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Education:

University of California, Berkeley: Ph.D. in Physical Chemistry, 2004.
Thesis title: New materials for nanocrystal solar cells
Advisor: A. Paul Alivisatos
Princeton University: A.B., *summa cum laude*, in Chemistry, Certificate in Materials Science and Engineering, 1999.
Thesis title: Charge injection and chemistry at the indium tin oxide-organic interface
Advisors: Jeffrey Schwartz, Antoine Kahn

Positions Held:

2017 – : Professor, Department of Chemical Engineering, University of Texas at Austin
2018 – : T. Brockett Hudson Professorship in Chemical Engineering, University of Texas at Austin
2017 – 2018: Henry Beckman Professorship in Chemical Engineering, University of Texas at Austin
2013 – 2017: Associate Professor, Department of Chemical Engineering, University of Texas at Austin
2016 – 2018: Fellow of the Frank A. Liddell, Jr. Centennial Fellowship, University of Texas at Austin
2014 – 2017: Fellow of the Henry Beckman Professorship, University of Texas at Austin
2008 – 2014: Staff Scientist, Materials Sciences Division, LBNL, Berkeley, California
2005 – 2008: Research Staff Member, IBM Almaden Research Center, San Jose, California
2004 – 2005: Postdoctoral Researcher, IBM Watson Research Center, Yorktown Heights, New York

Administrative Appointments:

2021 – : Chair, Department of Chemical Engineering, University of Texas at Austin
2012 – 2013: Deputy Director, Molecular Foundry, LBNL
2008 – 2012: Director, Inorganic Nanostructures Facility, Molecular Foundry, LBNL

Journal Publications:

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158) J Kang, SA Valenzuela, EY Lin, MN Dominguez, ZM Sherman, TM Truskett*, EV Anslyn*, DJ Milliron*, "Colorimetric quantification of linking in thermoreversible nanocrystal gel assemblies," *Sci. Adv.*, doi:10.1126/sciadv.abm7364.

157) B Tandon, SA Shubert-Zuleta, DJ Milliron*, "Investigating the Role of Surface Depletion in Governing Electron Transfer Events in Colloidal Plasmonic Nanocrystals," *Chem. Mater.*, doi: 10.1021/acs.chemmater.1c03635. https://pubs.acs.org/doi/10.1021/acs.chemmater.1c03635

156) AJ Graham, SL Gibbs, CA Saez Cabezas, Y Wang, AM Green, DJ Milliron*, BK Keitz*, "*In Situ* Optical Quantification of Extracellular Electron Transfer using Plasmonic Metal Oxide Nanocrystals," *ChemElectroChem*, doi:10.1002/celc.202101423. http://dx.doi.org/10.1002/celc.202101423

155) KM Roccapriore*, SH Cho, AR Lupini, DJ Milliron, and SV Kalinin*, "Sculpting the plasmonic responses of nanoparticles by directed electron beam irradiation," *Small*, doi:10.1002/smll.202105099. https://onlinelibrary.wiley.com/doi/abs/10.1002/smll.202105099

154) H-C Lu, N Katyal, G Henkelman*, DJ Milliron*, "Controlling the Shape Anisotropy of Monoclinic $Nb_{12}O_{29}$ Nanocrystals Enables Tunable Electrochromic Spectral Range**,"** *J. Am. Chem. Soc.* **143** (2021), 15745-15755. https://pubs.acs.org/doi/10.1021/jacs.1c06901

153) H-RM Jhong, UO Nwabara, S Shubert-Zuleta, NS Grundish, B Tandon, LC Reimnitz, CM Staller, GK Ong, CA Saez Cabezas, JB Goodenough, PJA Kenis*, DJ Milliron*, "Efficient Aqueous Electroreduction of CO_2 to Formate at Low Overpotential on Indium Tin Oxide Nanocrystals," *Chem. Mater.* **33** (2021), 7675-7685. https://doi.org/10.1021/acs.chemmater.1c01649

152) D-H Lee, SA Valenzuela, MN Dominguez, M Otsuka, DJ Milliron*, EV Anslyn*, "A Self-Degradable Hydrogel Sensor for a Nerve Agent Tabun Mimic through a Self-Propagating Cascade," *Cell Rep. Phys. Sci.* **2** (2021), 100552. https://doi.org/10.1016/j.xcrp.2021.100552

151) B Tandon, SL Gibbs, BZ Zydlewski, DJ Milliron*, "Quantitative Analysis of Plasmonic Metal Oxide Nanocrystal Ensembles Reveals the Influence of Dopant Selection on Intrinsic Optoelectronic Properties," *Chem. Mater.* **33** (2021), 6955-6964. https://pubs.acs.org/doi/10.1021/acs.chemmater.1c01951

150) SV Kalinin*, KM Roccapriore, SH Cho, DJ Milliron, R Vasudevan, M Ziatdinov, JA Hachtel*, "Separating Physically Distinct Mechanisms in Complex Infrared Plasmonic Nanostructures via Machine Learning Enhanced Electron Energy Loss Spectroscopy," *Adv. Opt. Mater.* **9** (2021), 2001808. https://doi.org/10.1002/adom.202001808

149) CJ Dahlman, S Heo, Y Zhang, LC Reimnitz, D He, M Tang, DJ Milliron*, "Dynamics of Lithium Insertion in Electrochromic Titanium Dioxide Nanocrystal Ensembles," *J. Am. Chem. Soc.* **143** (2021), 8278-8294. https://pubs.acs.org/doi/10.1021/jacs.0c10628

148) SL Skjaervo, GK Ong, OG Grendal, KH Wells, W van Beek, K Ohara, DJ Milliron, S Tominaka, T Grande, M-A Einarsrud*, "Understanding the Hydrothermal Formation of $NaNbO_3$: Its Full Reaction Scheme and Kinetics," *Inorg. Chem.* **60** (2021), 7632-7640. https://pubs.acs.org/doi/abs/10.1021/acs.inorgchem.0c02763

147) MP Howard, ZM Sherman, AN Sreenivasan, SA Valenzuela, EV Anslyn, DJ Milliron, TM Truskett*, "Effects of Linker Flexibility of Phase Behavior and Structure of Linked Colloidal Gels," *J. Chem. Phys.* **154** (2021), 074901. https://doi.org/10.1063/5.0038672

146) ZM Sherman, AM Green, MP Howard, EV Anslyn*, TM Truskett*, DJ Milliron*, "Colloidal Nanocrystal Gels from Thermodynamic Principles," *Acc. Chem. Res.* **54** (2021), 798-807. https://pubs.acs.org/doi/10.1021/acs.accounts.0c00796

145) MP Howard, ZM Sherman, DJ Milliron, TM Truskett*, "Wertheim's Thermodynamic Perturbation Theory with Double-Bond Association and Its Application to Colloid-Linker Mixtures," *J. Chem. Phys.* **154** (2021), 024905. https://aip.scitation.org/doi/10.1063/5.0033413

144) N Borodinov, P Banerjee, SH Cho, DJ Milliron, OS Ovchinnikova, RK Vasudevan, JA Hachtel*, "Enhancing Hyperspectral EELS Analysis of Complex Plasmonic Nanostructures with Pan-Sharpening," *J. Chem. Phys.* **154** (2021), 014202. https://doi.org/10.1063/5.0031324

143) MN Dominguez, MP Howard, JM Maier, SA Valenzuela, ZM Sherman, JF Reuther, LC Reimnitz, J Kang, SH Cho, SL Gibbs, AK Menta, DL Zhuang, A van der Stok, SJ Kline, EV Anslyn*, TM Truskett*, DJ Milliron*, "Assembly of Linked Nanocrystal Colloids by Reversible Covalent Bonds," *Chem. Mater.* **32** (2020), 10235-10245. https://doi.org/10.1021/acs.chemmater.0c04151

142) SL Gibbs, CM Staller, A Agrawal, RW Johns, CA Saez Cabezas, DJ Milliron*, "Intrinsic Optical and Electronic Properties from Quantitative Analysis of Plasmonic Semiconductor Nanocrystal Ensemble Optical Extinction," *J. Phys. Chem. C* **124** (2020), 24351-24360. https://pubs.acs.org/doi/10.1021/acs.jpcc.0c08195

141) A Maho, CA Saez Cabezas, KA Meyertons, LC Reimnitz, S Sahu, BA Helms, DJ Milliron*, "Aqueous Processing and Spray Deposition of Polymer-Wrapped Tin-Doped Indium Oxide Nanocrystals as Electrochromic Thin Films," *Chem. Mater.* **32** (2020), 8401-8411. https://pubs.acs.org/doi/10.1021/acs.chemmater.0c02399

140) LC Reimnitz, T Lwin, M Lopez, DJ Milliron*, "Oxygen Storage in Transition Metal-Doped Bixbyite Vanadium Sesquioxide Nanocrystals," *ACS Appl. Nano Mat.* **3** (2020), 9645-9651. https://pubs.acs.org/doi/10.1021/acsanm.0c01588

139) SL Gibbs, C Dean, J Saad, B Tandon, CM Staller, A Agrawal, DJ Milliron*, “Dual-Mode Infrared Absorption by Segregating Dopants within Plasmonic Semiconductor Nanocrystals,” *Nano Lett.* **20** (2020), 7498-7505. https://pubs.acs.org/doi/10.1021/acs.nanolett.0c02992

138) K Kim, LC Reimnitz, SH Cho, J Noh, Z Dong, SL Gibbs, BA Korgel, DJ Milliron*, “The Effect of Non-Incorporative Cations on Size and Shape of Indium Oxide Nanocrystals,” *Chem. Mater.* **32** (2020), 9347-9354. https://pubs.acs.org/doi/10.1021/acs.chemmater.0c03281

137) S Kadulkar, DJ Milliron, TM Truskett*, V Ganesan*, "Transport Mechanisms Underlying Ionic Conductivity in Nanoparticle-Based Single-Ion Electrolytes," *J. Phys. Chem. Lett.* **11** (2020), 6970-6975. https://pubs.acs.org/doi/10.1021/acs.jpclett.0c01937

