DANIEL R. GAMELIN

Nicole A. Boand Endowed Chair Professor of Chemistry
Director, UW Molecular Engineering Materials Center
Co-Founder, BlueDot Photonics Inc.

Department of Chemistry
University of Washington
Box 351700
Seattle, WA 98195-1700

Phone: (206) 685-0901
Fax: (206) 685-8665
Gamelin@chem.washington.edu
http://depts.washington.edu/gmrg

EDUCATION AND PROFESSIONAL EXPERIENCE

University of Washington	Seattle, WA
Assistant → Associate → Full Professor	3/00→9/06→9/08
Nicole A. Boand Endowed Chair	9/17–present
Director, UW Molecular Engineering Materials Center (NSF MRSEC)	9/17–present
Harry and Catherine Jaynne Boand Endowed Professor	9/08–9/17
Synthesis and physical properties of semiconductor nanostructures	
University of Bern	Bern, Switzerland
Postdoctoral Research Fellow (w/Prof. H. U. Güdel)	10/97–2/00
Photophysics of luminescent solid-state inorganic materials	
Stanford University	Stanford, CA
Doctor of Philosophy (w/Prof. E. I. Solomon)	1998
Electronic structure studies of transition-metal dimers relevant to biological electron transfer and catalysis	
Max-Planck-Institut für Strahlenchemie	Mülheim, Germany
Predoctoral Research Fellow (w/Profs. F.-W. Grevels, K. Schaffner)	8/90–7/91
Time-resolved IR and Raman spectroscopies of excited states	
Reed College	Portland, OR
Bachelor of Arts in Chemistry (Thesis advisor: Prof. D. P. Gerrity)	1990
Resonance Raman studies of group VI transition-metal hexacarbonyls	
Brandeis University	Waltham, MA
NSF-REU (Research advisor: Prof. I.-Y. Chan)	1989
Luminescence of organic molecules in high-pressure diamond anvil cells	

VISITING POSITIONS

Debye Institute for Nanomaterials Science, Utrecht University	Utrecht,
Invited Visiting Professor (w/Prof. A. Meijerink)	Netherlands
Nanocrystal spectroscopies	5/15–7/15
University of Melbourne	Melbourne,
Honorary Visiting Professor (w/Prof. P. Mulvaney)	Australia
Nanocrystals	11/14–2/15
Debye Institute for Nanomaterials Science, Utrecht University	Utrecht,
Debye Chair Professor	Netherlands
Nanomaterials	5/13–7/13
Laboratory for Photonics and Interfaces, École Polytechnique	Lausanne,
Fédérale de Lausanne (EPFL)	Switzerland
Invited Visiting Professor (w/Prof. M. Grätzel)	11/07–7/08
Solar energy conversion	

Center for Applied Photonics, University of Konstanz Konstanz,
Invited Visiting Professor (w/Profs. R. Bratschitsch, A. Leitenstorfer) Germany
Ultrafast time-resolved Faraday rotation of colloidal quantum dots 9/07–10/07, 8/08

AWARDS AND HONORS

2023 Paul Hopkins Faculty Award, UW Chemistry
2023 Technion Visiting Faculty Award
2021 NSF Creativity Extension (project DMR-1807394)
2020 Mercator Fellowship, Deutsche Forschungsgemeinschaft (DFG)
2020 Prins Lecturer, Syracuse University, Chemistry
2020 Lagow Lecturer, University of Texas, Austin, Chemistry
2019 James A. Ibers Lecturer in Inorganic Chemistry, Northwestern University, Chemistry
2018/2016, Chair/Vice Chair, Gordon Research Conference on Colloidal Semiconductor Nanocrystals
2018 Marple-Schweitzer Memorial Lectureship, Northwestern University, Chemistry
2017-2018 Harvard Chemistry/Chemical Biology Student-Invited Lecturer
2017–present, Nicole A. Boand Endowed Chair
2016 Fellow of the Royal Society of Chemistry
2016 Dunne Lecturer, Reed College
2015 Election to the Washington State Academy of Sciences
2015 ACS Inorganic Chemistry Lectureship Award
2015 Invited Visiting Professor, Debye Institute for Nanomaterials Science, Utrecht University
2014–2015, Honorary Visiting Professor, University of Melbourne, Nanocrystal and Nanomechanics Laboratory
2013 Debye Chair Professor, Debye Institute for Nanomaterials Science, Utrecht University
2013 Jonathan L. Sessler Distinguished Alumni Lecturer, Stanford University, Chemistry
2012 ACS Inorganic Nanoscience Award
2012 Fellow of the American Association for the Advancement of Science (AAAS)
2011–2012 Dalton Lecturer (Americas) in Inorganic Chemistry, presented at U.C. Berkeley
2011 Scialog Fellow of the Research Corporation
2009 Senior Fellow of the Zukunftskolleg, University of Konstanz
2008–2017, Harry and Catherine Jaynne Boand Endowed Professor of Chemistry
2008 Ornstein Colloquium Lecturer, Utrecht University
2007–2008, Invited Visiting Professor, École Polytechnique Fédérale de Lausanne (EPFL), Laboratory for Photonics and Interfaces
2007–2008, Invited Visiting Professor, University of Konstanz, Institute for Applied Photonics
2007 Cherry Emerson Lecturer, Georgia Tech, Chemistry
2006 Distinguished Teaching Award, UW, Chemistry
2006 Alfred P. Sloan Research Fellowship, Sloan Foundation
2005 Camille Dreyfus Teacher-Scholar Award, Dreyfus Foundation
2005 Dow Lecturer in Inorganic Chemistry, Caltech
2003 Presidential Early Career Award for Scientists and Engineers (PECASE)
2003 Cottrell Scholar Award, Research Corporation
2003 Faculty Early Career Development Award (CAREER), National Science Foundation
2002 Research Innovation Award, Research Corporation
1995 Franklin Veatch Memorial Fellowship Award for excellence in graduate research,

Stanford University, Chemistry
1990 Deutscher Akademischer Austauschdienst (DAAD) fellowship for predoctoral research, Max-Planck-Institut für Strahlenchemie
1989 NSF-REU Awardee, Brandeis University, Chemistry

PUBLICATIONS

(Google Scholar: *h index* ~ 82; *i10 index* ~ 209; *citations* > 28,600; *avg. citations/pub* > 100)

243. "Design Rules for Obtaining Narrow Luminescence from Semiconductors Made in Solution." Dixon, G.; Dou, F. Y.; Gallagher, S.; Gibbs, S.; Ladd, D.; Marino, E.; Nguyen, H.; Ondry, J.; Shanahan, J.; Vasileiadou, E.; Barlow, S.; Gamelin, D. R.; Ginger, D. S.; Jonas, D.; Kanatzidis, M. C.; R. Marder, S.; Morton, D.; Murray, C. B.; Owen, J. S.; Talapin, D. V.; Toney, M. F.; Cossairt, B. M., *Chem. Rev.*, **2023**, *in press* (https://doi.org/10.26434/chemrxiv-2023-r3f3x)
242. "Effect of a Redox-Mediating Ligand Shell on Photocatalysis by CdS Quantum Dots." Dou, F.; Harvey, S.; Mason, K.; Homer, M.; Gamelin, D. R.; Cossairt, B., *J. Chem. Phys.*, **2023**, *158*, 184705.
241. "Dipole Ladders with Giant Hubbard U in Moiré Exciton Lattice." Park, H.; Zhu, J.; Wang, X.; Wang, Y.; Holtzmann, W.; Taniguchi, T.; Watanabe, K.; Yan, J.; Fu, L.; Cao, T.; Xiao, D.; Gamelin, D. R.; Yu, H.; Yao, W.; Xu, X., *Nature Physics*, **2023** (https://doi.org/10.1038/s41567-023-02077-5).
240. "HF-Free Synthesis of Colloidal Cs_2ZrF_6 and $(NH_4)_2ZrF_6$ Nanocrystals." Tzanetopoulos, E.; Schwartz, J.; Gamelin, D. R., *Chem. Commun.*, **2023**, *59*, 5451–5454.
239. "Intercell Moiré Exciton Complexes in Electron Lattices." Wang, X.; Zhang, X.; Zhu, J.; Park, H.; Wang, Y.; Wang, C.; Holtzmann, W.; Taniguchi, T.; Watanabe, K.; Yan, J.; Gamelin, D. R.; Yao, W.; Xiao, D.; Cao, T.; Xu, X., *Nature Materials*, **2023**, *22*, 599–604.
238. "Magnetic Amplification at Yb^{3+} 'Designer Defects' in the van der Waals Ferromagnet, CrI_3." Pressler, K.; Snoeren, T. J.; Walsh, K. M.; Gamelin, D. R., *Nano Lett.*, **2023**, *23*, 1320–1326.
237. "Synthetic Control of Intrinsic Defect Formation in Metal Oxide Nanocrystals using Dissociated Spectator Metal Salts." Kim, K.; Yu, J.; Noh, J. Reimnitz, L. C.; Chang, M.; Gamelin, D. R.; Korgel, B. A.; Hwang, G. S.; Milliron, D. J., *J. Am. Chem. Soc.*, **2022**, *144*, 22941–22949.
236. "Understanding External Pressure Effects and Interlayer Orbital Exchange Pathways in the Two Dimensional Magnet − Chromium Triiodide." Beck, R. A.; Sun, S.; Xu, X.; Gamelin, D. R.; Cao, T.; Li, X., *J. Phys. Chem. C*, **2022**, *126*, 19327−19335.
235. "Optically Detected Magnetic Resonance Spectroscopy of Cu-doped CdSe and Cu-based $CuInS_2$ Colloidal Quantum Dots." Harchol, A.; Barak, Y.; Hughes, K. E.; Hartstein, K. H.; Jöbsis, H. j.; Prins, P. T.; de Mello Donega, C.; Gamelin, D. R.; Lifshitz, E., *ACS Nano*, **2022**, *16*, 12866–12877.
234. "Defect Structure in Quantum-Cutting Yb^{3+}-Doped $CsPbCl_3$ Perovskites Probed by X-Ray Absorption and Atomic Pair Distribution Function Analysis." Kluherz, K. T.; Mergelsberg, S. T.; Sommer, D. E.; Roh, J. Y. D.; Saslow, S. A.; Biner, D.; Krämer, K. W.; Dunham, S. T.; De Yoreo, J. J.; Gamelin, D. R., *Phys. Rev. Mater.*, **2022**, *6*, 074601.
233. "Direct Patterning of Perovskite Nanocrystals on Nanophotonic Cavities with Electrohydrodynamic Inkjet Printing." Cohen, T. A.; Sharp, D.; Kluherz, K. T.; Chen, Y.; Mulney, C.; Anderson, R. T.; Swanson, C. J.; De Yoreo, J. J.; Luscombe, C. K.; Majumdar, A.; Gamelin, D. R.; Mackenzie, J. D., *Nano Lett.*, **2022**, *22*, 5681–5688.

