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225th ECS Meeting

May 11, 2014 - May 15, 2014 —Orlando, FL

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[Brian J. Landi, Michael W. Forney, Matthew J. Ganter, Jason Staub, Michael J. Dzara](#)

1149 [A Hierarchically Engineered Microfabrication Approach for Advanced Anode Materials in Lithium Ion Batteries](#)

[Juichin Fan, Lawrence Barrett, Kenneth Hinton, Brittany Searle, Gregory Chipman, Robert R. Davis, Richard R. Vanfleet, John N. Harb](#)

1150 [Extraordinary Hydrogen Evolution and Oxidation Reaction Activity from Carbon Nanotubes](#)

[Rajib Kumar Das, Yan Wang, Svetlana V. Vasilyeva, Evan P. Donoghue, George D. Kamenov, Hai-Ping Cheng, Andrew G. Rinzler](#)

1151 [Carbon Nanomaterials As Metal-Free Catalysts for Energy Conversion](#)

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1152 [Oxygen Plasma Functionalized Graphene Nanoplatelets As Support for Pt Catalyst](#)

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[Belete Asefa Aragaw, Wei-Nien Su, John Rick, Bing-Joe Hwang](#)

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[1157 Oxygen Reduction Reaction Activity of Aerosol Jet Printed Layers of Graphite and Graphene](#)

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[1158 Kinetics of Oxygen Reduction on a Carbon-Supported Pt Electrode in 0.1M KOH Aqueous Solution](#)

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[1159 CNT/PAMAM LbL Films for the Electrogeneration of PtCo Electrocatalysts](#)

[Luiz Henrique da Silva Gasparotto, André L B Castelhana, Anielle C A Silva, Noelio O Dantas, Osvaldo Novais de Oliveira, José Roberto Siqueira](#)

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M3-Carbon Nanostructures in Medicine and Biology

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[1160 Invited Presentation: 1PA- and 2PA-PDT Photo-Inactivation of Cancer Cells with Deca- or Icosacationic \[70\]Fullerenes with Light Absorbing e⁻-Donor Antenna](#)

[Long Chiang, Michael Hamblin](#)

1161 [Carbon Nanostructures: Interactions with Biological Systems](#)

[Tatiana Da Ros](#)

1162 [Cytotoxicity and Biocompatibility of Highly Water-Soluble Graphene Nanoribbons Derivatized with p-Carboxyphenyldiazonium Salt](#)

[Stuart James Corr, Sabeel Shamsudeen, Ayrat Gizzatov, Lon J. Wilson, Matthew Ware, Steven Curley, Biana Godin, Paul Rees, Huw Summers, Rita Serda](#)

1163 [Enhancing MRI Relaxivity of the Gd³⁺ Ions Coordinated to Carboxylated Highly Water-Soluble Graphene Nanoribbons](#)

[Ayrat Gizzatov, Vazrik Keshishian, Adem Guven, Ayrat M. Dimiev, Feifei Qu, Raja Muthupillai, Robert G. Bryant, James M. Tour, Lon J. Wilson](#)

1164 [Gd-EMF-IL-13 and ¹⁷⁷Iu-EMF-IL-13 Endohedral Metallofullerene: A Targeting Diagnostic and Therapeutic Platform for Glioblastoma Multiforme Brain Tumors](#)

[Boris Kiselev, Jianyuan Zhang, Susan Murphy, Tinghui Li, Zhi Sheng, Harry C Dorn](#)

1165 [Invited Presentation: Single-Walled Carbon Nanotubes for Delivery of siRNA: Producing a Pharmaceutically Stable and Effective Drug Product](#)

[Lynn Kirkpatrick](#)

1166 [Double Impact of Modified Single-Walled Carbon Nanotubes in Nanomedicine: Vehicles for Gene Therapy and Theranostic Agents](#)

[Simone Alidori, Justin J. Mulvey, Michael R. McDevitt, David A. Scheinberg](#)

1167 [Carbon Nanostructures Used for Screening in Biomedicine](#)

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1168 [Carbon Nanotubes As Photoluminescent Quantitative Bioanalytical Sensors](#)

[Daniel A Heller](#)

1169[Invited Presentation: SWCNT-Based Fluorescent Immunoprobes for Short-Wave Infrared Cancer Detection](#)