136) S Heo, SH Cho, CJ Dahlman, A Agrawal, DJ Milliron*, “Influence of Crystalline and Shape Anisotropy on Electrochromic Modulation in Doped Semiconductor Nanocrystals,” *ACS Energy Lett.* **5** (2020), 2662-2670. https://pubs.acs.org/doi/10.1021/acsenergylett.0c01236

135) H-C Lu, S Ghosh, N Katyal, VS Lakhanpal, G Henkelman, DJ Milliron*, “Synthesis and Dual-Mode Electrochromism of Anisotropic Monoclinic $Nb_{12}O_{29}$ Colloidal Nanoplatelets,” *ACS Nano* **14** (2020), 10068-10082. https://pubs.acs.org/doi/10.1021/acsnano.0c03283

134) CA Saez Cabezas, K Miller, S Heo, A Dolocan, G LeBlanc, DJ Milliron*, “Direct Electrochemical Deposition of Transparent Metal Oxide Thin Films from Polyoxometalates,” *Chem. Mater.* **32** (2020), 4600-4608. https://pubs.acs.org/doi/10.1021/acs.chemmater.0c00849

133) CA Saez Cabezas, ZM Sherman, MP Howard, MN Dominguez, SH Cho, GK Ong, A Green, TM Truskett*, DJ Milliron*, “Universal Gelation of Metal Oxide Nanocrystals via Depletion Attractions,” *Nano Lett.* **20** (2020), 4007-4013. https://pubs.acs.org/doi/10.1021/acs.nanolett.0c01311

132) MA Blemker, SL Gibbs, E Raulerson, DJ Milliron, ST Roberts*, “Modulating the Visible Absorption and Reflection Profiles of ITO Nanocrystal Thin Films by Plasmon Excitation,” *ACS Photonics* **7** (2020), 1188-1196. https://pubs.acs.org/doi/abs/10.1021/acsphotonics.9b01825

131) S Heo, CJ Dahlman, CM Staller, T Jiang, A Dolocan, BA Korgel, DJ Milliron*, “Enhanced Coloration Efficiency of Electrochromic Tungsten Oxide Nanorods by Site Selective Occupation of Sodium Ions,” *Nano Lett.* **20** (2020), 2072-2079. https://pubs.acs.org/doi/10.1021/acs.nanolett.0c00052

130) SH Cho, KM Roccapriore, CK Dass, S Ghosh, J Choi, J Noh, L Reimnitz, S Heo, K Kim, K Xie, BA Korgel, X Li, JR Hendrickson, JA Hachtel, DJ Milliron*, “Spectrally Tunable Infrared Plasmonic F,Sn:In_2O_3 Nanocrystal Cubes,” *J. Chem. Phys.*, **152** (2020), 014709. https://aip.scitation.org/doi/full/10.1063/1.5139050

129) GK Ong, CA Saez Cabezas, MN Dominguez, SL Skjaervo, S Heo, DJ Milliron*, “Electrochromic Niobium Oxide Nanorods,” *Chem. Mater.* **32** (2020), 468-475. https://pubs.acs.org/doi/abs/10.1021/acs.chemmater.9b04061

128) CJ Thomas, Y Zhang, A Guillaussier, K Bdeir, OF Aly, HG Kim, J Noh, LC Reimnitz, J Li, FL Deepak, D-M Smilgies, DJ Milliron, BA Korgel*, “Thermal Stability of the Black Perovskite Phase in Cesium Lead Iodide Nanocrystals Under Humid Conditions,” *Chem. Mater.* **31** (2019), 9750-9758. https://pubs.acs.org/doi/10.1021/acs.chemmater.9b03533

127) CM Staller, SL Gibbs, CA Saez Cabezas, DJ Milliron*, “Quantitative Analysis of Extinction Coefficients of Tin-Doped Indium Oxide Nanocrystal Ensembles,” *Nano Lett.* **19** (2019), 8149-8154. https://pubs.acs.org/doi/10.1021/acs.nanolett.9b03424

126) S Ghosh, HC Lu, SH Cho, T Maruvada, MC Prince, DJ Milliron*, “Colloidal ReO_3 nanocrystals: Extra Re d-electron instigating a plasmonic response,” *J. Am. Chem. Soc.* **141** (2019), 16331-16343. https://pubs.acs.org/doi/abs/10.1021/jacs.9b06938

125) MP Howard, RJ Jadrich, BA Lindquist, F Khabaz, RT Bonnecaze, DJ Milliron, TM Truskett*, “Structure and Phase Behavior of Polymer-Linked Colloidal Gels,” *J. Chem. Phys.* **151** (2019), 124901. https://aip.scitation.org/doi/10.1063/1.5119359

124) B Tandon, S Ghosh, DJ Milliron*, “Dopant Selection Strategy for High Quality Factor Localized Surface Plasmon Resonance from Doped Metal Oxide Nanocrystals,” *Chem. Mater.* **31** (2019), 7752-7760. https://pubs.acs.org/doi/10.1021/acs.chemmater.9b02917

123) SL Gibbs, CM Staller, DJ Milliron*, “Surface Depletion Layers in Plasmonic Metal Oxide Nanocrystals,” *Acc. Chem. Res.* **52** (2019), 2516-2524. https://pubs.acs.org/doi/10.1021/acs.accounts.9b00287

122) TD Siegler, Y Zhang, A Dolocan, L Reimnitz, A Torabi, M Abney, J Choi, G Cossio, D Houck, E Yu, X Li, T Harvey, DJ Milliron, BA Korgel*, “Addition of Monovalent Silver Cations to $CH_3NH_3PbBr_3$ Produces Crystallographically Oriented Perovskite Thin Films,” *ACS Appl. Energy Mater.* **2** (2019), 6087-6096. https://pubs.acs.org/doi/abs/10.1021/acsaem.9b01298

121) S Heo, A Agrawal, DJ Milliron*, “Wide Dynamic Range in Tunable Electrochromic Bragg Stacks from Doped Semiconductor Nanocrystals,” *Adv. Funct. Mater.* **29** (2019), 1904555. https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.201904555

120) A Maho*, LC Lamela, C Henrist, L Henrard, LH Tizei, M Kociak, O Stéphan, S Heo, DJ Milliron, B Vertruyen, R Cloots, “Solvothermally-Synthesized Tin-Doped Indium Oxide Plasmonic Nanocrystals Spray-Deposited onto Glass as Near-Infrared Electrochromic Thin Films,” *Sol. Energy Mater. Sol. Cells* **200** (2019), 110014. https://www.sciencedirect.com/science/article/pii/S0927024819303435

119) SH Cho, S Ghosh, ZJ Berkson, JA Hachtel, J Shi, X Zhao, LC Reimnitz, CJ Dahlman, Y Ho, A Yang, Y Liu, J-C Idrobo, BF Chmelka*, DJ Milliron*, “Syntheses of Colloidal F:In_2O_3 Cubes: Fluorine-Induced Faceting and Infrared Plasmonic Response,” *Chem. Mater.* **31** (2019), 2661-2676. https://pubs.acs.org/doi/10.1021/acs.chemmater.9b00906

118) B Tandon, A Agrawal, S Heo, DJ Milliron*, “Competition between Depletion Effects and Coupling in the Plasmon Modulation of Doped Metal Oxide Nanocrystals,” *Nano Lett.* **19** (2019), 2012-2019. https://pubs.acs.org/doi/10.1021/acs.nanolett.9b00079

117) TD Siegler, LC Reimnitz, M Suri, SH Cho, AJ Bergerud, M Abney, DJ Milliron, BA Korgel*, “Deliquescent Chromism of Nickel (II) Iodide Thin Films,” *Langmuir* **35** (2019), 2146-2152. https://pubs.acs.org/doi/abs/10.1021/acs.langmuir.8b03979

116) CJ Dahlman, A Agrawal, CM Staller, J Adair, DJ Milliron*, “Anisotropic Origins of Localized Surface Plasmon Resonance in n-Type Anatase TiO_2 Nanocrystals,” *Chem. Mater.* **31** (2019), 502-511. https://pubs.acs.org/doi/10.1021/acs.chemmater.8b04519

115) TD Siegler, DW Houck, SH Cho, DJ Milliron, BA Korgel*, “Bismuth Enhances the Stability of $CH_3NH_3PbI_3$ (MAPI) Perovskite Under High Humidity,” *J. Phys. Chem. C* **123** (2019), 963-970. doi:10.1021/acs.jpcc.8b11674. https://pubs.acs.org/doi/10.1021/acs.jpcc.8b11674

114) A Singh, L Lutz, GK Ong, K Bustillo, S Raoux, JL Jordan-Sweet, DJ Milliron*, “Controlling Morphology in Polycrystalline Films by Nucleation and Growth from Metastable Nanocrystals,” *Nano Lett.* **18** (2018), 5530-5537. https://pubs.acs.org/doi/10.1021/acs.nanolett.8b01916

113) CA Saez Cabezas, GK Ong, RB Jadrich, BA Lindquist, A Agrawal, TM Truskett*, DJ Milliron*, “Gelation of Plasmonic Metal Oxide Nanocrystals by Polymer-Induced Depletion-Attractions,” *Proc. Nat. Acad. Sci.* **115** (2018), 8925-8930. https://www.pnas.org/content/115/36/8925.short

112) O Zandi, A Agrawal, AB Shearer, LC Reimnitz, CJ Dahlman, CM Staller, DJ Milliron*, “Impacts of Surface Depletion on the Plasmonic Properties of Doped Semiconductor Nanocrystals,” *Nat. Mater.* **17** (2018), 710-717. https://www.nature.com/articles/s41563-018-0130-5

111) CM Staller, ZL Robinson, A Agrawal, SL Gibbs, BL Greenberg, SD Lounis, UR Kortshagen, DJ Milliron*, “Tuning Nanocrystal Surface Depletion by Controlling Dopant Distribution as a Route Toward Enhanced Film Conductivity,” *Nano Lett.* **18** (2018), 2870-2878. https://pubs.acs.org/doi/10.1021/acs.nanolett.7b05484