232. "Ubiquitous Near-Band-Edge Defect State in Rare-Earth-Doped Lead-Halide Perovskites." Milstein, T. J.; Roh, J. Y. D.; Jacoby, L. M.; Crane, M. J.; Sommer, D. E.; Dunham, S. T.; Gamelin, D. R., *Chem. Mater.*, **2022**, *34*, 3759–3769.
231. "Light-Induced Ferromagnetism in Moiré Superlattices." Wang, X.; Xiao, C.; Park, H.; Zhu, J.; Wang, C.; Taniguchi, T.; Watanabe, K.; Yan, J.; Xiao, D.; Gamelin, D. R.; Yao, W.; Xu, X., *Nature*, **2022**, *604*, 468–473.
230. "Defect Formation in Yb-Doped $CsPbCl_3$ from First Principles, with Implications for Quantum Cutting." Sommer, D. E.; Gamelin, D. R.; Dunham, S. E., *Phys. Rev. Mater.*, **2022**, *6*, 025404.
229. "Universal Machine Learning Framework for Defect Predictions in Zinc Blende Semiconductors." Mannodi-Kanakkithodi, A.; Xiang, X.; Jacoby, L.; Biegaj, R.; Dunham, S. T.; Gamelin, D. R.; Chan, M. K. Y., *Patterns*, **2022**, *3*, 100450.
228. "Coherent Spin Dynamics in Vapor-Deposited $CsPbBr_3$ Thin Films." Jacoby, L. M.; Crane, M. J.; Gamelin, D. R., *Chem. Mater.*, **2022**, *34*, 1937–1945.
227. "Uncovering the Influence of Ni^{2+} Doping in Lead-Halide Perovskite Nanocrystals using Optically Detected Magnetic Resonance Spectroscopy." Barak, Y.; Meir, I.; Dehnel, J.; Horani, F.; Gamelin, D. R.; Shapiro, A.; Lifshitz, E., *Chem. Mater.*, **2022**, *34*, 1686–1698.
226. "Ferromagnetism and Spin-Polarized Luminescence in Lead-Free $CsEuCl_3$ Perovskite Nanocrystals and Thin Films." Walsh, K. M.; Pressler, K.; Crane, M. J.; Gamelin, D. R., *ACS Nano*, **2022**, *16*, 2569–2576.
225. "Consensus Statement: Standardized Reporting of Power-Producing Luminescent Solar Concentrator Performance." Yang, C.; Atwater, H. A.; Baldo, M. A.; Baran, D.; Barile, C.; Barr, M. C.; Bates, M.; Bawendi, M. G.; Bergren, M. R.; Brabec, C. J.; Brovelli, S.; Bulović, V.; Ceroni, P.; Debije, M. G.; Delgado-Sanchez, J.-M.; Dong, W.-J.; Duxbury, P. M.; Evans, R. C.; Forrest, S. R.; Gamelin, D. R.; Giebink, N. C.; Gong, X.; Griffini, G.; Guo, F.; Herrera, C. K.; Ho-Baillie, A. W. Y.; Holmes, R. J.; Hong, S.-K.; Kirchartz, T.; Li, H.; Li, Y.; Liu, D.; Loi, M. A.; Luscombe, C. K.; Makarov, N. S.; Mateen, F.; Mazzaro, R.; McDaniel, H.; McGehee, M. D.; Meinardi, F.; Menéndez-Velázquez, A.; Min, J.; Mitzi, D. B.; Moon, J. H.; Nattestad, A.; Nazeeruddin, M. K.; Nogueira, A. F.; Paetzold, U. W.; Patrick, D. L.; Pucci, A.; Rand, B. P.; Reichmanis, E.; Richards, B. S.; Roncali, J.; Rosei, F.; Schmidt, T. W.; So, F.; Tu, C.-C.; van Sark, W. G. J. H. M.; Verduzco, R.; Vomiero, A.; Wong, W. W. H.; Wu, K.; Yip, H.-L.; Zhang, X.; Zhao, H.; Lunt, R. R., *Joule*, **2022**, *6*, 1–15.
224. "Organic Building Blocks at Inorganic Nanomaterial Interfaces." Huang, Y.; Cohen, T. A.; Sperry, B. M.; Larson, H.; Nguyen, H.; Homer, M.; Dou, F. Y.; Jacoby, L. M.; Cossairt, B. M.; Gamelin, D. R.; Luscombe, C. K., *Mater. Horizons*, **2022**, *9*, 61–87.
223. "Spin-Orbit Coupled Exciton-Polariton Condensates in Lead Halide Perovskites." Spencer, M. S.; Fu, Y.; Schlaus, A. P.; Hwang, D.; Dai, Y.; Smith, M. D.; Gamelin, D. R.; Zhu, X.-Y., *Science Advances*, **2021**, *7*, eabj7667.
222. "Imaging Infrared Plasmon Hybridization in Doped Semiconductor Nanocrystal Dimers." Olafsson, A.; Khorasani, S.; Busche, J. A.; Araujo, J. J.; Idrobo, J. C.; Gamelin, D. R.; Masiello, D. J.; Camden, J. P., *J. Phys. Chem. Lett.,* **2021**, *12*, 10270–10276.
221. "Unraveling Strain Gradient Induced Electromechanical Coupling in Twisted Double Bilayer Graphene Moiré Superlattices." Li, Y.; Wang, X.; Tang, D.; Wang, X.; Watanabe, K.; Taniguchi, T.; Gamelin, D. R.; Cobden, D. H.; Yankowitz, M.; Xu, X.; Li, J., *Adv. Mater.*, **2021**, *33*, 2105879.

220. "Moiré Trions in $MoSe_2/WSe_2$ Heterobilayers." Wang, X.; Zhu, J.; Seyler, K.; Rivera, P.; Zheng, H.-Y.; Wang, Y.; He, M.; Taniguchi, T.; Watanabe, K.; Yan, J.; Mandrus, D. G.; Gamelin, D. R.; Yao, W.; Xu, X., *Nature Nanotech.*, **2021**, *16*, 1208–1213.
219. "Tunable Band-Edge Potentials and Charge Storage in Colloidal Tin-Doped Indium-Oxide (ITO) Nanocrystals." Araujo, J. J.; Brozek, C. K.; Liu, H.; Merkulova, A.; Li, X.; Gamelin, D. R., *ACS Nano,* **2021**, *15*, 14116–14124.
218. "Orientation of Individual Anisotropic Nanocrystals Identified by Polarization Fingerprint." Lorenz, S.; Bieniek, J.; Erickson, C. S.; Gamelin, D. R.; Fainblat, R.; Bacher, G., *ACS Nano*, **2021**, *15*, 13579–13590.
217. "Laser Refrigeration of Yb^{3+}:$LuLiF_4$/Silicon-Nitride Composite Nanostructures." Dobretsova, E. A.; Xia, X.; Pant, A.; Lim, M. B.; De Siena, M. C.; Boldyrev, K. N.; Molchanova, A. D.; Novikova, N. N.; Klimin, S. A.; Popova, M. N.; Chen, Y.; Majumdar, A.; Gamelin, D. R.; Pauzauskie, P. J., *Laser Photonics Rev.*, **2021**, 2100019.
216. "State of the Art and Prospects of Halide Perovskite Nanocrystals." Dey, A.; Ye, J.; De, A.; Debroye, E.; Ha, S. K.; Kshirsagar, A. S.; Bladt, E.; Wang, Z.; Yin, J.; Wang, Y.; Quan, L. N.; Fei, Y.; Gao, M.; Li, X.; Cao, M.; Debnath, T.; Scheel, M. A.; Shamsi, J.; Kumar, S.; Steele, J. A.; Gerhard, M.; Chouhan, L.; Xu, K.; Wu, X.-G.; Li, Y.; Zhang, Y.; Dutta, A.; Han, C.; Vincon, I.; Rogach, A. L.; Nag, A.; Samanta, A.; Korgel, B. A.; Shih, C.-J.; Gamelin, D. R.; Son, D. H.; Zeng, H.; Zhong, H.; Sun, H.; Demir, H. V.; Scheblykin, I. G.; Mora-Seró, I.; Zhang, J. Z.; Feldmann, J.; Hofkens, J.; Luther, J. M.; Pérez-Prieto, J.; Li, L.; Manna, L.; Bodnarchuk, M. I.; Kovalenko, M. V.; Roeffaers, M. B. J.; Pradhan, N.; Mohammed, O. F.; Bakr, O. M.; Yang, P.; Müller-Buschbaum, P.; Kamat, P. V.; Zhang, Q.; Krahne, R.; Galian, R. E.; Stranks, S. D.; Bals, S.; Biju, V.; Bao, Q.; Tisdale, W. A.; Yan, Y.; Hoye, R. L. Z.; Polavarapu, L., *ACS Nano*, **2021**, *15*, 10775–10981.
215. "Hydrothermal Synthesis and Solid-State Laser Refrigeration of Ytterbium-Doped Potassium Lutetium Fluoride (KLF) Microcrystals." Xia, X.; Pant, A.; Zhou, X.; Dobretsova, E. A.; Bard, A. B.; Lim, M. B.; Roh, J. Y. D.; Gamelin, D. R.; Pauzauskie, P. J., *Chem. Mater.*, **2021**, *33*, 4417–4424.
214. "Modular Zwitterion-Functionalized Poly(Isopropyl Methacrylate) Polymers for Hosting Luminescent Lead-Halide Perovskite Nanocrystals." Cohen, T. A.; Huang, Y.; Milstein, T. J.; Mackenzie, J. D.; Luscombe, C. K.; Gamelin, D. R., *Chem. Mater.*, **2021**, *33*, 3779–3790.
213. "The impact of $^2H_{9/2} \rightarrow {}^4I_{13/2}$ Emission from Er^{3+} Ions on Ratiometric Optical Temperature Sensing with Yb^{3+}/Er^{3+} Co-Doped Upconversion Materials." Xia, X.; Volpi, A.; Roh, J. Y. D.; De Siena, M. C.; Gamelin, D. R.; Hehlen, M.; Pauzauskie, P. J., *J. Lumin.*, **2021**, *236*, 118006.
212. "Highly Anisotropic Excitons and Multiple Phonon Bound States in a Van der Waals Antiferromagnetic Insulator." Hwangbo, K.; Zhang, Q.; Jiang, Q.; Wang, Y.; Fonseca, J.; Wang, C.; Diederich, G. M.; Gamelin, D. R. Xiao, D.; Chu, J.-H.; Yao, W.; Xu, X., *Nature Nanotech.*, **2021**, *16*, 655–660.
211. "Highly Luminescent and Catalytically Active Suprastructures of Magic-Sized Semiconductor Nanoclusters." Baek, W.; Bootharaju, M. S.; Walsh, K. M.; Lee, S.; Gamelin, D. R.; Hyeon, T., *Nature Materials*, **2021**, *20*, 650–657.
210. "Coherent Spin Precession and Lifetime-Limited Spin Dephasing in $CsPbBr_3$ Perovskite Nanocrystals." Crane, M. J.; Jacoby, L. M.; Cohen, T. A.; Huang, Y.; Luscombe, C. K.; Gamelin, D. R., *Nano Lett.*, **2020**, *20*, 8626-8633.