[Kathleen Beckingham, Michael Vu, Ching-Wei Lin, Ada Williams, Robert C. Bast, R. Bruce Weisman](#)

1170[Carbon and Inorganic Nanostructure Reinforced Polymeric Nanocomposites for Bone Tissue Engineering](#)

[Gaurav Lalwani, Behzad Farshid, Allan M Henslee, Liangjun Lin, Kurtis Kasper, Yi-Xian Qin, Antonios G Mikos, Balaji Sitharaman](#)

1171[Coating Hydrophobic Biopolymers Around Single-Walled Carbon Nanotubes for Biomedical Application](#)

[Jia Xu, Kirk J Ziegler](#)

1172[Invited Presentation: Cytocompatibility of Macroporous All-Carbon Scaffolds for Biomedical Applications](#)

[Gaurav Lalwani, Yahfi Talukdar, Michael D'Agati, Anu Gopalan, Balaji Sitharaman](#)

M4-Carbon Nanotubes - From Fundamentals to Devices

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1173[Invited Presentation: One-Dimensional Plasmon Resonance in Single-Walled Carbon Nanotubes](#)

[Toshiya Okazaki](#)

1174[Spatial Fluctuation Fluorescence Spectroscopy: A New Method for Studying Single-Walled Carbon Nanotube Dispersions](#)

[Jason Streit, Sergei Bachilo, R. Bruce Weisman](#)

[1175Invited Presentation: Strong Nonlinear Photoluminescence Properties of Trions and Localized Excitons in Single-Walled Carbon Nanotubes](#)

[Kazunari Matsuda, Yuhei Miyauchi](#)

[1176Invited Presentation: Photoluminescence Imaging Probes of Contrasting 1-D and 0-D Exciton Behavior in Doped Carbon Nanotubes](#)

[Stephen K. Doorn, Hisato Yamaguchi, Sibel Yalcin, Xuedan Ma, Han Htoon](#)

[1177Invited Presentation: Optoelectronic and Thermal Transport Properties of Carbon Nanotubes and Related Materials](#)

[Stephen B. Cronin](#)

[1178Invited Presentation: Optical Properties of Carbon Nanotube/Chromophores Assemblies](#)

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[1179Invited Presentation: Unifying the Low Temperature Luminescence Spectra of Carbon Nanotubes](#)

[Fabien Violla, Yannick Chassagneux, Jean-Sébastien Lauret, Christophe Voisin](#)

[1180Giant Optical Nonlinearity from Carbon Nanotubes Filled with 1D Arrays of Dipolar Molecules](#)

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[Matthias S. Hofmann, Jan T. Glückert, Alexander Kneer, Jonathan Noe, Alexander Högele](#)

[1182Invited Presentation: Optical Detection of Individual Carbon Nanotubes: Nanotube Spectroscopy and Bioimaging](#)

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1183[Engineering Intrinsic and Extrinsic Quantum Interference in Electronic States of Carbon Nanotubes Measured By Resonant Raman Scattering](#)

[Erik H. Haroz](#)

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[Ibrahim Sarpkaya, Zhengyi Zhang, William Walden-Newman, James Hone, Chee-Wei Wong, Stefan Strauf](#)

1185[Invited Presentation: Ensemble and Single Particle Spectroelectrochemistry of Semiconducting Single-Wall Carbon Nanotubes](#)

[Tobias Hertel, Holger Hartleb, Nicolas Ruehl](#)

1186[Invited Presentation: Direct Measurement of the Absolute Absorption Spectrum of Individual Carbon Nanotubes](#)

[Jean-Christophe Blancon, Matthieu Paillet, Huy Nam Tran, Xuan Tinh Than, Samuel Abera Guebrou, Anthony Ayari, Alfonso San Miguel, Ngoc-Minh Phan, Ahmed-Azmi Zahab, Jean-Louis Sauvajol, Fabrice Vallee, Natalia Del Fatti](#)

1187[Invited Presentation: Carbon Nanotube Heterostructure Devices](#)

[Mark C. Hersam](#)

1188[Carbon Nanotube Computer: Transforming Scientific Discoveries into Working Systems](#)

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[Tarek M Abdel-Fattah, Thomas Dushatinski](#)