110) R Sharma, AM Sawvel, B Barton, A Dong, R Buonsanti, A Llordes, E Schaible, S Axnanda, Z Liu, JJ Urban, D Nordlund, C Kisielowski, DJ Milliron*, “Modulation of Carrier Type in Nanocrystal-in-Matrix

Composites by Interfacial Doping," *Chem. Mater.* **30** (2018), 2544–2549. https://pubs.acs.org/doi/10.1021/acs.chemmater.7b04689

109) A Agrawal, I Kriegel, EL Runnerstrom, F Scotognella, A Llordes, DJ Milliron*, "Rationalizing the Impact of Surface Depletion on Electrochemical Modulation of Plasmon Resonance Absorption in Metal Oxide Nanocrystals," *ACS Photonics* **5** (2018), 2044-2050. https://pubs.acs.org/doi/10.1021/acsphotonics.7b01587

108) BH Kim, CM Staller, SH Cho, S Heo, CE Garrison, J Kim, DJ Milliron*, "High Mobility in Nanocrystal-Based Transparent Conducting Oxide Thin Films," *ACS Nano* **12** (2018), 3200–3208. https://pubs.acs.org/doi/10.1021/acsnano.7b06783

107) EL Runnerstrom, GK Ong, G Gregori*, J Maier, DJ Milliron*, "Colloidal Nanocrystal Films Reveal the Mechanism for Intermediate Temperature Proton Conductivity in Porous Ceramics," *J. Phys. Chem. C* **122** (2018), 13624-13635. https://pubs.acs.org/doi/10.1021/acs.jpcc.7b12824

106) A Agrawal, SH Cho, O Zandi, S Ghosh, RW Johns, DJ Milliron*, "Localized Surface Plasmon Resonance in Semiconductor Nanocrystals," *Chem. Rev.* **118** (2018), 3121–3207. https://pubs.acs.org/doi/10.1021/acs.chemrev.7b00613

105) S Heo, J Kim, GK Ong, DJ Milliron*, "Template-Free Mesoporous Electrochromic Films on Flexible Substrates from Tungsten Oxide Nanorods," *Nano Lett.* **17** (2017), 5756-5761. http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.7b02730

104) A Singh, A Singh, GK Ong, MR Jones, D Nordlund, K Bustillo, J Ciston, AP Alivisatos, DJ Milliron*, "Dopant Mediated Assembly of Cu_2ZnSnS_4 Nanorods into Atomically Coupled 2D Sheets in Solution," *Nano Lett.* **17** (2017), 3421–3428. http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.7b00232

103) TE Williams, D Ushizima, C Zhu, A Anders, DJ Milliron, BA Helms*, "Nearest-Neighbor Nanocrystal Bonding Dictates Framework Stability or Collapse in Colloidal Nanocrystal Frameworks," *Chem. Commun.* **53** (2017), 4853-4856. http://pubs.rsc.org/-/content/articlehtml/2017/cc/c6cc10183f

102) A Agrawal, A Singh, S Yazdi, A Singh, GK Ong, K Bustillo, RW Johns, E Ringe, DJ Milliron*, "Resonant Coupling between Molecular Vibrations and Localized Surface Plasmon Resonance of Faceted Metal Oxide Nanocrystals," *Nano Lett.* **17** (2017), 2611-2620. http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.7b00404

101) RW Johns, MA Blemker, MS Azzaro, S Heo, EL Runnerstrom, DJ Milliron, ST Roberts*, "Charge Carrier Concentration Dependence of Ultrafast Plasmonic Relaxation in Conducting Metal Oxide Nanocrystals," *J. Mater. Chem. C* **5** (2017), 5757-5763. http://pubs.rsc.org/is/content/articlelanding/2017/tc/c7tc00600d

100) N DeForest*, A Shehabi, S Selkowitz, DJ Milliron, "A Comparative Energy Analysis of Three Electrochromic Glazing Technologies in Commercial and Residential Buildings," *Appl. Energy* **192** (2017), 95-109. http://www.sciencedirect.com/science/article/pii/S0306261917301216

99) A Agrawal, RW Johns, DJ Milliron*, "Control of Localized Surface Plasmon Resonance in Metal Oxide Nanocrystals," *Ann. Rev. Mater. Res.* **47** (2017), 1-31. http://www.annualreviews.org/doi/abs/10.1146/annurev-matsci-070616-124259

98) BA Lindquist, S Dutta, RB Jadrich, DJ Milliron, TM Truskett*, "Interactions and Design Rules for Assembly of Porous Colloidal Mesophases," *Soft Matter* **13** (2017), 1335-1343. http://pubs.rsc.org/en/content/articlehtml/2017/SM/C6SM02718K

97) Y Wang, J Kim, Z Gao, O Zandi, S Heo, P Banerjee, DJ Milliron*, "Disentangling Photochromism and Electrochromism by Blocking Hole Transfer at the Electrolyte Interface," *Chem. Mater.* **28** (2016), 7198-7202. http://pubs.acs.org/doi/abs/10.1021/acs.chemmater.6b03793

96) CJ Dahlman, G LeBlanc, A Bergerud, C Staller, J Adair, DJ Milliron*, "Electrochemically Induced Transformations of Vanadium Dioxide Nanocrystals," *Nano Lett.* **16** (2016), 6021-6027. http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.6b01756

95) BA Lindquist, RB Jadrich, DJ Milliron*, TM Truskett*, "On the Formation of Equilibrium Gels via a

Macroscopic Bond Limitation," *J. Chem. Phys.* **145** (2016), 074906. http://scitation.aip.org/content/aip/journal/jcp/145/7/10.1063/1.4960773

94) J Ephraim, D Lanigan, C Staller, DJ Milliron, E Thimsen*, "Transparent Conductive Oxide Nanocrystals Coated with Insulators by Atomic Layer Deposition," *Chem. Mater.* **28** (2016), 5549-5553. http://pubs.acs.org/doi/abs/10.1021/acs.chemmater.6b02414

93) A Llordés*, Y Wang, A Fernandez-Martinez, P Xiao, T Lee, A Poulain, O Zandi, CA Saez Cabezas, G Henkelman, DJ Milliron*, "Linear Topology in Amorphous Metal Oxide Electrochromic Networks Obtained via Low-Temperature Solution Processing," *Nat. Mater.* **15** (2016), 1267-1273. http://www.nature.com/nmat/journal/v15/n12/full/nmat4734.html

92) NB Saleh*, DJ Milliron, N Aich, LE Katz, HM Liljestrand, MJ Kirisits, "Importance of Doping, Dopant Distribution, and Defects on Electronic Band Structure Alteration of Metal Oxide Nanoparticles: Implications for Reactive Oxygen Species," *Sci. Tot. Environ.* **568** (2016), 926-932. http://www.sciencedirect.com/science/article/pii/S0048969716313195

91) A Bergerud, SM Selbach, DJ Milliron*, "Oxygen Incorporation and Release in Metastable Bixbyite V_2O_3 Nanocrystals," *ACS Nano* **10** (2016), 6147-6155. http://pubs.acs.org/doi/abs/10.1021/acsnano.6b02093

90) J Kim, A Agrawal, F Krieg, A Bergerud, DJ Milliron*, "The Interplay of Shape and Crystalline Anisotropies in Plasmonic Semiconductor Nanocrystals," *Nano Lett.* **16** (2016), 3879-3884. *ACS Editors' Choice.* http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.6b01390

89) S Mehra, A Bergerud, DJ Milliron, E Chan, A Salleo*, "A Core/Shell Approach to Dopant Incorporation and Shape Control in Colloidal Zinc Oxide Nanorods," *Chem. Mater.* **28** (2016), 3454-3461. http://pubs.acs.org/doi/abs/10.1021/acs.chemmater.6b00981

88) EL Runnerstrom, A Bergerud, A Agrawal, RW Johns, CJ Dahlman, A Singh, SM Selbach, DJ Milliron*, "Defect Engineering in Plasmonic Metal Oxide Nanocrystals," *Nano Lett.* **16** (2016), 3390-3398. http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.6b01171

87) RW Johns, HA Bechtel, EL Runnerstrom, A Agrawal, SD Lounis, DJ Milliron*, "Direct Observation of Narrow mid-Infrared Plasmon Linewidths of Single Metal Oxide Nanocrystals," *Nature Comm.* **7** (2016), 11583. http://www.nature.com/ncomms/2016/160513/ncomms11583/full/ncomms11583.html

86) Y Wang, EL Runnerstrom, DJ Milliron*, "Switchable Materials for Smart Windows," *Ann. Rev. Chem. Bio. Eng.* **7** (2016), 283-304. http://www.annualreviews.org/doi/abs/10.1146/annurev-chembioeng-080615-034647

85) GK Ong, TE Williams, A Singh, E Schaible, BA Helms, DJ Milliron*, "Ordering in Polymer Micelle-Directed Assemblies of Colloidal Nanocrystals," *Nano Lett.* **15** (2015), 8240-8244. http://pubs.acs.org/doi/10.1021/acs.nanolett.5b03765.