209. "Yb^{3+} Speciation and Energy-Transfer Dynamics in Quantum-Cutting Yb^{3+}-Doped $CsPbCl_3$ Perovskite Nanocrystals and Single Crystals." Roh, J. Y. D., Smith, M. D.; Crane, M. J.; Biner, D.; Milstein, T. J.; Krämer, K. W.; Gamelin, D. R., *Phys. Rev. Mater*., **2020**, *4*, 105405.
208. "Insight into the Spin Properties in Undoped and Mn-doped CdSe/CdS Seeded Nanorods by Optically Detected Magnetic Resonance." Dehnel, J.; Barak, Y.; Meir, I.; Budniak, A. K.; Nagvenkar, A.; Gamelin, D. R.; Lifshitz, E., *ACS Nano*, **2020**, *14*, 13478–13490.
207. "Using Redox Titrations to Probe the Role of Trivalent Impurity Ions in the Ferromagnetism of Colloidal EuS Nanocrystals." De Siena, M. C.; Rachkov, A. G.; Fainblat, R.; James, D.; Creutz, S. E.; Stoll, S. L.; Gamelin, D. R., *Chem. Mater.*, **2020**, *32*, 8633–8640.
206. "Electron Beam Infrared Nano-Ellipsometry of Individual Indium Tin Oxide Nanocrystals." Olafsson, A.; Busche, J. A.; Araujo, J. J.; Maiti, A.; Idrobo, J. C.; Gamelin, D. R.; Masiello, D. J.; Camden, J. P., *Nano Lett.*, **2020**, *20*, 7987–7994.
205. "Ray-Tracing Analysis of Module-Level Power Generation from Quantum-Cutting Ytterbium-Doped Lead-Halide Perovskites." Kroupa, D. M.; Crane, M. J.; Silvia, J. S.; Gamelin, D. R., *Proc. IEEE 47th Photovoltaics Specialists Conference (PVSC)*, **2020**, 0868–0874.
204. "Synthesis and Spectroscopy of Emissive, Surface-Modified, Copper-Doped Indium Phosphide Nanocrystals." Mundy, M. E.; Eagle, F. W.; Hughes, K. E.; Gamelin, D. R.; Cossairt, B. M., *ACS Mater. Lett.*, **2020**, *2*, 576-581.
203. "Giant Band Splittings in EuS and EuSe Magnetic Semiconductor Nanocrystals." Asuigui, D. R. C.; De Siena, M. C.; Fainblat, R.; James, D.; Gamelin, D. R.; Stoll, S. L., *Chem. Commun.*, **2020**, *56*, 5843–5846.
202. "Measuring Equilibrium Binding at Quantum Dot Surfaces using Cyclic Voltammetry." Henckel, D. A.; Enright, M. J.; Eslami, N. P.; Kroupa, D. M.; Gamelin, D. R.; Cossairt, B. M., *Nano Lett.*, **2020**, *20*, 2620–2624.
201. "2D van der Waals Nanoplatelets with Robust Ferromagnetism." De Siena, M. C.; Creutz, S. E.; Regan, A.; Malinowski, P.; Jiang, Q.; Kluherz, K. T.; Zhu, G.; Lin, Z.; De Yoreo, J. J.; Xu, X.; Chu, J.-H.; Gamelin, D. R., *Nano Lett.*, **2020**, *in press* (DOI: 10.1021/acs.nanolett.0c00102).
200. "Directed Exciton Magnetic Polaron Formation in a Single Colloidal Mn^{2+}:CdSe/CdS Quantum Dot." Lorenz, S.; Erickson, C.; Riesner, M.; Gamelin, D. R.; Fainblat, R.; Bacher, G., *Nano Lett.*, **2020**, *in press* (DOI: 10.1021/acs.nanolett.9b05136).
199. "Theoretical Investigation of the Rashba Effect in Quantum-Confined ZnO Semiconductor Nanocrystals." Kasper, J. M.; Gamelin, D. R.; Li, X., *J. Chem. Phys.*, **2020**, *152,* 014308.
198. "Effects of Surface Chemistry on the Photophysics of Colloidal InP Nanocrystals." Hughes, K. E.; Stein, J. L.; Friedfeld, M. R.; Cossairt, B. M.; Gamelin, D. R., *ACS Nano*, **2019**, *13*, 14198–14207.
197. "Single-Source Flash Sublimation of Metal-Halide Semiconductors." Kroupa, D. M.; Crane, M. J.; Gamelin, D. R., *Proc. SPIE*, **2019**, 11084-0J.
196. "Spinodal Decomposition During Anion Exchange in Colloidal Mn^{2+}-Doped $CsPbX_3$ (X = Cl, Br) Perovskite Nanocrystals." De Siena, M. C.; Sommer, D. E.; Creutz, S. E.; Dunham, S. T.; Gamelin, D. R., *Chem. Mater.*, **2019**, *31*, 7711–7722.
195. "Structural Diversity in Cesium-Bismuth-Halide Nanocrystals." Creutz, S. E.; Liu, H.; Kaiser, M. E.; Li, X.; Gamelin, D. R., *Chem. Mater.*, **2019**, 31, 4685–4697.