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[Young Kyu Hong, Byung-Ryang Kim, Jin-Koog Shin, Hyeon Ki Park, Yong Ho Choi, Chan Ho Hong](#)

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[Michael S Arnold, Randy Mehlenbacher, Thomas McDonough, Meng-Yin Wu, Maksim Grechko, Yumin Ye, Martin Zanni](#)

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[Philip G. Collins](#)

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[Xiaowei He, Kristopher Erickson, Albert Alec Talin, Bernice Mills, Naoki Fujimura, Yukio Kawano, Robert Hauge, Junichiro Kono, Francois Leonard](#)

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1195 [Investigating Exciton Dissociation Yields in Single-Walled Carbon Nanotube/Fullerene Blends](#)

[Kevin Mistry, Bryon Larson, Andrew Ferguson, Garry Rumbles, Jeff Blackburn](#)

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[1197Invited Presentation: The Role of Dispersing Molecules on the Separation and Optical Properties of Carbon Nanotubes](#)

[Navaneetha K Subbaiyan, Sofie Cambre, A. Nicholas Parra-Vasquez, Erik Haroz, Jared Crochet, Brahim Lounis, Laurent Cognet, Steven Doorn, Juan G Duque](#)

[1198Surfactants' Key Role in Ionic Aqueous Two-Phase Separation of Carbon Nanotubes Towards Simple Chirality Isolation](#)

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[1199Structure-Dependent Thermal Defunctionalization of Alkylated Single-Walled Carbon Nanotubes](#)

[Saunab Ghosh, Fang Wei, Xiujun Fan, W. E. Billups, Robert Hauge, R. Bruce Weisman](#)

[1200Binding Configuration and Surface Coverage of Poly\(9,9-dioctylfluorene-2,7-diyl\) on Electronic Type-Sorted Carbon Nanotubes](#)

[Matthew J Shea, Gerald J Brady, Michael S Arnold](#)

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[1202Invited Presentation: On the Viability of Helical Arrangement of Carbon Nanotube Via Supported Catalyst Structure: Graphene Embryo As a Precursor for Symmetry Formation](#)

[Avetik R Harutyunyan](#)

[1203Invited Presentation: Advances in Theory of Nanotube Growth, Nucleation, and Cooperative Effects](#)

[Boris I. Yakobson, Evgeni S. Penev, Vasilii I. Artyukhov, Lee Xiong](#)

[1204Invited Presentation: Nitrogen-Incorporated Single-Walled Carbon Nanotubes for Devices](#)

[Shigeo Maruyama, Theerapol Thurakitseree, Sungjin Kim, Christian Kramberger, Shohei Chiashi, Erik Einarsson](#)

1205[High Performance Field-Effect Transistors Via Aligned Polyfluorene-Sorted Single-Walled Carbon Nanotube Arrays](#)

[Gerald J Brady, Yongho Joo, Matthew J Shea, Padma Gopalan, Michael S Arnold](#)

1206[Invited Presentation: Ultimate Separation and Applications of Single-Wall Carbon Nanotubes](#)

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1207[Invited Presentation: Mechanism of Spontaneous Carbon Nanotube Partition in Liquid Multiphase Systems](#)

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1208[Invited Presentation: Application and Thermodynamics of Aqueous Two-Phase Partitioning for Chirality Separation of Single-Wall Carbon Nanotubes Using Surfactants](#)

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1209[Specific DNA Sequences for the Purification of Single-Wall Carbon Nanotube Species in Polymer Aqueous Two-Phase Systems](#)

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1210[Towards High-Fidelity Single-Column Separation of Swcnts Using Agarose Gel](#)

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1211[Electrical Properties of Complex of Nanoparticles and Single-Walled Carbon Nanotube](#)

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M5-Endofullerenes and Carbon Nanocapsules

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[1212 Aromaticity As Driving Force for Bingel-Hirsch Derivatization of Endohedral Metallofullerenes](#)

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[Yuta Takano, Jaume Veciana, Dirk M. Guldi, Nazario Martin, Takeshi Akasaka](#)

[1221Retrieving Precursors Toward Endohedral Metallofullerenes](#)

[Chao Yuan, Lin-Long Deng, Jun Xiao, Li-Fang He, Zhuang-Ping Zhan, Su-Yuan Xie](#)

[1222Manipulating Reactivity Differences for Isolating New Endohedral Metallofullerenes](#)