84) SM Meckler, C Li, WL Queen, TE Williams, JR Long, R Buonsanti, DJ Milliron, BA Helms*, "Sub-Micron Polymer-Zeolitic Imidazolate Framework Layered Hybrids via Controlled Chemical Transformation of Naked ZnO Nanocrystal Films," *Chem. Mater.* **27** (2015), 7673-7679. http://pubs.acs.org/doi/abs/10.1021/acs.chemmater.5b03219

83) A Singh, BA Lindquist, GK Ong, RB Jadrich, A Singh, H Ha, CJ Ellison, TM Truskett*, DJ Milliron*, "Linking Semiconductor Nanocrystals into Gel Networks through All-Inorganic Bridges," *Angew. Chem. Int. Ed.* **54** (2015), 14840-14844. http://onlinelibrary.wiley.com/doi/10.1002/anie.201508641/abstract

82) TM Mattox, A Agrawal, DJ Milliron*, "Low Temperature Synthesis and Surface Plasmon Resonance of Colloidal Lanthanum Hexaboride (LaB_6) Nanocrystals," *Chem. Mater.* **27** (2015), 6620-6624. http://pubs.acs.org/doi/10.1021/acs.chemmater.5b02297

81) EL Rosen, K Gilmore, AM Sawvel, AT Hammack, SE Doris, S Aloni, V Altoe, D Nordlund, T-C Weng, D Sokaras, BE Cohen, JJ Urban, DF Ogletree, DJ Milliron, D Prendergast, BA Helms*, "Chemically Directing *d*-Block Heterometallics to Nanocrystal Surfaces as Molecular Beacons of Surface Structure," *Chem. Sci.* **6** (2015), 6295-6304. http://pubs.rsc.org/en/Content/ArticleLanding/2015/SC/C5SC01474C

80) J Kim, GK Ong, Y Wang, G LeBlanc, TE Williams, TM Mattox, BA Helms, DJ Milliron*, "Nanocomposite Architecture for Rapid, Spectrally-Selective Electrochromic Modulation of Solar Transmittance," *Nano Lett.* **15** (2015), 5574-5579. http://pubs.acs.org/doi/abs/10.1021/acs.nanolett.5b02197

79) CJ Dahlman, Y Tan, MA Marcus, DJ Milliron*, "Spectroelectrochemical Signatures of Capacitive Charging and Ion Insertion in Doped Anatase Titania Nanocrystals," *J. Am. Chem. Soc.* **137** (2015), 9160-9166. http://pubs.acs.org/doi/abs/10.1021/jacs.5b04933

78) HM Jeong, KM Choi, T Cheng, DK Lee, R Zhou, IW Ock, DJ Milliron, WA Goddard, JK Kang*, "Rescaling of Metal Oxide Nanocrystals for Energy Storage Having High Capacitance and Energy Density with Robust Cycle Life," *Proc. Nat. Acad. Sci.* **112** (2015), 7914-7919. http://www.pnas.org/cgi/doi/10.1073/pnas.1503546112

77) A Singh, A Singh, J Ciston, K Bustillo, D Nordlund, DJ Milliron*, "Synergistic Role of Dopants on the Morphology of Alloyed Copper Chalcogenide Nanocrystals," *J. Am. Chem. Soc.* **137** (2015), 6464-6467. http://pubs.acs.org/doi/abs/10.1021/jacs.5b02880

76) RJ Mendelsberg, PM McBride, JT Duong, MJ Bailey, A Llordes, DJ Milliron*, BA Helms*, "Dispersible Plasmonic Doped Metal Oxide Nanocrystal Sensors that Optically Track Redox Reactions in Aqueous Media with Single-Electron Sensitivity," *Adv. Opt. Mater.* **3** (2015), 1293-1300. http://onlinelibrary.wiley.com/doi/10.1002/adom.201500208/abstract

75) R Sharma, AM Sawvel, B Barton, A Dong, R Buonsanti, A Llordes, E Schaible, S Axnanda, Z Liu, JJ Urban, D Nordlund, C Kisielowski, DJ Milliron*, "Nanocrystal Superlattice Embedded within an Inorganic Semiconducting Matrix by In Situ Ligand Exchange: Fabrication and Morphology," *Chem. Mater.* **27** (2015), 2755-2758. http://pubs.acs.org/doi/abs/10.1021/cm504716s

74) N DeForest*, A Shehabi, J O'Donnell, G Garcia, J Greenblatt, ES Lee, S Selkowitz, DJ Milliron, "United States Energy and CO_2 Savings Potential from Deployment of Near-Infrared Electrochromic Window Glazings," *Build. Environ.* **89** (2015), 107-117. http://www.sciencedirect.com/science/article/pii/S0360132315000785

73) A Agrawal, I Kriegel, DJ Milliron*, "Shape-Dependent Field Enhancement and Plasmon Resonance of Oxide Nanocrystals," *J. Phys. Chem. C* **119** (2015), 6227-6238. http://pubs.acs.org/doi/abs/10.1021/acs.jpcc.5b01648

72) A Singh, C Coughlan, DJ Milliron, KR Ryan*, "Solution Synthesis and Assembly of Wurtzite derived Cu-In-Zn-S Nanorods with Tunable Composition and Band Gap," *Chem. Mater.* **27** (2015), 1517-1523. http://pubs.acs.org/doi/abs/10.1021/cm5035613

71) MV Kovalenko*, L Manna, A Cabot, Z Hens, DV Talapin, CR Kagan, VI Klimov, AL Rogach, P Reiss, DJ Milliron, P Guyot-Sionnest, G Konstantatos, WJ Parak, T Hyeon, B Korgel, CB Murray, W Heiss*, "Prospects of Nanoscience with Nanocrystals," *ACS Nano* **9** (2015), 1012-1057. http://pubs.acs.org/doi/abs/10.1021/nn506223h

70) AM Schimpf, SD Lounis, EL Runnerstrom, DJ Milliron*, DR Gamelin*, "Redox Chemistries and Plasmon Energies of Photodoped In_2O_3 and Sn-Doped In_2O_3 (ITO) Nanocrystals," *J. Am. Chem. Soc.* **137** (2015), 518–524. *Editors' Choice.* http://pubs.acs.org/doi/abs/10.1021/ja5116953

69) JB Rivest, G Li, ID Sharp, JB Neaton, DJ Milliron*, "Phosphonic Acid Adsorbates Tune the Surface Potential of TiO_2 in Gas and Liquid Environment," *J. Phys. Chem. Lett.* **5** (2014), 2450-2454. http://pubs.acs.org/doi/abs/10.1021/jz501050f

68) EL Runnerstrom, A Llordes, SD Lounis, DJ Milliron*, "Nanostructured Electrochromic Smart Windows: Traditional Materials and NIR-Selective Plasmonic Nanocrystals," *Chem. Commun.* **50** (2014), 10555-10572. (invited Feature) http://pubs.rsc.org/en/content/articlehtml/2014/cc/c4cc03109a

67) SD Lounis, EL Runnerstrom, A Bergerud, D Nordlund, DJ Milliron*, "Influence of dopant distribution on the plasmonic properties of indium tin oxide nanocrystals," *J. Am. Chem. Soc.* **136** (2014), 7110-7116. http://pubs.acs.org/doi/abs/10.1021/ja502541z

66) SD Lounis, EL Runnerstrom, A Llordes, DJ Milliron*, "Defect chemistry and plasmon physics of

colloidal metal oxide nanocrystals," *J. Phys. Chem. Lett.* **5** (2014), 1564-1574. (invited Perspective) http://pubs.acs.org/doi/abs/10.1021/jz500440e

65) EL Rosen, AM Sawvel, DJ Milliron, BA Helms*, "Influence of surface composition on electronic transport through naked nanocrystal networks," *Chem. Mater.* **26** (2014), 2214. http://pubs.acs.org/doi/abs/10.1021/cm404149u

64) IB Pehlivan*, R Marsal, E Pehlivan, EL Runnerstrom, DJ Milliron, CG Granqvist, GA Niklasson, "Electrochromic devices with polymer electrolytes functionalized by SiO_2 and In_2O_3:Sn nanoparticles: Rapid coloring/bleaching dynamics and strong near-infrared absorption," *Sol. Energy Mater. Sol. Cells* **126** (2014), 241. http://www.sciencedirect.com/science/article/pii/S092702481300295X

63) DJ Gargas, EM Chan, AD Ostrowski, S Aloni, V Altoe, ES Barnard, B Sanii, JJ Urban, DJ Milliron, BE Cohen*, PJ Schuck*, "Engineering bright sub-10-nm upconverting nanocrystals for single-molecule imaging," *Nature Nano.* **9** (2014), 300. http://www.nature.com/nnano/journal/v9/n4/full/nnano.2014.29.html

62) TE Williams, CM Chang, EL Rosen, G Garcia, EL Runnerstrom, BL Williams, B Koo, R Buonsanti, DJ Milliron*, BA Helms*, "NIR-selective electrochromic heteromaterial frameworks: A platform to understand mesoscale transport phenomena in solid-state electrochemical devices," *J. Mater. Chem. C* **2** (2014), 3328. http://pubs.rsc.org/en/content/articlepdf/2014/tc/c3tc32247e

61) TM Mattox, A Bergerud, A Agrawal, DJ Milliron*, "Influence of shape on the surface plasmon resonance of tungsten bronze nanocrystals," *Chem. Mater.* **26** (2014), 1779-1784. http://pubs.acs.org/doi/pdf/10.1021/cm4030638

60) DJ Milliron*, R Buonsanti, A Llordes, BA Helms, "Constructing functional mesostructured materials from colloidal nanocrystal building blocks," *Acc. Chem. Res.* **47** (2014), 236. http://pubs.acs.org/doi/pdf/10.1021/ar400133k

59) A Dong*, Y Jiao, DJ Milliron, "Electronically coupled nanocrystal superlattice films by in situ ligand exchange at the liquid-air interface," *ACS Nano* **7** (2013), 10978-10984. http://pubs.acs.org/doi/pdf/10.1021/nn404566b

58) L De Trizio, R Buonsanti, AM Schimpf, A Llordes, DR Gamelin, R Simonutti, DJ Milliron*, "Nb-doped colloidal TiO_2 nanocrystals with tunable infrared absorption," *Chem. Mater.* **25** (2013), 3383-3390. http://pubs.acs.org/doi/pdf/10.1021/cm402396c

57) A Llordes, G Garcia, J Gazquez, DJ Milliron*, "Tunable near-infrared and visible light transmittance in nanocrystal-in-glass composites," *Nature* **500** (2013), 323-326. http://www.nature.com/nature/journal/v500/n7462/full/nature12398.html

56) A Bergerud, R Buonsanti, JL Jordan-Sweet, DJ Milliron*, "Synthesis and phase stability of metastable bixbyite V_2O_3 colloidal nanocrystals," *Chem. Mater.* **25** (2013), 3172. http://pubs.acs.org/doi/pdf/10.1021/cm401530t