194. "Detailed-Balance Analysis of Yb^{3+}:$CsPb(Cl_{1-x}Br_x)_3$ Quantum-Cutting Layers for High-Efficiency Photovoltaics under Real-World Conditions." Crane, M. J.; Kroupa, D. M.; Gamelin, D. R., *Energy Environ. Sci.*, **2019**, *12*, 2486–2495.
193. "Single-Source Vapor Deposition of Quantum-Cutting Yb^{3+}:$CsPb(Cl_{1-x}Br_x)_3$ and Other Complex Metal-Halide Perovskites." Crane, M. J.; Kroupa, D. M.; Roh, J. Y.; Anderson, R.; Smith, M. D.; Gamelin, D. R., *ACS Appl. Energy Mater.*, **2019**, *2*, 4560–4565.
192. "Photoluminescence Saturation in Quantum-Cutting Yb^{3+}-Doped $CsPb(Cl_{1-x}Br_x)_3$ Perovskite Nanocrystals: Implications for Solar Downconversion." Erickson, C. S.; Crane, M. J.; Milstein, T. J.; Gamelin, D. R., *J. Phys. Chem. C*, **2019**, *123*, 12474–12484.
191. "Quantum-Cutting Yb^{3+}-Doped Perovskite Nanocrystals for Monolithic Bilayer Luminescent Solar Concentrators." Cohen, T. A.; Milstein, T. J.; Kroupa, D. M.; Mackenzie, J. D.; Luscombe, C. K.; Gamelin, D. R., *J. Mater. Chem. A*, **2019**, *7*, 9279–9288.
190. "Anion Exchange and the Quantum-Cutting Energy Threshold in Ytterbium-Doped $CsPb(Cl_{1-x}Br_x)_3$ Perovskite Nanocrystals." Milstein, T. J.; Kluherz, K. T.; Kroupa, D. M.; Erickson, C. S.; De Yoreo, J. J.; Gamelin, D. R., *Nano Lett.*, **2019**, *19*, 1931–1937.
189. "Copper's Role in the Photoluminescence of $CuInS_2$ and $Ag_{1-x}Cu_xInS_2$ Nanocrystals, from Copper-Doped $AgInS_2$ ($x \sim 0$) to $CuInS_2$ ($x = 1$)." Hughes, K. E.; Ostheller, S. R.; Nelson, H. D.; Gamelin, D. R., *Nano Lett.*, **2019**, *19*, 1318–1325.
188. "Quantum-Cutting Ytterbium-Doped $CsPb(Cl_{1-x}Br_x)_3$ Perovskite Thin Films with Photoluminescence Quantum Yields over 190%." Kroupa, D. M.; Roh, J. Y.; Milstein, T. J.; Creutz, S. E.; Gamelin, D. R., *ACS Energy Lett.*, **2018**, *3*, 2390−2395.
187. "Valence-Band Electronic Structures of Cu^+-Doped ZnS, Alloyed Cu−In−Zn−S, and Ternary $CuInS_2$ Nanocrystals: A Unified Description of Photoluminescence across Compositions." Nelson, H. D.; Gamelin, D. R., *J. Phys. Chem. C*, **2018**, *122*, 18124–18133.
186. "Anion Exchange in Cesium Lead Halide Perovskite Nanocrystals and Thin Films using Trimethylsilyl Halide Reagents." Creutz, S E.; Crites, E. N.; De Siena, M. C.; Gamelin, D. R., *Chem. Mater.*, **2018**, *30*, 4887–4891.
185. "Activationless Multiple-Site Concerted Proton-Electron Tunneling." Bowring, M. A.; Bradshaw, L. R.; Parada, G. A.; Pollock, T. R.; Fernández-Terán, R. J.; Kolmar, S. S.; Schlenker, C. W.; Gamelin, D. R.; Mayer, J. M., *J. Am. Chem. Soc.*, **2018**, *140*, 7449–7452.
184. "Degenerately *n*-Doped Colloidal PbSe Quantum Dots: Band Assignments and Electrostatic Effects." Araujo, J. J.; Brozek, C. K.; Kroupa, D. M.; Gamelin, D. R., *Nano Lett*, **2018**, *18*, 3893–3900.
183. "Picosecond Quantum Cutting Generates Photoluminescence Quantum Yields Over 100% in Ytterbium-Doped $CsPbCl_3$ Nanocrystals." Milstein, T. J.; Kroupa, D. M.; Gamelin, D. R., *Nano Lett*, **2018**, *18*, 3792–3799.
182. "Soluble Supercapacitors: Charge Storage in Colloidal Iron-Doped ZnO Nanocrystals." Brozek, C. K.; Zhao, D.; Liu, H.; Li, X.; Kittilstved, K. R.; Gamelin, D. R., *Nano Lett*, **2018**, *18*, 3297–3302.
181. "Copper-Coupled Electron Transfer in Colloidal Plasmonic Copper-Sulfide Nanocrystals Probed by *In Situ* Spectroelectrochemistry." Hartstein, K. H.; Brozek, C. K.; Hinterding, S. O. M.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2018**, *140*, 3434–3442.
180. "Colloidal Nanocrystals of Lead-Free Double-Perovskite (Elpasolite) Semiconductors: Synthesis and Anion Exchange to Access New Materials." Creutz, S. E.; Crites, E. R.; De Siena, M. C.; Gamelin, D. R., *Nano Lett*, **2018**, *18*, 1118–1123.

179. "Photodoping and Transient Spectroscopies of Copper-Doped CdSe/CdS Nanocrystals." Hughes, K. E.; Hartstein, K. H.; Gamelin, D.R., *ACS Nano*, **2018**, *12*, 718–728.
178. "A Hybrid Quantum-Classical Model of Electrostatics in Multiply Charged Quantum Dots." Liu, H.; Brozek, C. K.; Sun, S.; Lingerfelt, D. B.; Gamelin, D. R.; Li, X., *J. Phys. Chem. C*, **2017**, *121*, 26086–26095.
177. "Electron Stability and Negative-Tetron Luminescence in Free-Standing Colloidal *n*-Type CdSe/CdS Quantum Dots." Hartstein, K. H.; Erickson, C. S.; Tsui, E. Y.; Marchioro, A.; Gamelin, D. R., *ACS Nano*, **2017**, *11*, 10430–10438.
176. "Single Magnetic Impurities in Colloidal Quantum Dots and Magic-Size Clusters." Fainblat, R.; Barrows, C. J.; Gamelin, D. R., *Chem. Mater.*, **2017**, *29*, 8023–8036.
175. "Photoluminescence Temperature Dependence, Dynamics, and Quantum Efficiencies in Mn^{2+}-Doped $CsPbCl_3$ Perovskite Nanocrystals with Varied Dopant Concentration." Yuan, X.; Ji, S.; De Siena, M. C.; Fei, L.; Zhao, Z.; Wang, Y.; Li, H.; Zhao, J.; Gamelin, D. R., *Chem. Mater.*, **2017**, *29*, 8003–8011.
174. "Strong Dependence of Quantum-Dot Delayed Luminescence on Excitation Pulse Width." Marchioro, A.; Whitham, P. J.; Nelson, H. D.; De Siena, M. C.; Knowles, K. E.; Polinger, V.; Reid, P. J.; Gamelin, D. R., *J. Phys. Chem. Lett.*, **2017**, *8*, 3997–4003.
173. "A Selective Cation Exchange Strategy for the Synthesis of Colloidal Yb^{3+}-Doped Chalcogenide Nanocrystals with Strong Broadband Visible Absorption and Long-Lived Near-IR Emission." Creutz, S. E.; Fainblat, R.; Kim, Y.; De Siena, M. C.; Gamelin, D. R., *J. Am. Chem. Soc*., **2017**, *139*, 11814–11824.
172. "Current-Induced Magnetic Polarons in a Colloidal Quantum-Dot Device." Muckel, F.; Barrows, C. J.; Graf, A.; Schmitz, A.; Erickson, C. S.; Gamelin, D. R.; Bacher, G., *Nano Lett*, **2017**, *17*, 4768–4773.
171. "Excitonic Zeeman Splittings in Colloidal CdSe Quantum Dots Doped with Single Magnetic Impurities." Barrows, C. J.; Fainblat, R.; Gamelin, D. R., *J. Mater. Chem. C*, **2017**, *5*, 5232–5238.
170. "Mid-Gap States and Normal *vs* Inverted Bonding in Luminescent Cu^+- and Ag^+-Doped CdSe Nanocrystals." Nelson, H. D.; Hinterding, S. O. M.; Fainblat, R.; Creutz, S. E.; Li, X.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2017**, *139*, 6411–6421.
169. "Cyclotron Splittings in the Plasmon Resonances of Electronically Doped Semiconductor Nanocrystals Probed by Magnetic Circular Dichroism Spectroscopy." Hartstein, K. H.; Schimpf, A. M.; Salvador, M.; Gamelin, D. R., *J. Phys. Chem. Lett.*, **2017**, *8*, 1831–1836.
168. "Extremely Slow Spontaneous Electron Trapping in Photodoped *n*-Type CdSe Nanocrystals." Tsui, E. Y.; Carroll, G. M.; Miller, B.; Marchioro, A.; Gamelin, D. R., *Chem. Mater.*, **2017**, *29*, 3754–3762.
167. "Analysis of Optical Losses in High-Efficiency $CuInS_2$-Based Nanocrystal Luminescent Solar Concentrators: Balancing Absorption *vs* Scattering." Sumner, R.; Eiselt, S.; Kilburn, T. B.; Erickson, C.; Carlson, B.; Gamelin, D. R.; McDowall, S.; Patrick, D. L., *J. Phys. Chem. C*, **2017**, *121*, 3252–3260.
166. "Enhanced Emission of Nanocrystal Solids Featuring Slowly Diffusive Excitons." Kholmicheva, N.; Razgoniaeva, N.; Yadav, P.; Lahey, A.; Erickson, C.; Moroz, P.; Gamelin, D. R.; Zamkov, M., *J. Phys. Chem. C*, **2017**, *121*, 1477–1487.