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[1223Maximum Aromaticity As a Guiding Principle for the Most Suitable Hosting Cages in Endohedral Metallofullerenes](#)

[Marc Garcia-Borràs, Sílvia Osuna, Marcel Swart, Josep Maria Luis, Miquel Solà](#)

[1224Crystal Structure and Dielectric Property of Endohedral Water Fullerene](#)

[Shinobu Aoyagi, Norihisa Hoshino, Tomoyuki Akutagawa, Ryo Kitaura, Hisanori Shinohara, Kunihisa Sugimoto, Rui Zhang, Yasujiro Murata](#)

[1225Relative Populations of Non-Isomeric Metallofullerenes: La@C₇₆\(Td\) Vs. La₂@C₇₆\(Cs,17490\)](#)

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[1229Magnetic Properties of Endohedral Metallofullerenes: Single-Molecular Magnetism and Anisotropy](#)

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M6-Fullerenes - Chemical Functionalization, Electron Transfer, and Theory

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[Long K. San, James B. Whitaker, Alexey A. Popov, Steven H. Strauss, Olga V. Boltalina](#)

[1231A Complete Guide on the Influence of Metal Clusters in the Diels-Alder Regioselectivity of I_h-C₈₀ Endohedral Metallofullerenes](#)

[Marc Garcia-Borràs, Sílvia Osuna, Josep Maria Luis, Marcel Swart, Miquel Solà](#)

[1232Cyanation of Fullerene\(CF₃\)_n Does Not Always Increase Electron Affinity: Experimental and Theoretical Study](#)

[Tyler Tranel Clikeman, S. H. M. Deng, Stanislav Avdoshenko, Xue-Bin Wang, Alexey A. Popov, Steven H. Strauss, Olga V. Boltalina](#)

[1233Synthesis, Structure, and Properties of C₆₀-Pd Spherical Nanoparticles](#)

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[1241Synthesis, Characterization and Photophysical Properties of a Novel Phthalocyanine-Based Cyclopenta\[Hi\]Aceanthrylene Derivative](#)

[Beatriz Ballesteros, Giovanni Bottari, Virtudes Pardo, Juan Antonio Suanzes, Tomas Torres](#)

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1243[A Supramolecular Photosynthetic Model Made of a Multi-Porphyrinic Array Constructed Around a C₆₀ Core and a C₆₀-Imidazole Derivative](#)

[Nicola Armaroli, Jean-François Nierengarten, K. Yoosaf, Julian Iehl, Iwona Nierengarten, Mohamed Hmadeh, Anne-Marie Albrecht-Gary](#)

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[Karlee P Castro, Yuhuan Jin, Jeffrey J Rack, Andrew Ferguson, Jeffrey L. Blackburn, Steven H. Strauss, Olga V Boltalina, Alexey A. Popov](#)

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[Keita Yoshida, Shota Homma, Shotaro Kaneuchi, Kaho Shimura, Kenta Suzuki, Taro Ikuta, Toshifumi Konishi](#)

1246[Photo-Addition of Amino Acid Methyl Esters to \[60\]Fullerene](#)

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1251 [Graphene Sponges Prepared from Clusters of Soap Bubbles with Hierarchical Pores](#)

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1252 [Observation of Vacuum Ultraviolet Optical Critical Points and Excitons in Graphene and Monolayer MoS₂](#)

[Wei Li, Yiran Liang, Boyuan Tian, Xuelei Liang, Yi-Hsien Lee, Xi Ling, Jing Kong, David J. Gundlach, Nhan V. Nguyen](#)

1253 [Graphene Growth on Electrodeposited Polycrystalline Metals and Alloys](#)

[Dario Pigliafreddo, Marco Tocchio, Federica Livolsi, Luca Nobili, Carlo Carraro, Roya Maboudian, Luca Magagnin](#)

1254 [Hydrogen Incorporation and Reaction with Graphene on SiO₂](#)

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[1256Invited Presentation: Graphene Nanoelectromechanical Systems As Stochastic-Frequency Oscillators](#)

[Marc Bockrath, Tengfei Miao](#)

[1257Raman Line Broadening with Graphene Coated Broad-Band Nano-Antennas](#)

