOLYMERS

- Area to Monitor: Biohacking
- 3D Printing Lignin Biocomposites

BIOSENSORS

- Detecting Salmonella in Food
- Drug Detection Using Biosensors

COLLABORATION TOOLS

- IBM Kills Off Collaboration Software
- Collaboration Finds Its Voice

CONNECTED CARS

- Outsourcing Bad Driving
- Toyota Guardian

CONNECTED HOMES

- Virtual Exercise Classes
- New Players in Cloud Gaming

ELECTRONIC DISPLAYS

- Displays on Display at CES 2019
- 2019 Television Flagships

ENERGY STORAGE

- China's Big Flow-Battery Push
- Molten-Salt Thermal-Energy Storage: Bright Prospects

ENGINEERING POLYMERS

- DowDuPont's New EP Facility in China
- Area to Monitor: Biocomposites

FUEL CELLS

- Fuel-Cell Ships to Travel the Seven Seas
- Fuel-Cell Buses Merging into the Fast Lane

HUMAN AUGMENTATION

- Augmenting Humans with Human–Machine Teaming
- The First Gene-Edited Humans

INTERNET OF THINGS

- Consumer IoT at CES 2019
- LTE IoT Deployments

MEMBRANE SEPARATION

- Zeolite Membranes Finally Penetrate the US Ethanol Market
- 3D-Printed Membranes Improve Wastewater Cleanup

MEMS/MICROMACHINING

- Scaling Up Photonic Switches
- MEMS for 5G Infrastructure

MOBILE COMMUNICATIONS

- National Security and Wireless Technology
- Advanced Forms of 4G

NANOBIOTECHNOLOGY

- Blockchain-Based Marketplace for Genomic Data
- Nanoscale Biosensors

NANOELECTRONICS

- Novel Nanofabrication Techniques
- Smart Contact Lenses

NANOMATERIALS

- Super-Liquid-Repellent Coatings for Ultrathin Tubes
- Rechargeable Li-CO₂ Batteries

NOVEL CERAMIC/METALLIC MATERIALS

- Responsive Mechanical Metamaterials
- Processing Ceramics

ORGANIC ELECTRONICS

- OLED-Display Update
- Electronic Heated Jackets

PHOTOVOLTAICS

- Simultaneous Conversion of Sunlight into Electricity and Hydrogen Fuel
- Solar Plus Storage Soars Ahead

POLYMER-MATRIX COMPOSITES

- The Next Generation of Manufacturing Design: Multifunctional Composites
- Digital Manufacturing of Composites

PORTABLE ELECTRONIC DEVICES

- The First 5G Devices
- Stand-Alone VR Advances

RENEWABLE ENERGY TECHNOLOGIES

- Low-Cost Solar and Wind Power: Remaking the Energy Landscape
- Bioenergy with Carbon Capture

ROBOTICS

- Delivery-Robot Deployments
- Domestic Robots Stumble

SMART MATERIALS

- Thermoelectric Wearables
- Controllable Phase-Change Materials

SOLID-STATE MICROSENSORS

- Walk-Through Security Checkpoints at Airports
- Lidar Risks

USER INTERFACES

- Software Interfaces for Foldables
- Light-Field Displays