165. "Electrical Detection of Hot Carriers Generated in CdS Quantum Dot Solids via a Mn^{2+}-Enhanced Auger Process." Barrows, C. J.; Rinehart, J. D.; Nagaoka, H.; de Quilletes, D.; Chen, J.; Ginger, D. S.; Gamelin, D. R., *J. Phys. Chem. Lett*., **2017**, *8*, 126–130.
164. "Comment on "HgS and HgS/CdS Colloidal Quantum Dots with Infrared Intraband Transitions and Emergence of a Surface Plasmon." Thakkar, N.; Schimpf, A. M.; Gunthardt, C. E.; Gamelin, D. R.; Masiello, D. J., *J. Phys. Chem. C*, **2016**, *120*, 28900–28902.
163. "Tunneling in the Delayed Luminescence of Colloidal Semiconductor Nanocrystals, and Relationship to Blinking." Marchioro, A.; Whitham, P. J.; Knowles, K. E.; Kilburn, T. B.; Reid, P. J.; Gamelin, D. R., *J. Phys. Chem. C*, **2016**, *120*, 27040–27049.
162. "Spectroelectrochemical Measurement of Surface Electrostatic Contributions to Colloidal CdSe Nanocrystal Redox Potentials." Carroll, G. M.; Tsui, E. Y.; Brozek, C. K.; Gamelin, D. R., *Chem. Mater.*, **2016**, *28*, 7912–7918.
161. "One-Pot Synthesis of Monodisperse Colloidal Copper-Doped CdSe Nanocrystals Mediated by Ligand-Copper Interactions." Yang, L.; Knowles, K. E.; Gopalan, A.; Hughes, K. E.; James, M. C.; Gamelin, D. R., *Chem. Mater.*, **2016,** *28*, 7375–7384.
160. "Giant Excitonic Exchange Splittings at Zero Field in Single Colloidal CdSe Quantum Dots Doped With Individual Mn^{2+} Impurities." Fainblat, R.; Barrows, C. J.; Hopmann, E.; Siebeneicher, S.; Vlaskin, V. A.; Gamelin, D. R.; Bacher, G., *Nano Lett*, **2016**, *16*, 6371–6377.
159. "Kinetics of Isovalent (Cd^{2+}) and Aliovalent (In^{3+}) Cation Exchange in $Cd_{1-x}Mn_xSe$ Nanocrystals.**"** Chakraborty, P.; Barrows, C. J.; Jin, Y.; Dunham, S. T.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2016**, *138*, 12885–12893.
158. "Selenium Redox Reactivity on Colloidal CdSe Quantum Dot Surfaces." Tsui, E. Y.; Hartstein, K. H.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2016**, *138*, 11105–11108.
157. "Potentiometric Titrations for Measuring the Capacitance of Colloidal Photodoped ZnO Nanocrystals." Brozek, C. K.; Hartstein, K. H.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2016**, 138, 10605–10610.
156. "Structural Metastability and Quantum Confinement in $Zn_{1-x}Co_xO$ Nanoparticles." Almonacid, G.; Martín-Rodríguez, R.; Renero-Lecuna, C.; Pellicer-Porres, J.; Agouram, S.; Valiente, R.; González, J.; Rodríguez, F.; Nataf, L.; Gamelin, D. R.; Segura, A., *Nano Lett*, **2016**, *16*, 5204–5212.
155. "Single-Particle Photoluminescence Spectra, Blinking, and Delayed Luminescence of Colloidal $CuInS_2$ Nanocrystals." Whitham, P. J.; Marchioro, A.; Knowles, K. E.; Kilburn, T. B.; Reid, P. J.; Gamelin, D. R., *J. Phys. Chem. C*, **2016**, *120*, 17136–17142.
154. "Luminescent Colloidal Semiconductor Nanocrystals Containing Copper: Synthesis, Photophysics, and Applications." Knowles, K. E.; Hartstein, K. H.; Kilburn, T. B.; Marchioro, A.; Nelson, H. D.; Whitham, P. J.; Gamelin, D. R., *Chem. Rev.*, **2016**, *116*, 10820–10851.
153. "Potentiometric Measurements of Semiconductor Nanocrystal Redox Potentials." Carroll, G. M.; Brozek, C. K.; Hartstein, K. H.; Tsui, E. Y.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2016**, *138*, 4310–4313.
152. "Computational Studies of the Electronic Structures of Copper-Doped CdSe Nanocrystals: Oxidation States, Singlet-Triplet Splittings, Jahn-Teller Distortions, and Vibronic Bandshapes." Nelson, H. D.; Li, X.; Gamelin, D. R., *J. Phys. Chem. C*, **2016**, *120*, 5714–5723.
151. "Proton-Controlled Reduction of ZnO Nanocrystals: Effects of Molecular Reductants, Cations, and Thermodynamic Limitations." Valdez, C. N.; Schimpf, A. M.; Gamelin, D. R.; Mayer, J. M., *J. Am. Chem. Soc.*, **2016**, *138*, 1377–1385.

150. "Built-in Potential in Fe_2O_3-Cr_2O_3 Superlattices for Improved Photoexcited Carrier Separation." Kaspar, T. C.; Schreiber, D. K.; Spurgeon, S. R.; McBriarty, M. E.; Carroll, G. M.; Gamelin, D. R.; Chambers, S. A., *Adv. Mater.*, **2016**, *28*, 1616–1622.
149. "Tuning Equilibrium Compositions in Colloidal $Cd_{1-x}Mn_xSe$ Nanocrystals Using Diffusion Doping and Cation Exchange." Barrows, C. J.; Chakraborty, P.; Kornowske, L. M.; Gamelin, D. R., *ACS Nano*, **2016**, *10*, 910–918.
148. "Kinetic Analysis of Photoelectrochemical Water Oxidation by Mesostructured Co-Pi/α-Fe_2O_3 Photoanodes." Carroll, G. M.; Gamelin, D. R., *J. Mater. Chem. A*, **2016**, *4*, 2986–2994.
147. "Delayed Exciton Emission and its Relation to Blinking in CdSe Quantum Dots." Rabouw, F. T.; Kamp, M.; van Dijk-Moes, R. J. A.; Gamelin, D. R.; Koenderink, A. F.; Meijerink, A.; Vanmaekelbergh, D., *Nano Lett*, **2015**, *15*, 7718–7725.
146. "Picosecond Dynamics of Excitonic Magnetic Polarons in Colloidal Diffusion-Doped $Cd_{1-x}Mn_xSe$ Quantum Dots." Nelson, H. D.; Bradshaw, L. R.; Barrows, C. J.; Vlaskin, V. A.; Gamelin, D. R., *ACS Nano*, **2015**, *9*, 11177–11191.
145. "Singlet-Triplet Splittings in the Luminescent Excited States of Colloidal Cu^+:CdSe, Cu^+:InP, and $CuInS_2$ Nanocrystals: Charge-Transfer Configurations and Self-Trapped Excitons." Knowles, K. E.; Nelson, H. D.; Kilburn, T. B.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2015**, *137*, 13138–13147.
144. "Reaction Dynamics of Proton Coupled Electron Transfer from Reduced ZnO Nanocrystals." Braten, M. N., Gamelin, D. R., Mayer, J. M., *ACS Nano*, **2015**, *9*, 10258-10267.
143. "Redox Potentials of Colloidal *n*-Type ZnO Nanocrystals: Effects of Confinement, Electron Density, and Fermi-Level Pinning by Aldehyde Hydrogenation." Carroll, G. M.; Schimpf, A. M.; Tsui, E. Y.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2015**, *137*, 11163–11169.
142. "Absorption and Magnetic Circular Dichroism Analyses of Giant Zeeman Splittings in Diffusion-Doped Colloidal $Cd_{1-x}Mn_xSe$ Quantum Dots." Barrows, C. J.; Vlaskin, V. A.; Gamelin, D. R., *J. Phys. Chem. Lett.*, **2015**, *6*, 3076−3081.
141. "Electronic Doping and Redox Potential Tuning in Colloidal Semiconductor Nanocrystals." Schimpf, A. M.; Knowles, K. E.; Carroll, G. M.; Gamelin, D. R., *Accts. Chem. Research*, **2015**, *48*, 1929–1937.
140. "Photoluminescence Blinking and Reversible Electron Trapping in Copper-Doped CdSe Nanocrystals." Whitham, P.; Knowles, K. E.; Reid, P. J.; Gamelin, D. R., *Nano Lett*, **2015**, *15*, 4045–4051.
139. "Bright $CuInS_2$/CdS Nanocrystal Phosphors for High-Gain Full-Spectrum Luminescent Solar Concentrators." Knowles, K. E.; Kilburn, T. B.; Alzate, D.; McDowall, S.; Gamelin, D. R., *Chem. Commun.*, **2015**, *51*, 9129–9132.
138. "Charge-State Control of Mn^{2+} Spin Relaxation Dynamics in Colloidal *n*-type $Zn_{1-x}Mn_xO$ Nanocrystals." Schimpf, A. M.; Rinehart, J. D.; Ochsenbein, S. T.; Gamelin, D. R., *J. Phys. Chem. Lett.*, **2015**, *6*, 1748–1753.
137. "Surface Contributions to Mn^{2+} Spin Dynamics in Colloidal Doped Quantum Dots." Schimpf, A. M.; Ochsenbein, S. T.; Gamelin, D. R., *J. Phys. Chem. Lett.*, **2015**, *6*, 457−463.
136. "Nanocrystals for Luminescent Solar Concentrators." Bradshaw, L. R.; Knowles, K. E.; McDowall, S.; Gamelin, D. R., *Nano Lett*, **2015**, *15*, 1315–1323.
135. "Redox Chemistries and Plasmon Energies of Photodoped In_2O_3 and Sn-Doped In_2O_3 (ITO) Nanocrystals." Schimpf, A. M.; Lounis, S. D.; Runnerstrom, E. L.; Milliron, D. J.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2015**, *137*, 518−524.