[Harry Paraskevaidis, Tevye Kuykendall, Mauro Melli, Alexander Weber-Bargioni, P James Schuck, Adam Schwartzberg, Scott Dhuey, Stefano Cabrini, H. Grebel](#)

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[1259Invited Presentation: Logic Devices with Graphene PN Junctions](#)

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[1260Electron Transfer Kinetics on Mono- and Multi-Layer Graphene](#)

[Matej Velicky, Peter S Toth, Anna Valota, Adam J Cooper, Ian A Kinloch, Ernie W Hill, Kostya S Novoselov, Robert AW Dryfe](#)

[1261Graphene-Based Nanocomposite Materials for Environmental and Energy Applications](#)

[Theodoros A. Tsoufis, Fotios Katsaros, Zili Sideratou, Michael A. Karakassides, Bart J. Kooi](#)

[1262Simple Patterning of Large-Area Graphene By Metal Mask and Sacrificial Polymer Layer](#)

[Narae Kang, Christian W. Smith, Masa Ishigami, Saiful I. Khondaker](#)

[1263Gas Sensing Behaviors of Combinatorial Structures of Graphene Oxide and ZnO](#)

[Hyejin Park, Yoonsung Chung, Helen Koo, Young Soo Yoon, Hosang Ahn, Dong-Joo KIM](#)

1264 [Graphenated Carbon Nanotubes for Enhanced Nucleation of Manganese Oxide Electrodeposits in High Performance Composite Electrodes](#)

[Billyde Brown, Isvar Cordova, Stephen Ubnoske, Charles Parker, Brian R. Stoner, Jeffrey T. Glass](#)

1265 [Field-Controlled Ion Doping of Graphene](#)

[Erich Kinder, Hao Lu, Wan Sik Hwang, Byung Jin Cho, Seul-ki Hong, Alan Seabaugh, Susan Fullerton-Shirey](#)

1266 [A Novel Hybrid Supercapacitor Electrode Utilizing Vertically Oriented Graphene Nanosheets Coated with Conformal Layer of Pseudocapacitive MnO₂ Nanoparticles](#)

[Supil Raina, Y. Zhang, Shao Hua Hsu, J. Chen, S. Z. Deng, N. S. Xu, Jin-Hua Huang, Weng Poo Kang](#)

1267 [First Principles Study of the Role of Defects for Graphene Lithiation](#)

[Handan Yildirim, Zhijian Zhao, Maria K. Y. Chan, Jeff Greeley](#)

1268 [Effect of Sub 2-Nm Pt Nanoparticle on the Conduction Properties of Graphene Based Field Effect Transistor](#)

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1269 [Effect of Oxidation Level on Methanol and Proton Transport Characteristics of Graphene Oxide \(GO\) Based Proton Exchange Membrane \(PEM\)](#)

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1270 [Oxygen Reduction Reaction on Graphene /TiO₂ Composite Electrodes](#)

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[1272Electrochemical Synthesis of Graphene-Metal Oxide Heterostructure for Resistive Random Access Memory](#)

[MiSeok Park, Kyung-Sik Hong, SooHoon Ahn, HyukSang Kwon](#)

[1273One-Pot STRATEGY for CONTROLLABLE GROWTH of Cnts on GRAPHENE AS High-PERFORMANCE SUPERCAPACITOR ELECTRDE Material](#)

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M8-Nanostructures for Energy Conversion

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[1274Hierarchical Construction of ZnO Nanorods on Nanofibers for Hybrid Solar Cells](#)

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[1275Size- and Composition-Dependent Photoelectrochemical Properties of Cu-Zn-Sn-S Multinary Semiconductor Nanoparticles](#)

[Tsukasa Torimoto, Hiroyasu Nishi, Takahito Nagano, Tatsuya Kameyama, Susumu Kuwabata](#)

[1276Semiconductor Nanomaterials for Dye-Sensitized Solar Cells](#)

[Zhiqun Lin, Xukai Xin, Meidan Ye, Mengye Wang, Changjian Lin](#)

[1277Nanostructured Films of Conjugated Polyelectrolytes: Fundamental Studies and Application in Hybrid Solar Cells](#)

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1278 [How to Improve Performance of Porphyrin-Sensitized Solar Cells](#)

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1279 [Design and Characterization of High-Performance Electrodes for Dye-Sensitized Solar Cells](#)