55) A Shehabi*, N DeForest, A McNeil, E Masanet, J Greenblatt, ES Lee, G Masson, BA Helms, DJ Milliron, "U.S. energy savings potential from dynamic daylighting control glazings," *Energy Build.* **66** (2013), 415. http://www.sciencedirect.com/science/article/pii/S0378778813004015

54) C Kim, R Buonsanti, R Yaylian, DJ Milliron, J Cabana*, "Carbon-free TiO_2 battery electrodes enabled by morphological control at the nanoscale," *Adv. Ener. Mater.* **3** (2013), 1286. http://onlinelibrary.wiley.com/doi/10.1002/aenm.201300264/abstract

53) JB Rivest, R Buonsanti, TE Pick, L Zhu, E Lim, C Clavero, E Schaible, BA Helms*, DJ Milliron*, "Evolution of ordered metal chalcogenide architectures through chemical transformations," *J. Am. Chem. Soc.* **135** (2013), 7446-7449. http://pubs.acs.org/doi/pdf/10.1021/ja403071w

52) L Xu, C Kim, AK Shukla, A Dong, TM Mattox, DJ Milliron, J Cabana*, "Monodisperse Sn nanocrystals as platform for the study of mechanical damage during electrochemical reactions with Li," *Nano Lett.* **13** (2013), 1800. http://pubs.acs.org/doi/pdf/10.1021/nl400418c

51) R Buonsanti*, DJ Milliron*, "Chemistry of doped colloidal nanocrystals," *Chem. Mater.* **25**, (2013),

1305. *Invited review* http://pubs.acs.org/doi/pdf/10.1021/cm304104m

50) N DeForest*, A Shehabi, G Garcia, J Greenblatt, E Masanet, ES Lee, S Selkowitz, DJ Milliron, "Regional performance targets for transparent near-infrared switching electrochromic window glazings," *Build. Environ.* **61** (2013), 160. http://www.sciencedirect.com/science/article/pii/S0360132312003265

49) G Garcia, R Buonsanti, A Llordes, EL Runnerstrom, A Bergerud, DJ Milliron*, "Near infrared spectrally selective plasmonic electrochromic thin films," *Adv. Opt. Mater.* **1** (2013), 215. http://onlinelibrary.wiley.com/doi/10.1002/adom.201200051/full

48) IE Rauda, LC Saldarriaga-Lopez, BA Helms, LT Schelhas, D Membreno, DJ Milliron, SH Tolbert*, "Nanoporous semiconductors synthesized through polymer templating of ligand-stripped CdSe nanocrystals," *Adv. Mater.* **25** (2013), 1315. http://onlinelibrary.wiley.com/doi/10.1002/adma.201203309/abstract

47) AM Schimpf, S Ochsenbein, R Buonsanti, DJ Milliron*, DR Gamelin*, "Comparison of extra electrons in colloidal *n*-type Al^{3+}-doped and photochemically reduced ZnO nanocrystals," *Chem. Commun.* **48** (2012), 9352.

46) IE Rauda, R Buonsanti, LC Saldarriaga-Lopez, K Benjauthrit, LT Schelhas, M Stefik, V Augustyn, J Ko, B Dunn, U Wiesner, DJ Milliron, SH Tolbert*, "General method for the synthesis of hierarchical nanocrystal-based mesoporous materials," *ACS Nano* **6** (2012), 6386. http://pubs.acs.org/doi/pdf/10.1021/nn302789r

45) R Buonsanti, TE Pick, N Krins, TJ Richardson, BA Helms*, DJ Milliron*, "Assembly of ligand-stripped nanocrystals into precisely controlled mesoporous architectures," *Nano Lett.* **12** (2012), 3872-3877. https://pubs.acs.org/doi/10.1021/nl302206s

44) EM Chan*, G Han, JD Goldberg, DJ Gargas, AD Ostrowski, PJ Schuck, BE Cohen, DJ Milliron*, "Combinatorial discovery of lanthanide-doped nanocrystals with spectrally pure upconverted emission," *Nano Lett.* **12** (2012), 3839. http://pubs.acs.org/doi/pdf/10.1021/nl3017994

43) MA Caldwell, RGD Jeyasingh, H-SP Wong, DJ Milliron*, "Nanoscale phase change memory materials," *Nanoscale* **4** (2012), 4382. *Invited*

42) JT Duong, MJ Bailey, PM McBride, R Buonsanti, TE Pick, EL Rosen, DJ Milliron, BA Helms*, "Efficient polymer passivation of ligand-stripped nanocrystal surfaces," *J. Poly. Sci. A*: *Poly. Chem.* **50** (2012), 3719-3727. http://onlinelibrary.wiley.com/doi/10.1002/pola.26178/abstract

41) EM Chan*, DJ Gargas, PJ Schuck, DJ Milliron, "Concentrating and recycling energy in lanthanide codopants for efficient and spectrally pure emission: The case of $NaYF_4$:Er^{3+}/Tm^{3+} upconverting nanocrystals," *J. Phys. Chem. B* **116** (2012), 10561.

40) IB Pehlivan*, EL Runnerstrom, S-Y Li, GA Niklasson, DJ Milliron, CG Granqvist, "A polymer electrolyte with high luminous transmittance and low solar throughput: Polyethyleneimine-lithium bis(trifluoromethylsulfonyl) imide with In_2O_3:Sn nanocrystals," *Appl. Phys. Lett.* **100** (2012), 241902.

39) RJ Mendelsberg, G Garcia, H Li, L Manna, DJ Milliron*, "Understanding the plasmon resonance in ensembles of degenerately doped semiconductor nanocrystals," *J. Phys. Chem. C* **116** (2012), 12226-12231. http://pubs.acs.org/doi/abs/10.1021/jp302732s.

38) RJ Mendelsberg, G Garcia, DJ Milliron*, "Extracting reliable electronic properties from transmission spectra of metal oxide thin films and nanocrystal films by careful application of Drude theory," *J. Appl. Phys.* **111** (2012), 063515. https://aip.scitation.org/doi/abs/10.1063/1.3695996

37) AD Ostrowski, EM Chan, DJ Gargas, EM Katz, G Han, PJ Schuck, DJ Milliron, BE Cohen*, "Controlled synthesis of bright and biocompatible lanthanide-doped upconverting nanoparticles," *ACS Nano* **6** (2012), 2686.

36) EL Rosen, R Buonsanti, A Llordes, AM Sawvel, DJ Milliron, BA Helms*, "Exceptionally mild reactive stripping of native ligands from nanocrystal surfaces using Meerwein's salt," *Angew. Chem. Int. Ed.* **51** (2012), 684-689. https://onlinelibrary.wiley.com/doi/abs/10.1002/anie.201105996

35) RY Wang, R Tangirala, S Raoux, JL Jordan-Sweet, DJ Milliron*, "Ionic and electronic transport in

Ag_2S nanocrystal – GeS_2 matrix composites with size-controlled Ag_2S nanocrystals," *Adv. Mater*. **24** (2012), 99-103. http://onlinelibrary.wiley.com/doi/10.1002/adma.201102623/abstract

34) R Buonsanti, A Llordes, S Aloni, BA Helms, DJ Milliron*, "Tunable infrared absorption and visible transparency of colloidal aluminum-doped zinc oxide nanocrystals," *Nano Lett*. **11** (2011), 4706-4710. http://pubs.acs.org/doi/abs/10.1021/nl203030f

33) G Garcia, R Buonsanti, EL Runnerstrom, RJ Mendelsberg, A Llordes, A Anders, TJ Richardson, DJ Milliron*, "Dynamically modulating the surface plasmon resonance of doped semiconductor nanocrystals," *Nano Lett.* **11** (2011), 4415-4420. http://pubs.acs.org/doi/abs/10.1021/nl202597n *Highlighted by* Science *Editors' Choice.*

32) A Llordes, AT Hammack, R Buonsanti, R Tangirala, S Aloni, BA Helms, DJ Milliron*, "Polyoxometalates and colloidal nanocrystals as building blocks for metal oxide nanocomposite films," *J. Mater. Chem.* **21** (2011), 11631-11638. *Invited*. http://pubs.rsc.org/en/Content/ArticleLanding/2011/JM/C1JM10514K

31) RY Wang, MA Caldwell, RGD Jeyasingh, S Aloni, RM Shelby, HSP Wong, and DJ Milliron*, "Electronic and Optical Switching of Solution-Phase Deposited $SnSe_2$ Phase Change Memory Material," *J. Appl. Phys.* **109** (2011), 113506.

30) RJ Mendelsberg, SHN Lim, YK Zhu, J Wallig, DJ Milliron, A Anders*, "Achieving high mobility ZnO:Al at very high growth rates by dc filtered cathodic arc deposition," *J. Phys. D*, **44** (2011), 232003. *Chosen for highlights of 2011*

29) MJ Polking, JJ Urban, DJ Milliron, H Zheng, E Chan, MA Caldwell, S Raoux, CF Kisielowski, JW Ager, R Ramesh*, and AP Alivisatos*, "Size-Dependent Polar Ordering in Colloidal GeTe Nanocrystals," *Nano Lett.* **11** (2011), 1147.

28) MA Caldwell, AE Albers, SC Levy, TE Pick, BE Cohen, BA Helms*, DJ Milliron*, "Driving oxygen coordinated ligand exchange at nanocrystal surfaces using trialkylsilylated chalcogenides," *Chem. Commun.* **47** (2011), 556. *Invited* http://pubs.rsc.org/en/Content/ArticleLanding/2011/CC/C0CC02220A

27) MA Caldwell, B Haynor, S Aloni, DF Ogletree, HSP Wong, JJ Urban*, DJ Milliron*, "Spectroscopic Evidence for Exceptional Thermal Contribution to Electron-Beam Induced Fragmentation," *J. Phys. Chem. C* **114** (2010), 22064.

26) Q Dai, M Lam, S Swanson, R-HR Yu, DJ Milliron, T Topuria, P-O Jubert*, A Nelson*, "Monodisperse cobalt ferrite nanomagnets with uniform silica coatings," *Langmuir* **26** (2010), 17546.