134. "Mechanistic Insights into Solar Water Oxidation by Cobalt-Phosphate-Modified α-Fe_2O_3 Photoanodes." Carroll, G. M.; Zhong, D. K.; Gamelin, D. R., *Energy Environ. Sci.*, **2015**, *8*, 577−584.
133. "Valence-Band Mixing Effects in the Upper-Excited-State Magneto-Optical Responses of Colloidal Mn^{2+}-Doped CdSe Quantum Dots." Fainblat, R.; Muckel, F.; Barrows, C. J.; Vlaskin, V. A.; Gamelin, D. R.; Bacher, G., *ACS Nano*, **2014**, *8*, 12669−12675.
132. "Lanthanide Doped CaS and SrS Luminescent Nanocrystals: A Single Source Precursor Approach for Doping." Zhao, Y.; Rabouw, F. T.; van Puffelen, T.; van Walree, C.; Gamelin, D. R.; de Mello Donegá, C.; Meijerink, A., *J. Am. Chem. Soc.*, **2014**, *136*, 16533−16543.
131. "Theoretical Characterization of Conduction-Band Electrons in Photodoped and Aluminum Doped Zinc Oxide (AZO) Quantum Dots." Goings, J. J.; May, J. W.; Schimpf, A. M.; Johns, R.; Gamelin, D. R.; Li., X., *J. Phys. Chem. C*, **2014**, *118*, 26584−26590.
130. "Low Capping Group Surface Density on ZnO Nanocrystals." Valdez, C. N.; Schimpf, A. M.; Gamelin, D. R.; Mayer, J. M., *ACS Nano*, **2014**, *8*, 9463−9470.
129. "Identifying Effects of TiO_2 Nanowires Inside Bulk Heterojunction Organic Photovoltaics on Charge Diffusion and Recombination." Yang, P.; Zeigler, D. F.; Bryant, K. C.; Martin, T. R.; Gamelin, D. R.; Luscombe, C. K., *J. Mater. Chem. C*, **2014**, *2*, 4922−4927.
128. "Zero-Reabsorption Doped-Nanocrystal Luminescent Solar Concentrators." Erickson, C. S.; Bradshaw, L. R.; McDowall, S.; Gilbertson, J. D.; Gamelin, D. R.; Patrick, D. L., *ACS Nano*, **2014**, *8*, 3461−3467.
127. "Effects of Crystallographic and Shape Anisotropies on Dopant-Carrier Exchange Interactions in Magnetic Semiconductor Quantum Dots." Peng, B.; May, J. W.; Gamelin, D. R.; Li, X., *J. Phys. Chem. C*, **2014**, *118*, 7630−7636.
126. "Ferromagnetic Excited-State Mn^{2+} Dimers in $Zn_{1-x}Mn_xSe$ Quantum Dots Observed by Time-Resolved Magneto-Photoluminescence." Bradshaw, L. R.; May, J. W.; Dempsey, J. L.; Li, X.; Gamelin, D. R., *Phys. Rev. B*, **2014**, *89*, 115312.
125. "Ultrafast Spin Dynamics in Magnetic Wide-Bandgap Semiconductors." Raskin, M.; Stiehm, T.; Cohn, A. W.; Whitaker, K. M.; Ochsenbein, S. T.; de Vasconcellos, S. M.; Brandt, M. S.; Gamelin, D. R.; Bratschitsch, R., *Physica Status Solidi b*, **2014**, *251*, 1685–1693.
124. "Charge-Tunable Quantum Plasmons in Colloidal Semiconductor Nanocrystals." Schimpf, A. M.; Thakkar, N.; Gunthardt, C. E.; Masiello, D. J.; Gamelin, D. R., *ACS Nano*, **2014**, *8*, 1065−1072.
123. "Photoluminescence in ZnO:Co^{2+} (0.01% − 5%) Nanocrystals, Nanorods, Thin-Films and Single Crystals as a Function of Pressure and Temperature: Exploring Electron-Phonon Interactions." Renero-Lecuna, C.; Martín-Rodríguez, R.; González, J.; Rodríguez F.; Almonacid, G.; Segura, A.; Muñoz-Sanjosé, V.; Gamelin, D. R.; Valiente, R., *Chem. Mater.*, **2014**, *26*, 1100−1107.
122. "Size Dependence of Negative Trion Auger Recombination in Photodoped CdSe Nanocrystals." Cohn, A. W.; Rinehart, J. D.; Schimpf, A. M.; Weaver, A. L.; Gamelin, D. R., *Nano Lett*, **2014**, *14*, 353−358.
121. "A Simple ZnO Nanocrystal Synthesis Illustrating Three-Dimensional Quantum Confinement." Reid, P. J.; Fujimoto, B.; Gamelin, D. R., *J. Chem. Educ.* **2014**, *91*, 280−282.
120. "Photochemical Electronic Doping of Colloidal CdSe Nanocrystals." Rinehart, J. D.; Schimpf, A. M.; Weaver, A. L.; Cohn, A. W.; Gamelin, D. R., *J. Am. Chem. Soc.* **2013**, *135*, 18782−18785.

119. "Controlling Carrier Densities in Photochemically Reduced Colloidal ZnO Nanocrystals: Size Dependence and Role of the Hole Quencher." Schimpf, A. M.; Gunthardt, C. E.; Rinehart, J. D.; Mayer, J. M.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2013**, *135*, 16569−16577.
118. "Nanocrystal Diffusion Doping." Vlaskin, V. A.; Barrows, C. J.; Erickson, C. S.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2013**, *135*, 14380−14389.
117. "Optical Absorption and Spectral Photoconductivity in α-$(Fe_{1-x}Cr_x)_2O_3$ Solid-Solution Thin Films." Chamberlin, S. E.; Wang, Y.; Lopata, K.; Kaspar, T. C.; Cohn, A. W.; Gamelin, D. R.; Govind, N.; Sushko, P. V.; Chambers, S. A., *J. Phys.: Condens. Matter*, **2013**, *25*, 392002.
116. "Nb-Doped Colloidal TiO_2 Nanocrystals with a Tunable Infrared Absorption." De Trizio, L.; Buonsanti, R.; Schimpf, A. M.; Lordes, A.; Gamelin, D. R.; Simonutti, R.; Milliron, D. J., *Chem. Mater.*, **2013**, *25*, 3383−3390.
115. "Photoconductive ZnO Films with Embedded Quantum Dot or Ruthenium Dye Sensitizers." White, M. A.; Dempsey, J. L.; Carroll, G. M.; Gallagher, J.; Gamelin, D. R., *APL Materials*, **2013**, *1*, 032107.
114. "Effect of Protons on the Redox Chemistry of Colloidal Zinc Oxide Nanocrystals." Valdez, C. N.; Braten, M.; Soria, A.; Gamelin, D. R.; Mayer, J. M., *J. Am. Chem. Soc.*, **2013**, *135*, 8492−8495.
113. "Size-Dependent Trap-Assisted Auger Recombination in Semiconductor Nanocrystals." Cohn, A. W.; Schimpf, A. M.; Gunthardt, C. E.; Gamelin, D. R., *Nano Lett*, **2013**, *13*, 1810−1815.
112. "Dual-Emitting Nanoscale Temperature Sensors." McLaurin, E. J.; Bradshaw, L. R.; Gamelin, D. R., *Chem. Mater.*, **2013**, *25*, 1283−1292.
111. "TiO_2 Nanowire Electron Transport Pathways inside Organic Photovoltaics." Yang, P.; Zhong, D. K.; Yuan, M.; Rice, A. H.; Gamelin, D. R.; Luscombe, C. K., *Phys. Chem. Chem. Phys.*, **2013**, *15*, 4566−4572.
110. "One-Step Synthesis of Alloyed Dual-Emitting Semiconductor Nanocrystals." McLaurin, E. J.; Fataftah, M. S.; Gamelin, D. R., *Chem. Commun.*, **2013**, *49*, 39−41.
109. "Water Splitting: Catalyst or Spectator?" Gamelin, D. R., *Nature Chemistry*, **2012**, *4*, 965−967.
108. "Polymer Triplet Energy Levels Need Not Limit Photocurrent Collection in Organic Solar Cells." Schlenker, C. W.; Chen, K.-S.; Yip, H.-L.; Li, C.-Z.; Bradshaw, L. R.; Ochsenbein, S. T.; Ding, F.; Li, X.; Gamelin, D. R.; Jen, A. K.-Y.; Ginger, D. S., *J. Am. Chem. Soc.*, **2012**, *134*, 19661−19668.
107. "Redox Brightening of Colloidal Semiconductor Nanocrystals using Molecular Reductants." Rinehart, J. D.; Weaver, A. L.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2012**, *134*, 16175−16177.
106. "Photocharging ZnO Nanocrystals: Picosecond Hole Capture, Electron Accumulation, and Auger Recombination." Cohn, A. W.; Janßen, N.; Mayer, J. M.; Gamelin, D. R., *J. Phys. Chem. C*, **2012**, *116*, 20633−20642.
105. "Comparison of Extra Electrons in Colloidal *n*-Type Al^{3+}-Doped and Photochemically Reduced ZnO Nanocrystals." Schimpf, A. M.; Ochsenbein, S. T.; Buonsanti, R.; Milliron, D. J.; Gamelin, D. R., *Chem. Commun.*, **2012**, *48*, 9352−9354.
104. "Thermal Tuning and Inversion of Excitonic Zeeman Splittings in Colloidal Doped CdSe Quantum Dots." Schimpf, A. M.; Gamelin, D. R., *J. Phys. Chem. Lett.* **2012**, *3*, 1264−1268.
103. "Tuning the Potentials of "Extra" Electrons in Colloidal *n*-Type ZnO Nanocrystals via Mg^{2+} Substitution." Cohn, A. W.; Kittilstved, K. R.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2012**, *134*, 7937–7943.