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1280 [Ultrafast Spectroscopy and Numerical Analysis of Inhomogeneous Electron Injection in Dye-Sensitized Solar Cells: Effect of Electrolyte](#)

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1281 [Nanowire Architectures for Iodide Free Dye-Sensitized Solar Cells](#)

[Venkat Kumar Vendra, Tu Quang Nguyen, Delaina Amos, Thad Druffel, Mahendra Kumar Sunkara](#)

1282 [Role of Hole Conductors in Quantum Dot and Organometal Perovskite Based Solid State Solar Cells](#)

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1283 [Single Nanostructure Extinction Spectroscopy](#)

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[1548 Beyond Electron Based Metamaterials: Low-Loss Surface Phonon Polariton-Based Nano-Antenna Arrays Using Silicon Carbide](#)

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[1558Magnéli Phase Titanium Oxide: Electrochemical Routes and Characterisation](#)

[Peter Dunne, Maxime Mieszala, Victor Le Nader, Laetitia Philippe, Johann Michler](#)

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[Satyaprakash Sahoo, Adrina Revira, Pankaj Misra, Ratnamala Chatterjee, Ram S. Katiyar](#)

[1560Phosphorus-Doped P-Type ZnO Nanowires and Their Electrical Properties](#)

[Wei-Che Li, Chun-Wei Huang, Jui-Yuan Chan, Wen-Wei Wu](#)

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[Tarun Mudgal, Nathaniel Walsh, Robert G. Manley, Karl D Hirschman](#)

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[David J. Lockwood, Nelson L. Rowell, Adrien Gouyé, Luc Favre, Antoine Ronda, Isabelle Berbezier](#)

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[Joshua Wright, Stuart Lawson, Robert W Meulenberg](#)

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[Nobuyoshi Koshida, Naokatsu Ikegami, Akira Kojima, Romain Mentek, Ryutaro Suda, Mamiko Yagi, Junichi Shirakashi, Bernard Gelloz, Nobuya Mori](#)

1572 [Bright and Stable Quantum Dot Structures and Their Application to Display](#)

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[Chi-Chou Lin, Yue Kuo](#)

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[Xuejun Xu, Takuya Maruizumi, Yasuhiro Shiraki](#)

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[Jeffrey M. Pietryga, Wan Ki Bae, Young-Shin Park, Istvan Robel, Victor I. Klimov](#)

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[Adrien Noury, Xavier Le Roux, Etienne Gaufres, Laurent Vivien, Nicolas Izard](#)

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[Richard Martel](#)

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[Fabrice Gourbilleau, Alexandre Fafin, Patrick Benzo, Lucile Dumont, Julien Cardin, Christophe Labbe, Christian Dufour](#)

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[Artur Podhorodecki, Agnieszka Noculak, Mateusz Banski, Bartlomiej Sojka, Anna Zelazo, Jan Misiewicz, Jakub Cichos, Miroslaw Karbowski, Beata Zasonska, Daniel Horak, Bozena Sikora, Danek Elbaum, T Dumych, Rostyslav Bilyy, M Szewczyk](#)

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[Elinore M.L.D. de Jong, Saba Saeed, Tom Gregorkiewicz](#)

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[Julià López-Vidrier, Yonder Berencén, Lluís López-Conesa, Oriol Blázquez, Joan Manel Ramírez, Sònia Estradé, Francesca Peiró, Sergi Hernández, Blas Garrido](#)

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[Jin-Tae Kim, Seob Shim, Ju-Young Yun, Ohyun Kwon](#)

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[1590 Correlation of Surface Composition to Optical Properties of CdSe Nanocrystals](#)

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[Lars Rebohle, Yonder Berencén, M. Braun, Blas Garrido, Daniel Hiller, B. Liu, Joan Manel Ramírez, Jiaming Sun, Rene Wutzler, Manfred Helm, Wolfgang Skorupa](#)

[1594Photoluminescence Enhancement of a Silicon Nanocrystal Plane Positioned in the Near-Field of a Silicon Nanowire](#)

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[1595Influence of Size Purification and Self-Assembly on the Photoluminescence of Silicon Nanocrystal Ensembles](#)

[Joseph Miller, Austin Van Sickle, Rebecca Anthony, Uwe Kortshagen, Daniel Kroll, Erik Hobbie](#)