25) EM Chan, C Xu, AW Mao, G Han, JS Owen, BE Cohen, DJ Milliron*, "Reproducible, high-throughput synthesis of colloidal nanocrystals for optimization in multidimensional parameter space," *Nano Lett.* **10** (2010), 1874-1885. http://pubs.acs.org/doi/abs/10.1021/nl100669s *Highlighted by* Materials Today *and* Nanotechnology Alert.

24) R Tangirala, JL Baker, AP Alivisatos, DJ Milliron*, "Modular inorganic nanocomposites by conversion of nanocrystal superlattices," *Angew. Chem. Int. Ed.* **49** (2010), 2878-2882. *Highlighted by* Chem. Eng. Prog. http://onlinelibrary.wiley.com/doi/10.1002/anie.200906642/pdf

23) RY Wang, J Feser, X Gu, KM Yu, RA Segalman, A Majumdar, DJ Milliron*, JJ Urban*, "A Universal and Solution-Processable Precursor to Bismuth Chalcogenide Thermoelectrics," *Chem. Mater.* **22** (2010), 1943.

22) MA Caldwell, S Raoux, RY Wang, HSP Wong*, DJ Milliron*, "Synthesis and size-dependent crystallization of colloidal germanium telluride nanoparticles," *J. Mater. Chem.* **20** (2010), 1285. *Invited.* http://pubs.rsc.org/en/content/articlelanding/2010/jm/b917024c

21) HR Moon, JJ Urban, DJ Milliron*, "Size-controlled synthesis and optical properties of monodisperse colloidal magnesium oxide nanocrystals," *Angew. Chem. Int. Ed.* **48** (2009), 6278. *Selected by the editor as a "hot paper;" highlighted by* Photonics Spectra.

20) S Wu, G Han, DJ Milliron, S Aloni, V Altoe, DV Talapin, BE Cohen*, PJ Schuck*, "Non-blinking and photostable upconverted luminescence from single lanthanide-doped nanocrystals," *Proc. Natl. Acad. Sci.*

106 (2009), 10917.

19) Y Zhang, S Raoux, D Krebs, LE Krupp, T Topuria, MA Caldwell, DJ Milliron, A Kellock, PM Rice, JL Jordan-Sweet, HSP Wong*, “Phase change nanodots patterned using a self-assembled polymer lithography and crystallization analysis,” *J. Appl. Phys.* **7** (2008), 074312.

18) DJ Milliron*, MA Caldwell, HSP Wong, “Synthesis of metal chalcogenide nanodot arrays using block copolymer-derived nanoreactors,” *Nano Lett.* **7** (2007), 3504-3507.

17) Y Zhang, HSP Wong*, S Raoux, JN Cha, CT Rettner, LE Krupp, T Topuria, DJ Milliron, PM Rice, JL Jordan-Sweet, “Phase change nanodot arrays fabricated using a self-assembly diblock copolymer approach,” *Appl. Phys. Lett.* **91** (2007), 013104.

16) DJ Milliron*, S Raoux, RM Shelby, J Jordan-Sweet, “Solution-phase deposition and nanopatterning of GeSbSe phase change materials,” *Nature Mater.* **6** (2007), 352. http://www.nature.com/nmat/journal/v6/n5/abs/nmat1887.html

15) DJ Milliron*, DB Mitzi, M Copel, CE Murray, “Solution-processed metal chalcogenide films for p-type transistors,” *Chem. Mater.* **18** (2006), 587.

14) P Peng, DJ Milliron, SM Hughes, JC Johnson, AP Alivisatos, RJ Saykally*, “Femtosecond spectroscopy of carrier relaxation dynamics in type II CdSe/CdTe tetrapod heteronanostructures,” *Nano Lett.* **5** (2005), 587.

13) DJ Milliron, I Gur, AP Alivisatos*, “Hybrid organic-nanocrystal solar cells,” *MRS Bull.* **30** (2005), 41.

12) DJ Milliron, SM Hughes, Y Cui, L Manna, J Li, LW Wang, AP Alivisatos*, “Colloidal nanocrystal heterostructures with linear and branched topology,” *Nature* **430** (2004), 190.

11) L Manna, DJ Milliron, A Meisel, EC Scher, AP Alivisatos*, “Controlled growth of tetrapod-branched inorganic nanocrystals,” *Nature Mater.* **2** (2003), 382.

10) WU Huynh, JJ Dittmer, N Teclemariam, DJ Milliron, AP Alivisatos*, KWJ Barnham, “Charge transport in hybrid nanorod-polymer composite photovoltaic cells,” *Phys. Rev. B* **67** (2003), 115316.

9) DJ Milliron, C Pitois, C Edder, AP Alivisatos*, JMJ Fréchet*, “Electroactive surfactant designed to mediate charge transfer between CdSe nanocrystals and organic semiconductors,” *Adv. Mater.* **15** (2003), 58.

8) A Striolo, J Ward, JM Prausnitz, WJ Parak, D Zanchet, D Gerion, D Milliron, AP Alivisatos*, “Molecular weight, osmotic second virial coefficient, and extinction coefficient of colloidal CdSe nanocrystals,” *J. Phys. Chem. B* **106** (2002), 5500.

7) J Schwartz*, ES Gawalt, G Lu, DJ Milliron, KL Purvis, SJ Woodson, SL Bernasek, AB Bocarsly, SK VanderKam, "Organometallic chemistry at the interface with materials science," *Polyhedron* **19** (2000), 505.

6) DJ Milliron, IG Hill, A Kahn, J Schwartz*, “Surface oxidation activates indium tin oxide for hole injection,” *J. Appl. Phys.* **87** (2000), 572.

5) IG Hill, D Milliron, J Schwartz, A Kahn*, “Organic semiconductor interfaces: Electronic structure and transport properties,” *Appl. Surf. Sci.* **166** (2000), 354.

4) JP Chen, G Klaerner, JI Lee, D Markiewicz, VY Lee, RD Miller, JC Scott*, “Efficient, blue light–emitting diodes using crosslinked layers of polymeric arylamine and fluorene,” *Synth. Met.* **107** (1999), 129.

3) JP Chen, D Markiewicz, VY Lee, G Klaerner, RD Miller, JC Scott*, “Improved efficiencies of light-emitting diodes through incorporation of charge transporting components in tri–block polymers,” *Synth. Met.* (1999) **107**, 203.

2) G Klaerner, JI Lee, VY Lee, E Chan, JP Chen, A Nelson, D Markiewicz, R Siemens, JC Scott, RD Miller*, “Cross-linkable polymers based on dialkylfluorenes,” *Chem. Mater.* **11** (1999), 1800.

1) ME Hawley*, GW Brown, DJ Markiewicz, F Spaepen, EP Barth, “Magnetic force microscopy observation of the magnetic structure of deformation induced shear bands in amorphous $Fe_{80}B_{16}Si_4$,” *J. Magn. Magn. Mater.* **190** (1998), 89.

Editorial & Commentary:

4) DJ Milliron*, “Ultraviolet Photovoltaics: Share the Spectrum,” *Nat. Energy* **2** (2017), 17116. https://www.nature.com/articles/nenergy2017116

3) BA Helms*, TE Williams, R Buonsanti, DJ Milliron, “Colloidal Nanocrystal Frameworks,” *Adv. Mater.* **27** (2015), 5820-5829. http://dx.doi.org/10.1002/adma.201500127

2) DJ Milliron*, “Quantum Dot Solar Cells: The Surface Plays a Core Role,” *Nat. Mater.* **13** (2014), 772-773. http://www.nature.com/nmat/journal/v13/n8/full/nmat4032.html

1) B Dubertret, J Hollingsworth, H Liu, D Milliron, J Owen, E Weiss, WE Buhro, F Caruso, SM Kauzlarich, M Ward, “Preface to the *Chemistry of Materials* Special Issue: Synthetic and Mechanistic Advances in Nanocrystal Growth,” *Chem. Mater.* **25** (2013), 1153-1154. http://pubs.acs.org/doi/abs/10.1021/cm4008359

Book Chapters:

3) A Llordes, EL Runnerstrom, SD Lounis, DJ Milliron, “Plasmonic electrochromism of metal oxide nanocrystals,” in *Electrochromic Materials and Devices*, RJ Mortimer, DR Rosseinsky and PMS Monk, Eds. Wiley, 2015.

2) JJ Urban, DJ Milliron, “Heterojunction solar cells based on colloidal quantum dots,” in *Colloidal Quantum Dot Optoelectronics and Photovoltaics*, G Konstantatos and EH Sargent, Eds. Cambridge Univ. Press, 2013.

1) DJ Milliron, Q Huang, Y Zhu, “Novel Deposition Methods,” in *Phase Change Materials: Science and Applications*, S Raoux and M Wuttig, Eds. Springer, 2009.

Issued Patents:

19) DJ Milliron, A Llordes, Y Wang, G LeBlanc, “Method for Producing Electrochromic Films by Low Temperature Chemical Condensation of Polyoxometalates,” US10585322, 2020.

18) DJ Milliron, BH Kim, “Nanostructured Conducting Films with a Heterogeneous Dopant Distribution and Methods of Making and Use Thereof,” US10515736, 2019.

17) DJ Milliron, A Llordes, R Buonsanti, G Garcia, “Electrochromic Nanocomposite Films,” US9939662, 2018.

16) DJ Milliron, B Koo, G Garcia, CJ Dahlman, TM Mattox, L De Trizio, “Conductive Transition Metal Oxide Nanostructured Electrochromic Material and Optical Switching Devices Constructed Thereof,” US9785031, 2017.

15) BA Helms, DJ Milliron, EL Rosen, R Buonsanti, A Llordes, “Surface Chemical Modification of Nanocrystals,” US9595363, 2017.

14) BE Cohen, JP Schuck, DJ Gargas, EM Chan, AD Ostrowski, JJ Urban, DJ Milliron, “Controlled synthesis of bright and compatible lanthanide-doped upconverting nanocrystals,” US9556379, 2017.