102. "Theoretical Evaluation of Spin-Dependent Auger De-excitation in Mn^{2+}-Doped Semiconductor Nanocrystals." Peng, B.; Liang, W.; White, M. A.; Gamelin, D. R.; Li, X., *J. Phys. Chem. C*, **2012**, *116*, 11223–11231.
101. "Luminescence Saturation *via* Mn^{2+}-Exciton Cross Relaxation in Colloidal Doped Semiconductor Nanocrystals." Bradshaw, L. R.; Hauser, A.; McLaurin, E. J.; Gamelin, D. R., *J. Phys. Chem. C*, **2012**, *116*, 9300–9310.
100. "Photoluminescence Brightening via Electrochemical Trap Passivation in ZnSe and Mn^{2+}-Doped ZnSe Quantum Dots." Weaver, A. L.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2012**, *134*, 6819–6825.
99. "Near-Complete Suppression of Surface Recombination in Solar Photoelectrolysis by "Co-Pi" Catalyst-Modified W:$BiVO_4$" Zhong, D. K.; Choi, S.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2011**, *133*, 18370–18377.
98. "Water-Soluble Dual-Emitting Nanocrystals for Ratiometric Optical Thermometry." McLaurin, E. J.; Vlaskin, V. A.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2011**, *133*, 14978–14980.
97. "Characterization of Excited-State Magnetic Exchange in Mn^{2+}-doped ZnO Quantum Dots using Time-Dependent Density Functional Theory." Badaeva, E.; May, J. W.; Ma, J.; Gamelin, D. R.; Li, X., *J. Phys. Chem. C*, **2011**, *115*, 20986–20991.
96. "Orbital Pathways for Mn^{2+}-Carrier *sp-d* Exchange in Magnetic Semiconductor Quantum Dots." Beaulac, R.; Feng, Y.; May, J. W.; Badaeva, E.; Gamelin, D. R.; Li, X., *Phys. Rev. B*, **2011**, *84*, 195324.
95. "Spin-on Spintronics: Ultrafast Electron Spin Dynamics in ZnO and $Zn_{1-x}Co_xO$ Sol-Gel Films." Whitaker, K. M.; Raskin, M.; Kiliani, G.; Beha, K.; Ochsenbein, S. T.; Janßen, N.; Fonin, M.; Rüdiger, U.; Leitenstorfer, A.; Gamelin, D. R.; Bratschitsch, R., *Nano Lett*, **2011**, *11*, 3355–3360.
94. "Visible-Light Photoconductivity of $Zn_{1-x}Co_xO$ and its Dependence on Co^{2+} Concentration." Johnson, C. A.; Cohn, A.; Kaspar, T. C.; Chambers, S. A.; Salley, G. M.; Gamelin, D. R., *Phys. Rev. B*, **2011**, *84*, 125203.
93. "Magnetic Polaron Formation Dynamics in Mn^{2+}-Doped Colloidal Nanocrystals up to Room Temperature." Bacher, G.; Schneider, L.; Beaulac, R.; Archer, P. I.; Gamelin, D. R., *J. Korean Phys. Soc.*, **2011**, *58*, 1261–1266.
92. "Electrochemically Controlled Auger Quenching of Mn^{2+} Photoluminescence in Doped Semiconductor Nanocrystals." White, M. A.; Weaver, A. L.; Beaulac, R.; Gamelin, D. R., *ACS Nano*, **2011**, *5*, 4158–4168.
91. "Photo-assisted Electrodeposition of Cobalt-Phosphate (Co-Pi) Catalyst on Hematite Photoanodes for Solar Water Oxidation." Zhong, D. K.; Cornuz, M.; Sivula, K.; Grätzel, M.; Gamelin, D. R., *Energy & Environmental Science*, **2011**, *4*, 1759–1764.
90. "Electron Transfer Between Colloidal ZnO Nanocrystals." Hayoun, R.; Whitaker, K. M.; Gamelin, D. R.; Mayer, J. M., *J. Am. Chem. Soc.*, **2011**, *133*, 4228–4231.
89. "Quantum Oscillations in Magnetically Doped Colloidal Nanocrystals." Ochsenbein, S. T.; Gamelin, D. R., *Nature Nanotechnology*, **2011**, *6*, 112–115.
88. "Two-Center Formulation of Mn^{2+}-Electron *s-d* Exchange Coupling in Bulk and Quantum Confined Diluted-Magnetic Semiconductors." Beaulac, R.; Gamelin, D. R., *Phys. Rev. B*, **2010**, *82*, 224401.

87. "Mid-Gap Electronic States in $Zn_{1-x}Mn_xO$." Johnson, C. A.; Kittilstved, K. R.; Kaspar, T. C.; Droubay, T. C.; Chambers, S. A.; Salley, G. M.; Gamelin, D. R., *Phys. Rev. B*, **2010**, *82*, 115202.
86. "Tunable Dual Emission in Doped Semiconductor Nanocrystals." Vlaskin, V. A.; Janßen, N.; van Rijssel, J.; Beaulac, R.; Gamelin, D. R., *Nano Lett*, **2010**, *10*, 3670–3674.
85. "Hyperfine Coupling in Colloidal n-type ZnO Quantum Dots: Effects on Electron Spin Relaxation." Whitaker, K. M.; Ochsenbein, S. T.; Smith, A. L.; Echodu, D. C.; Robinson, B. H.; Gamelin, D. R., *J. Phys. Chem. C*, **2010**, *114*, 14467–14472.
84. "Composite Photoanodes for Photoelectrochemical Solar Water Splitting." Sun, J.; Zhong, D. K.; Gamelin, D. R., *Energy & Environmental Science*, **2010**, *3*, 1252–1261. (invited review)
83. "Excited-State Double Exchange in Manganese-Doped ZnO Quantum Dots: A Time-Dependent Density-Functional Study." Feng, Y.; Badaeva, E.; Gamelin, D. R.; Li, X., *J. Phys. Chem. Lett.*, **2010**, *1*, 1927–1931.
82. "Sputtering Induced Co^0 Formation in X-Ray Photoelectron Spectroscopy of Nanocrystalline $Zn_{1-x}Co_xO$ Spinodal Enrichment Models." White, M. A.; Lovejoy, T. C.; Ochsenbein, S. T.; Olmstead, M. A.; Gamelin, D. R., *J. Appl. Phys.*, **2010**, *107*, 103917.
81. "Photoelectrochemical Water Oxidation by Cobalt Catalyst ("Co-Pi")/α-Fe_2O_3 Composite Photoanodes: Oxygen Evolution and Resolution of a Kinetic Bottleneck." Zhong, D. K.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2010**, *132*, 4202–4207.
80. "Sub-Bandgap Photoconductivity in Co^{2+}-Doped ZnO." Johnson, C. A.; Kaspar, T. C.; Chambers, S. A.; Salley, G. M.; Gamelin, D. R., *Phys. Rev. B*, **2010**, *81*, 125206.
79. "Colloidal Transition-Metal-Doped Quantum Dots." Beaulac, R.; Ochsenbein, S. T.; Gamelin, D. R., Chapter 7 in *Nanocrystal Quantum Dots*, 2nd edition (edited by V. I. Klimov), **2010**, CRC Press, 397–453. (invited review)
78. "Efficient CdSe Quantum-Dot-Sensitized Solar Cells Prepared by an Improved Successive Ionic Layer Adsorption and Reaction (SILAR) Process." Lee, H. J.; Wang, M.; Chen, P.; Gamelin, D. R.; Zakeeruddin, S. M.; Grätzel, M.; Nazeeruddin, Md. K., *Nano Lett*, **2009**, *9*, 4221–4227.
77. "Dopant-Carrier Magnetic Exchange Coupling in Inverted Core/Shell Nanocrystals." Vlaskin, V. A.; Beaulac, R.; Gamelin, D. R., *Nano Lett*, **2009**, *9*, 4376–4382.
76. "Light-Induced Spontaneous Magnetization in Colloidal Doped Quantum Dots." Beaulac, R.; Schneider, L.; Archer, P. I.; Bacher, G.; Gamelin, D. R., *Science*, **2009**, *325*, 973–976.
75. "Charge-Controlled Magnetism in Colloidal Doped Semiconductor Nanocrystals." Ochsenbein, S. T.; Feng, Y.; Whitaker, K. M.; Badaeva, E.; Liu, W. K.; Li, X.; Gamelin, D. R., *Nature Nanotechnology*, **2009**, *4*, 681–687.
74. "Solar Water Oxidation by Composite Catalyst/α-Fe_2O_3 Photoanodes." Zhong, D. K.; Sun, J.; Inumaru, H.; Gamelin, D. R., *J. Am. Chem. Soc.*, **2009**, *131*, 6086–6087.
73. "Regenerative PbS and CdS Quantum Dot-Sensitized Solar Cells with a Cobalt Complex as a Hole Mediator." Lee, H. J.; Chen, P.; Moon, S.-J.; Sivula, K.; Besso, T.; Gamelin D. R.; Comte, P.; Zakeeruddin, S. M.; Grätzel, M.; Nazeeruddin, Md. K., *Langmuir*, **2009**, *25*, 7602–7608.
72. "Theoretical Characterization of Electronic Transitions in Co^{2+}- and Mn^{2+}-Doped ZnO Nanocrystals." Badaeva, E.; Isborn, C. M.; Feng, Y.; Ochsenbein, S. T.; Gamelin, D. R.; Li, X., *J. Phys. Chem. C*, **2009**, *113*, 8710–8717.