[1596Investigation of e-h Trapping Efficiency in Eu³⁺ Doped YPO₄ Using VUV Spectroscopy](#)

[Maxwell K Wallace, Anthony L Diaz](#)

[1597Autofluorescence of Intralipid Phantoms at Lipid Concentration for Embedding Gold Nanoparticles](#)

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[1598Luminescent Electrochromic Device Based on a Biohybrid Electrolyte Doped With a Mixture of Potassium Triflate and a Europium \$\beta\$ -diketonate Complex](#)

[Mariana Fernandes, A. M. P. Botas, R. Leones, S Pereira, M. M. Silva, Rute Sa Ferreira, Luis D Carlos, Elvira Fortunato, Rosa Rego, V. de Zea Bermudez](#)

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[Katsuhito Sano, Naoya Tasugi, Nobuaki Watanabe, Ichiro Koiwa](#)

1610 [Al-Fe Alloy Formation from Non-Aqueous Solution By Electrochemical Technique](#)

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[Muhymin Islam, Arif Iftakher Mahmood, Young-tae Kim, Samir M. Iqbal](#)

1612 [Fluorinated Graphene-Based High Performance Electrodes for Primary Lithium Batteries](#)

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[1616 Electroless Displacement Deposition of Nanocrystalline Al on Mg Surface from \$\text{AlCl}_3\$ -Emic Room Temperature Ionic Liquid](#)

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[1617 Lifting Defect Improvement of Plasma Enhanced Nitride](#)

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[1618 Boosting Supercapacitor Performance of Carbon Fibres Using Electrochemically Reduced Graphene Oxide Additives. \(Oral; The Main Work Has Been Published Online On Physical Chemistry Chemical Physics Lately\)](#)

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[1619 Revealing Morphotropic Phase Boundary and Phase Transition Behavior in Strained \$\text{BiFeO}_3\$ Thin Films](#)

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[Katharina Ahlbrecht, Cornelius Hupbauer, Jens Tübke, Michael J Hoffmann](#)

[1630 Pd_m/Rgo with Enhanced Catalytic Activity for Electrooxidation of Formic Acid](#)

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[1633 Biodegradation Evaluation of Magnesium Alloys Corrosion Via Hydrogen Evolution Measurements](#)

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[1635 Regeneration of Enzymatic Layer on Layer-By-Layer Assembled Biosensor Interfaces](#)

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1645 [Mathematical Model for the Cathode of Ethanol PEM Fuel Cell](#)

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[Adithya Prakash, Kalpathy B Sundaram](#)

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[Steve Kilgore](#)

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[Rameech McCormack, Nozomi Shirato, Umesh Singh, Soumen Das, Amit Kumar, Hyoung J. Cho, Ramki Kalyanaraman, Sudipta Seal](#)

1650[Multi-Electrode Configurations for Electrochemical Measurements](#)

[Eugene Newton Moss, Ruben Nelson, Pedro L. Moss, Mark H. Weatherspoon](#)

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[Kevin Daniel Grossman, David Reid, Shashank Saraf, Sudipta Seal](#)

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[Ashwin Kumar Saikumar, Giji Skaria, Kalpathy B Sundaram](#)

1655[Quantifying the Active Sites on Single Redox Active Nanoparticle](#)

[Sudipta Seal, Julian Ortiz, Swetha Barkam, Soumen Das](#)

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[Victor H. Velez, Robert George Mertens, Kalpathy B Sundaram](#)

[1657The Effect of Bimetallic Surface Composition for Methanol Oxidation](#)

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[1658Detection of H₂O₂ Using Redox Active Nanoparticles Immobilized on Highly Ordered Polymer Nanopillars](#)

[Sudipta Seal, Shashank Saraf, Jayan Thomas, Zenan Yu, Swetha Barkam](#)

[1659Electrospinning of "Welded" Carbon Fiber Paper for Lithium Ion Battery Current Collectors](#)

[Ben Harris Rainwater, Gordon Henry Waller, Jung-Pil Lee, Meilin Liu](#)

[1660Cerium Oxide Nanoparticles Decorated SAM Modified Gold Electrode for ROS Biosensing](#)

[Craig J. Neal, Shashank Saraf, Sanghoon Park, Soumen Das, Hyoung J. Cho, Sudipta Seal](#)