13) DJ Milliron, G Garcia, A Llordes, R Tangirala, R Buonsanti, "Nanostructured transparent conducting oxide electrochromic device," US9341913, 2016.

12) R Tangirala, DJ Milliron, A Llordes, “Nanocomposite and method of making thereof,” US9287119, 2016.

11) DJ Milliron, EL Runnerstrom, BA Helms, A Llordes, R Buonsanti, G Garcia “Nanocrystal polymer composite electrochromic device,” US9207513, 2015.

10) DJ Milliron, R Buonsanti, "Colloidal infrared reflective and transparent conductive aluminum-doped zinc oxide nanocrystals," US8961828, 2015.

9) AP Alivisatos, JJ Dittmer, WU Huynh, D Milliron, “Semiconductor-nanocrystal/conjugated polymer thin films,” US8753916, 2014.

8) AP Alivisatos, I Gur, D Milliron, “Nanocrystal solar cells processed from solution,” US8440906, 2013.

7) I Gur, D Milliron, AP Alivisatos, H Liu, “Methods of making functionalized nanorods,” US8093494, 2012.

6) J Hedrick, DJ Milliron, A Nelson, R Pratt, “Method for forming and aligning chemically mediated dispersion of magnetic nanoparticles in a polymer,” US7854878, 2010.

5) AP Alivisatos, JJ Dittmer, WU Huynh, DJ Milliron, "Semiconductor-nanocrystal/conjugated polymer thin films," US7777303, 2010.

4) MA Caldwell, DJ Milliron, “Inorganic metal chalcogen cluster precursors and methods for forming colloidal metal chalcogenide nanoparticles using the same,” US7670584, 2010.

3) MA Caldwell, DJ Milliron, “Inorganic metal chalcogen cluster precursors and methods for forming colloidal metal chalcogenide nanoparticles using the same,” US7563430, 2009.

2) DJ Milliron, DB Mitzi, “Solution deposition of chalcogenide films containing transition metals,” US7341917, 2008.

1) AP Alivisatos, D Milliron, L Manna, SM Hughes, “Nanocrystals with linear and branched topology,” US7303628, 2007.

Pending Patent Applications:

4) DJ Milliron, GK Ong, “Composite Films and Methods of Making and Use Thereof,” 2018.

3) DJ Milliron, GK Ong, C Saez Cabezas, HC Lu, “Porous Electrochromic Niobium Oxide Films and Methods of Making and Use Thereof”, 2018.

2) DJ Milliron, Y Wang, “Electrochromic Electrodes and Methods of Making and Use Thereof,” 2016.

1) DJ Milliron, J Kim, “Electrochromic Electrodes and Methods of Making and Use Thereof,” 2016.

Honors and Awards:

- ACS Inorganic Nanoscience Award (2019)
- Edith and Peter O’Donnell Award in Engineering, TAMEST (2018)
- Norman Hackerman Award, Welch Foundation (2017)
- Sloan Research Fellowship (2016)
- Defense Science Study Group member (2016-2017)
- Caltech Resnick Institute Resonate Award (2015)
- DOE Early Career Research Program Awardee (2010-2015)
- R&D 100 Award for Universal Smart Windows (2013)
- BASF/VW Science Award in Electrochemistry (finalist, 2012, 2013)
- Saint-Gobain NOVA External Venturing Innovation Competition (w/ Heliotrope, 1st place, 2012)
- NREL Innovation Growth Forum (w/ Heliotrope, finalist, 2012)
- Berkeley Lab Spot Award (2011)
- MDV (Mohr Davidow Ventures) Innovators Award (2010)
- LBNL Outstanding Performance Award (2010)
- DOE Outstanding Mentor Award (2010)
- Berkeley Lab Spot Award (2010)
- R&D 100 Award for Nanocrystal Solar Cells (2009)
- E\PCOS Conference, Best Presentation Award (2009)
- MRS Spring Meeting, Best Poster Award (2007)
- Tech Transfer Award, LBNL (2004)
- National Defense Science and Engineering Graduate Fellowship (1999-2002)
- Barry M. Goldwater Scholarship (1997-1999)
- Robert C. Byrd Scholarship (1995-1999)
- National Science Scholars’ Program award recipient (1995)
- Calvin Dodd MacCracken Senior Thesis Award (1999) – one of two awarded from 300 eligible
- Robert Thornton McCay Prize in Physical Chemistry (1999) – one of three (class of 40)
- Outstanding Achievement in Materials Science (1999) – only award in Materials Science

- William Foster Memorial Prize in Chemistry (1998) – only award (class of 40)

Synergistic Activities:

- Founder and Chief Scientific Officer, Celadyne Technologies (2018 -)
- Gordon Research Conference on Colloidal Semiconductor Nanocrystals (founding vice chair, 2014; chair, 2016)
- Founder and Chief Scientific Officer, Heliotrope Technologies (2012 - 2017)
- Scientific Advisory Board, PLANT PV (2011-2017)
- Technical Advisory Board, Pacific Light Tech (2011-2015)
- Technical Advisory Board, Spectrawatt (2010-2011)
- Scientific Advisory Board, Nanosys (2009-2010)
- MRS/APS committee on Energy Critical Elements (2009-2011)

Teaching Experience:

Advanced Thermodynamics	UT Austin CHE 387K
Materials Physics	UT Austin CHE 384T
Chemical Engineering Materials	UT Austin CHE 350
General Chemistry	Graduate Student Instructor, UCB Chemistry
Statistical Mechanics and Thermodynamics	Graduate Student Instructor, UCB Chemistry

Graduate and Postdoctoral Advisors and Advisees:

First name	Last name	Position	Co-advisor	Current Affiliation
Victor	Segui Barragan	student		UT Austin
Jay	Bender	student	J Resasco	UT Austin
Marina (Wren)	Berry	student		UT Austin
Diana	Conrad	student	EV Anslyn	UT Austin
Manuel	Dominguez	student	EV Anslyn	UT Austin
Allison	Green	student	TM Truskett	UT Austin
Jiho	Kang	student	EV Anslyn	UT Austin
Kihoon	Kim	student		UT Austin
Vikram	Lakhanpal	student		UT Austin
Hsin-Che	Lu	student		UT Austin
Charles (Kofi)	Ofosu	student	TM Truskett	UT Austin
Sofia	Shubert-Zuleta	student		UT Austin
Rebecca	Tafoya	student		UT Austin
Tanner	Wilcoxson	student	TM Truskett	UT Austin
Benjamin	Zydlewski	student		UT Austin
Xing Yee	Gan	postdoc		UT Austin
Benjamin	Roman	postdoc		UT Austin
Ankit	Agrawal	student		Quantumscape
Amy	Bergerud	student		Seagate
Marissa	Caldwell	student	H-SP Wong, Stanford	Medtronic
Shin Hum	Cho	student		Keimyung University
Clayton	Dahlman	student		Quantumscape
Guillermo	Garcia	student		Heliotrope Technologies
Stephen	Gibbs	student		Univ. of Washington (postdoc)
Sungyeon	Heo	student		SeoulTech University
Robert	Johns	student		Facebook
Sebastien	Lounis	student		Activate
Gary	Ong	student		Celadyne Technologies

Lauren	Reimnitz	student		Novacentrix
Evan	Runnerstrom	student		Army Research Office
Camila	Saez Cabezas	student	TM Truskett, UT Austin	Dow
Corey	Staller	student		Celadyne Technologies
Progna	Banerjee	postdoc		ANL (postdoc)
Raffaella	Buonsanti	postdoc		EPFL
Emory	Chan	postdoc		LBNL
Sandeep	Ghosh	postdoc		ASM
Gang	Han	postdoc	BE Cohen, LBNL	Univ. of Massachusetts
Molly	Jhong	postdoc		Dow
Byung Hyo	Kim	postdoc		Soongsil University
Jongwook	Kim	postdoc		Ecole Polytechnique
Natacha	Krins	postdoc	TJ Richardson, J Cabana, LBNL	Univ. Pierre et Marie Curie
Gabriel	LeBlanc	postdoc		Univ. of Tulsa
Beth	Lindquist	postdoc	TM Truskett, UT Austin	LANL
Anna	Llordes	postdoc		Fuelium, Spain
Rueben	Mendelsberg	postdoc	A Anders, LBNL	Freeform Future
Hoi Ri	Moon	postdoc	JJ Urban, LBNL	UNIST
Varada	Palakkal	postdoc		Phuc Labs
Jongsik	Park	postdoc		Kyonggi University
Oun Ho	Park	postdoc		Applied Materials
Jessy	Rivest	postdoc		Palo Alto Research Center
Evelyn	Davies	postdoc	BA Helms, LBNL	LBNL
April	Sawvel	postdoc	BA Helms, LBNL	LLNL
Richa	Sharma	postdoc		Schlumberger Research
Amita	Singh	postdoc		Applied Materials
Ajay	Singh	postdoc		STMicroelectronics
Yizheng	Tan	postdoc		Santa Clara University
Bharat	Tandon	postdoc		
Ravisubhash	Tangirala	postdoc		Nanosys
Robert	Wang	postdoc		Arizona State Univ.
Yang	Wang	postdoc		EMD
Omid	Zandi	postdoc		Tokyo Electron
Renjia	Zhou	postdoc		Analog Devices
A. Paul	Alivisatos	PhD advisor		U Chicago
David	Mitzi	Postdoc advisor		Duke Univ.

Professional Memberships:

- American Chemical Society
- Materials Research Society
- American Physical Society
- American Institute of Chemical Engineers
- Sigma Xi
- Phi Beta Kappa

Research Proposal Review Activities:

- NSF Division of Materials Research, Division of Chemistry
- DOE Basic Energy Sciences
- Proposal Study Panels for Center for Functional Nanomaterials, Brookhaven National Laboratory and

Center for Integrated Nanotechnologies, Los Alamos and Sandia National Laboratories
- Cyclotron Road, Lawrence Berkeley National Laboratory

Journal Editorial Activities:

- *Nano Letters*, Associate Editor (2015 - 2020)
- *ACS Photonics*, Editorial Advisory Board (2016 -)
- *Chemistry of Materials*, Editorial Advisory Board (2015 -)
    - *Chemistry of Materials* Reviewer Award (2015)
- *ACS Combinatorial Science*, Editorial Advisory Board (2011 - 2015)
- *Scientific Reports*, Editorial Board (2013 - 2015)

Invited Presentations and Seminars:

12.2021	Materials Research Society National Meeting, Boston
11.2021	University of Minnesota
10.2021	Columbia University
10.2021	nanoGe Conference, Nanocrystal Fundamentals
10.2021	University of Delaware
09.2021	New York University
09.2021	Rensselaer Polytechnic Institute
09.2021	Virginia Commonwealth University
06.2021	American Chemical Society Colloids and Surface Science
05.2021	Naval Research Laboratory
03.2021	Applied Nanotechnology and Nanoscience International Conference
03.2021	nanoGe Conference, Chemistry of Nanomaterials
03.2021	News in Nanocrystals, virtual symposium
11.2020	University of Hamburg, Department of Chemistry
10.2020	nanoGe Conference, Infrared Nanocrystals
10.2020	Stanford University, Chemical Engineering
09.2020	Texas State University
06.2020	University of Toronto
10.2019	University of California, San Diego, Nanoengineering
08.2019	American Chemical Society, San Diego (award lecture)
06.2019	American Chemical Society Colloids and Surface Science, Atlanta
04.2019	American Chemical Society, Orlando
03.2019	Cotton Medal Symposium, Texas A&M, Chemistry
12.2018	Machine Learning and Reverse Engineering of Soft Matter, Leiden, NL
07.2018	Gordon Research Conference, Plasmonics and Nanophotonics, Maine
05.2018	University of Chicago, Chemistry
04.2018	Harvard University and MIT, Inorganic Chemistry
03.2018	American Chemical Society, New Orleans (2 talks)
12.2017	Materials Research Society National Meeting, Boston (2 talks)
11.2017	American Institute of Chemical Engineers National Meeting, Minneapolis
10.2017	University of Illinois, Urbana-Champaign, Department of Chemistry
08.2017	Applied Materials, Santa Clara
06.2017	Gordon Research Conference, Plasmonically Powered Processes, Hong Kong
04.2017	American Chemical Society National Meeting, San Francisco (2 talks)
12.2016	PacSurf, Hawaii
12.2016	Materials Research Society National Meeting, Boston
11.2016	University of Washington, Chemical Engineering
11.2016	American Institute of Chemical Engineers National Meeting, San Francisco
11.2016	Caltech, Chemical Engineering
11.2016	Caltech, Materials
11.2016	Bowling Green State University, Center for Photochemical Science

09.2016 Louisiana State University, Department of Chemistry, Benjamin P. Boussert Lecture
06.2016 Fudan University, Department of Chemistry, Shanghai, China
06.2016 Nature Conference on Materials for Energy, Wuhan, China
04.2016 Notre Dame University, Department of Chemistry
04.2016 Pennsylvania State University, Department of Chemistry
04.2016 MIT, Center for Excitonics
03.2016 Rice University, Materials Science & Nanoengineering Department
01.2016 Ecole Polytechnique, Paris, France
01.2016 Universite de Liege, Liege, Belgium
12.2015 Pacifichem, Honolulu
12.2015 Materials Research Society National Meeting, Boston (two presentations)
11.2015 Composites at Lake Louise, Lake Louise, Canada
10.2015 stARTup Studio, Austin
09.2015 CICbiomaGUNE seminar, Donostia-San Sebastian, Spain
09.2015 CICenergiGUNE seminar, Vitoria-Gasteiz, Spain
09.2015 FQDots Conference, nanoGe, Santiago de Compostella, Spain
08.2015 American Chemical Society National Meeting, Boston, Massachusetts
07.2015 Aspen Ideas Festival, Aspen
05.2015 Electrochemical Society National Meeting, Chicago
05.2015 Washington University, St. Louis, Institute for Materials Science & Engineering
04.2015 Washington University, St. Louis, Department of Chemistry
03.2015 American Chemical Society National Meeting, Denver (two presentations)
03.2015 BASF 150th Anniversary Science Symposium, Ludwigshafen, Germany
03.2015 American Physical Society National Meeting, San Antonio
02.2015 Gordon Research Conference, Nanomaterials for Energy Technologies, Ventura
02.2015 CORE-CM seminar, Michigan State University
02.2015 Center for Nano- and Molecular Science, University of Texas at Austin
01.2015 Materials Science & Engineering Department, North Carolina State University
10.2014 KAUST, Applied Functional Materials Workshop, Saudi Arabia
10.2014 Wayne State University, Nano@Wayne seminar, Detroit, Michigan
09.2014 Center for NanoScience, Workshop: Walk and Talk at the Nanoscale, Venice, Italy
08.2014 American Chemical Society National Meeting, San Francisco, California
07.2014 Gordon Research Conference, Nanostructure Fabrication, University of New England
07.2014 Gordon Research Conference, Plasmonics, Sunday River Resort
06.2014 The Molecular Foundry, Lawrence Berkeley National Lab, Berkeley
05.2014 European Materials Research Society Spring Meeting, Lille, France (two presentations)
05.2014 Nanoscience with Nanocrystals (NaNaX), Bad Hofgastein, Austria
04.2014 Materials Research Society National Meeting, San Francisco, California
03.2014 American Chemical Society National Meeting, Dallas, Texas
02.2014 ARPA-E Energy Innovation Summit, Washington, DC
02.2014 Studio One: The Nature of Programming Matter, University of California, Berkeley (plenary)
01.2014 Middle Eastern Technical University, Ankara, Turkey
10.2013 Norwegian University of Science and Technology, Trondheim, Norway
09.2013 Department of Chemistry, Texas A&M University, College Station, Texas
09.2013 American Chemical Society National Meeting, Indianapolis
08.2013 Transatlantic Frontiers of Chemistry, Seeon, Germany
07.2013 ICMAT, Singapore
05.2013 BASF, Ludwigshafen, Germany
04.2013 Ludwig Maximillian University, Department of Chemistry, Munich, Germany
04.2013 Max Planck Institute for Chemical Energy Conversion, Muelheim, Germany
04.2013 Max Planck Institute for Solid State Research, Stuttgart, Germany
04.2013 Massachusetts Institute of Technology, Materials Science and Engineering Department

04.2013	University of Texas at Austin, Chemical Engineering Department
04.2013	Materials Research Society Spring Meeting, San Francisco
03.2013	University of California, Berkeley, Nanoscale Science and Engineering seminar
02.2013	University of California, Berkeley, Chemical Engineering Department
02.2013	Cornell University, Materials Science and Engineering Department, Ithica
02.2013	University of Washington, Materials Science and Engineering Department, Seattle
11.2012	ALS/CXRO Seminar Series, Berkeley
11.2012	Seoul National University, Department of Chemical and Biological Engineering, Seoul
11.2012	KAIST, EEWS Department, Daejeon
11.2012	Yonsei University, Department of Chemistry, Seoul
11.2012	Stanford University, Optics and Electronics seminar, Palo Alto, California
10.2012	Advanced Light Source Workshop on mesoscale science beamline, Berkeley
10.2012	Molecular Foundry Workshop on Nanoscale Battery Materials, Berkeley
10.2012	Bay Area Photovoltaics Consortium Annual Meeting, Berkeley (plenary)
09.2012	University of California, Berkeley, Department of Chemistry
08.2012	Dow Chemical, Midland, MI
08.2012	Tenth International Meeting on Electrochromism, Holland, MI (plenary)
06.2012	Gordon Research Conference, Inorganic Chemistry, University of New England
06.2012	Istituto Italiano di Tecnologia, Genoa, Italy
06.2012	CIMTEC, Montecatini Terme, Italy
04.2012	Princeton University, Department of Chemistry
04.2012	University of California, Los Angeles, CNSI
02.2012	University of California, Santa Barbara, Materials Department
01.2012	SPIE Photonics West, BiOS, San Francisco, California
11.2011	Marin Science Seminar, San Rafael, California
10.2011	ARPA-E, US Department of Energy, Washington, DC
09.2011	European Materials Research Society Meeting, Warsaw
08.2011	American Chemical Society National Meeting, Denver
07.2011	Gordon Research Conference, Clusters, Nanocrystals, & Nanostructures, Mount Holyoke
07.2011	Argonne National Laboratory, Center for Nanoscale Materials
05.2011	LBNL Carbon Cycle 2.0 Seminar, Berkeley
05.2011	University of California, San Diego, Nanoengineering Department
04.2011	University of California, Berkeley, EECS Solid State Seminar
04.2011	California Institute of Technology, Forum on Nanotechnology for Sustainability
02.2011	University of California, Santa Barbara, MROP
09.2010	Istituto Italiano di Tecnologia, Genoa, Italy
08.2010	LBNL Summer Lecture Series, Berkeley
06.2010	Crystal Growth West, South Lake Tahoe, California
05.2010	DNV Materials Forum, Columbus, Ohio
01.2010	University of California, Santa Barbara, Materials Department
09.2009	European Phase Change and Ovonic Science conference, Aachen, Germany, Selected as “Best Presentation.”
06.2009	NSRC contractors meeting, Annapolis, Maryland
04.2009	MRS Spring Meeting, San Francisco
01.2009	Oregon State University, Eugene
10.2008	University of California, Berkeley, Nanoscience seminar series
09.2008	LBNL, The Molecular Foundry
09.2008	European Phase Change and Ovonic Science Conference, Prague
04.2008	SUNY, Stonybrook, Department of Physics and Astronomy
04.2008	MRS Spring Meeting, San Francisco
10.2007	CCNY, New York, Department of Chemistry
11.2006	Palo Alto Research Center (PARC)
03.2003	International Symposium on Compound Semiconductors (ISCS), San Diego

03.2003 Nanoscale Science Research Centers Workshop, Washington, DC