[1661Detection of TCE Using Electrochemical Testing: Analyzing the Purity of Water](#)

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[1662Effect of Varying Polyethylene Glycol Chain Length on Enzyme Activity](#)

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[Matthew Schrandt, Praveen Kolla, Alevtina Smirnova](#)

[1665 Investigation of Electroless-Electrolytic Ni-Mo Binder-Free Electrode for Ultracapacitor Applications](#)

[Jamal Frederon Stephens, Egwu Eric Kalu, Jamie Gomez, Mark H Weatherspoon, Jim P Zheng](#)

[1666 Effect of H-Bonding on the Electrochemistry of a p-Phenylenediamine-Based Urea. Competition Between Another Urea and a Cyclic Diamide Guest](#)

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[1667 Chitosan-Based Polymer Electrolyte Containing an Ionic Liquid and Inorganic Salt](#)

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[1668 Analysis of the Reduction of 1,2-Dimethyl-5-Nitroimidazole Using Cyclic Voltammetry](#)

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[1669 Conductivity of Co-Ionic Composite electrolytes based on Oxygen-Ion and Proton Conductors](#)

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[1670 Development of Mixed-Conducting Membranes for Hydrogen Separation](#)

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[Hideyuki Takahashi, Hironari Fujiki, Shun Yokoyama, Kazuyuki Tohji](#)

[1673 Characteristics of Graphene Oxide /Al₂O₃ Films on Flexible Substrate](#)

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[1674 Microwave Assisted Hydrothermal Synthesis of NiO-Ce_{1-x}Eu_xO_{2-y} powders for Fuel Cell Catalytic Anodes](#)

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[1675 Plasma Assisted Preparation of PAN-Based Carbon Fiber](#)

[Qi Dong, Hyoung J. Cho, Chunyuan Lu, YeongMin Park, TaeGyu Kim](#)

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[Jun-Yi Wang, Chiang-Sheng Liao, Yi-Hsiang Luo, Kuo-Yen Huang, Jin-Hua Huang](#)

[1677 Benzene Adsorption on \(110\) Surfaces of Transition Metals: Role of Van Der Waals Interaction and Substrate](#)

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[1678 Preparation and Characterization of Carbon-Encapsulated Iron Nanoparticles and Its Application for Core-Shell Type of Catalyst](#)

[Joung Kyu Park, Ja Young Park, Seung Jae Lee, Jongjin Jong, Hye Mi Jang](#)

[1679 An Extensive Computational Study of the Adsorption of Thiophene on Transition Metal Surfaces: Role of Van Der Waals](#)

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[1680 Formation and Mathematical Modeling of Electrical Field Distribution within TiO₂ Nanotube Arrays](#)

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[1681 Cerium Nanomaterials on Cell Membrane Mechanical Property for Drug Delivery Studies](#)

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[1682 Effect of Pressure and Temperature on Nucleation and Growth Kinetics of Titanium Oxide Nanoparticles](#)

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[1684 Encapsulation of Supported Metal Nanoparticles with an Ultra-Thin Porous Shell for Size-Selective Reactions](#)

[Zeyu Shang, Rajankumar L. Patel, Xinhua Liang](#)

[1685 Electrochemical Synthesis of Titanium Dioxide Nanostructures](#)

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1702 [Real Time Isothermal Raman Spectroscopy of Solid-State Kinetics: Goethite Dehydration in N₂ Atmosphere](#)

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1703 Characterization of Changes in the Surface Properties of Silicon and Porous Silicon after Interaction with Hydroxyl Radicals

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1705 Electrochemical Study of the Interaction Between Silicon n-type (100) and Hydroxyl Radicals

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1706 Electrical Properties of Alkali/Alkaline-Earth Borosilicate Glass Composite Sealants for Solid Oxide Fuel Cells

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1707 Electrodeposition and Characterization of Fe_xS_y Thin FILMS Obtained from Elemental Sulfur in Organic Solution

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1709 Photovoltaic Effect in 0.9BiFeO₃-0.1YCrO₃ Composite Thin Film Fabricated Using Sequential Pulsed Laser Deposition

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1711 Detection of Synthesized Cyanide of Plated Films and in the Plating Bath - Especially for Cyanide from Cyanide Free Bath-

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