71. "Correlated Substitution in Paramagnetic Mn^{2+}-Doped ZnO Epitaxial Films." Droubay, T. C.; Keavney, D. J.; Kaspar, T. C.; Heald, S. M.; Wang, C. M.; Johnson, C. A.; Whitaker, K. M.; Gamelin, D. R.; Chambers, S. A., *Phys. Rev. B*, **2009**, *79*, 155203.
70. "Colloidal Nanocrystals of Wurtzite $Zn_{1-x}Co_xO$ ($0 \leq x \leq 1$): Models of Spinodal Decomposition in an Oxide Diluted Magnetic Semiconductor." White, M. A.; Ochsenbein, S. T.; Gamelin, D. R., *Chem. Mater.*, **2008**, *20*, 7107–7116.
69. "Colloidal Mn^{2+}-Doped CdSe Quantum Dots: New Inorganic Materials for Spin-Electronics and Spin-Photonics." Beaulac, R.; Archer, P. I.; Ochsenbein, S. T.; Gamelin, D. R., *Adv. Funct. Mater.*, **2008**, *18*, 3873–3891 (invited *Feature Article*).
68. "Exciton Storage by Mn^{2+} in Colloidal Mn^{2+}-Doped CdSe Quantum Dots." Beaulac, R.; Archer, P. I.; van Rijssel, J.; Meijerink, A.; Gamelin, D. R., *Nano Lett*, **2008**, *8*, 2949–2953.
67. "Electron Confinement Effects in the EPR Spectra of Colloidal n-Type ZnO Quantum Dots." Whitaker, K. M.; Ochsenbein, S. T.; Polinger, V. Z.; Gamelin, D. R., *J. Phys. Chem. C*, **2008**, *112*, 14331–14335.
66. "Ultrafast Spin Dynamics in Colloidal ZnO Quantum Dots." Janßen, N.; Whitaker, K. M.; Gamelin, D. R.; Bratschitsch, R., *Nano Lett*, **2008**, *8*, 1991–1994.
65. "Luminescence in Colloidal Mn^{2+}-Doped Semiconductor Nanocrystals." Beaulac, R.; Archer, P. I.; Gamelin, D. R. *J. Solid State Chem.*, **2008**, *181*, 1582–1589. (invited review)
64. "Colloidal ZnO Quantum Dots in Ultraviolet Pillar Microcavities." Thomay, T.; Hanke, T.; Tomas, M.; Sotier, F.; Beha, K.; Knittel, V.; Kahl, M.; Whitaker, K. M.; Gamelin, D. R.; Leitenstorfer, A.; Bratschitsch, R., *Optics Express*, **2008**, *16*, 9791–9794.
63. "Investigation of Pure and Co^{2+}-Doped ZnO Quantum Dot Electronic Structures using Density Functional Theory: Choosing the Right Functional." Badaeva, E.; Feng, Y.; Gamelin, D.R.; Li, X. *New J. Physics*, **2008**, *10*, 055013. (invited article)
62. "Spin-Polarizable Excitonic Luminescence in Colloidal Mn^{2+}-Doped CdSe Quantum Dots." Beaulac, R.; Archer, P. I.; Liu, X.; Lee, S.; Salley, G. M.; Dobrowolska, M.; Furdyna, J. K.; Gamelin, D. R. *Nano Lett*, **2008**, *8*, 1197–1201.
61. "Lack of Ferromagnetism in *n*-Type Cobalt-Doped ZnO Epitaxial Thin Films." Kaspar,T. C.; Droubay, T.; Li, Y.; Heald, S. M.; Nachimuthu, P.; Wang, C. M.; Shutthanandan, V.; Johnson, C. A.; Gamelin, D. R.; Chambers, S. A. *New J. Physics*, **2008**, *10*, 055010. (invited article)
60. "Inorganic Cluster Syntheses of TM^{2+}-Doped Quantum Dots (CdSe, CdS, CdSe/CdS): Physical Property Dependence on Dopant Locale." Archer, P. I.; Santangelo, S. A.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2007**, *129*, 9808–9818.
59. "Room-Temperature Electron Spin Dynamics in Free-Standing ZnO Quantum Dots." Liu, W. K.; Whitaker, K. M.; Smith, A. L.; Kittilstved, K. R.; Robinson, B. H.; Gamelin, D. R. *Phys. Rev. Lett.*, **2007**, *98*, 186804.
58. "Direct Observation of *sp-d* Exchange Interactions in Colloidal Mn^{2+}- and Co^{2+}-doped CdSe Quantum Dots." Archer, P. I.; Santangelo, S. A.; Gamelin, D. R. *Nano Lett*, **2007**, *7*, 1037–1043.
57. "Bimodal Bond-Length Distributions in Cobalt-Doped CdSe, ZnSe, and $Cd_{1-x}Zn_xSe$ Quantum Dots." Santangelo, S. A.; Hinds, E. A.; Vlaskin, V. A.; Archer, P. I.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2007**, *129*, 3973–3978.
56. "Growth, Electronic and Magnetic Properties of Doped ZnO Epitaxial and Nanocrystalline Films." Chambers, S. A.; Schwartz, D. A.; Liu, W. K.; Kittilstved, K. R.; Gamelin, D. R. *Applied Physics A*, **2007**, *88*, 1–5. (invited article)

55. "Chemical Approaches using Nanocrystals to Control Lattice Defect Formation and Explore the High-T_C Ferromagnetism of Oxide Diluted Magnetic Semiconductors." Archer, P. I.; Gamelin, D. R. in *Magnetism in New Semiconducting and Insulating Oxides*, edited by N. H. Hong, **2007**, Research Signpost Press, pp 23–52. (invited review)
54. "Energetic Pinning of Magnetic Impurity Levels in Quantum Confined Semiconductor Nanocrystals." Norberg, N. S.; Dalpian, G. M.; Chelikowsky, J. R.; Gamelin, D. R. *Nano Lett*, **2006**, *6*, 2887–2892.
53. "Ferromagnetism in Oxide Semiconductors" Chambers, S. A.; Droubay, T. C.; Rosso, K.; Heald, S. M.; Schwartz, D. A.; Kittilstved, K. R.; Gamelin, D. R. *Materials Today*, **2006**, *9*, 28–35. (invited review)
52. "Direct Kinetic Correlation of Carriers and Ferromagnetism in Co^{2+}:ZnO." Kittilstved, K. R.; Schwartz, D. A.; Tuan, A. C.; Heald, S. M.; Chambers, S. A.; Gamelin, D. R. *Phys. Rev. Lett.*, **2006**, *97*, 037203.
51. "Giant Excitonic Zeeman Splittings in Co^{2+}-doped ZnSe Quantum Dots." Norberg, N. S.; Parks, G. L.; Salley, G. M.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2006**, *128*, 13195–13203.
50. "Stable Photogenerated Carriers in Magnetic Semiconductor Nanocrystals." Liu, W. K.; Whitaker, K. M.; Kittilstved, K. R.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2006**, *128*, 3910–3911.
49. "Ferromagnetism and Structure in Epitaxial Cr-doped Anatase TiO_2." Kaspar, T. C.; Droubay, T.; Shutthanandan, V.; Heald, S. M.; Wang, C. M.; McCready, D. E.; Thevuthasan, S.; Bryan, J. D.; Gamelin, D. R.; Kellock, A. J.; Toney, M. F.; Hong, X.; Ahn, C. H.; Chambers, S. A. *Phys. Rev. B*, **2006**, *73*, 155327.
48. "Magnetic Circular Dichroism of Ferromagnetic Co^{2+}-doped ZnO." Kittilstved, K. R.; Zhou, J.; Liu, W. K.; Bryan, J. D.; Schwartz, D. A.; Gamelin, D. R. *Appl. Phys. Lett.*, **2006**, *89*, 062510.
47. "Manipulating Polar Ferromagnetism in Transition Metal Doped ZnO: Why Manganese is Different from Cobalt." Kittilstved, K. R.; Gamelin, D. R. *J. Appl. Phys.*, **2006**, *99*, 08M112. (invited research article)
46. "Controlled Grain Boundary Defect Formation and its Role in the High-T_C Ferromagnetism of Ni^{2+}:SnO_2." Archer, P. I.; Gamelin, D. R. *J. Appl. Phys.*, **2006**, *99*, 08M107.
45. "Electronic Structure Origins of Polarity Dependent High-T_C Ferromagnetism in Oxide Diluted Magnetic Semiconductors." Kittilstved, K. R.; Liu, W. K.; Gamelin, D. R. *Nature Materials*, **2006**, *5*, 291–297.
44. "Giant Zeeman Effects in Colloidal Diluted Magnetic Semiconductor Quantum Dots with Homogeneous Dopant Speciation." Norberg, N. S.; Gamelin, D. R. *J. Appl. Phys.*, **2006**, *99*, 08M104.
43. "Negligible Magnetism in Excellent Structural Quality $Cr_xTi_{1-x}O_2$ Anatase: Contrast with High-T_C Ferromagnetism in Structurally Defective $Cr_xTi_{1-x}O_2$." Kaspar, T. C.; Heald, S. M.; Wang, C. M.; Bryan, J. D.; Droubay, T.; Shutthanandan, V.; Thevuthasan, S.; McCready, D. E.; Kellock, A. J.; Gamelin, D. R.; Chambers, S. A. *Phys. Rev. Lett.*, **2005**, *95*, 217203.
42. "Activation of High-T_C Ferromagnetism in Co^{2+}:TiO_2 and Cr^{3+}:TiO_2 Nanorods and Nanocrystals by Grain Boundary Defects." Bryan, J. D.; Santangelo, S. A.; Keveren, S. C.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2005**, *127*, 15568–15574.
41. "Influence of Surface Modification on the Luminescence of Colloidal ZnO Nanocrystals." Norberg, N. S.; Gamelin, D. R. *J. Phys. Chem. B*, **2005**, *109*, 20810–20816.

40. "Low-Temperature Activation and Deactivation of High-T_C Ferromagnetism in a New Diluted Magnetic Semiconductor: Ni^{2+}-Doped SnO_2." Archer, P. I.; Radovanovic, P. V.; Heald, S. M.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2005**, *127*, 14479–14487.
39. "Spectroscopy of Photovoltaic and Photoconductive Nanocrystalline Co^{2+}-doped ZnO Electrodes." Liu, W. K.; Salley, G. M.; Gamelin, D. R. *J. Phys. Chem. B*, **2005**, *109*, 14486–14495.
38. "Chemical Manipulation of 300K Ferromagnetism in ZnO Diluted Magnetic Semiconductors." Kittilstved, K. R.; Norberg, N. S.; Gamelin, D. R. *Phys. Rev. Lett.*, **2005**, *94*, 149049.
37. "Activation of High-T_C Ferromagnetism in Mn^{2+}:ZnO using Amines." Kittilstved, K. R.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2005**, *127*, 5292–5293.
36. "The Influence of Dopants on the Nucleation of Semiconductor Nanocrystals from Homogeneous Solution." Bryan, J. D.; Schwartz, D. A.; Gamelin, D. R. *J. Nanosci. Nanotech.,* **2005**, *5*, 1472–1479. (invited article)
35. "Doped Semiconductor Nanocrystals: Synthesis, Characterization, Physical Properties, and Applications." Bryan, J. D.; Gamelin, D. R. *Prog. Inorg. Chem.,* **2005**, *54*, 47–126. (invited review)
34. "Reversible 300K Ferromagnetic Ordering in a Diluted Magnetic Semiconductor." Schwartz, D. A.; Gamelin, D. R. *Advanced Materials*, **2004**, *16*, 2115–2119.
33. "Above-Room-Temperature Ferromagnetic Ni^{2+}:ZnO Thin Films Prepared from Colloidal Diluted Magnetic Semiconductor Quantum Dots." Schwartz, D. A.; Kittilstved, K. R.; Gamelin, D. R. *Appl. Phys. Lett.*, **2004**, *85*, 1395–1397.
32. "Strong Room-Temperature Ferromagnetism in Co^{2+}-Doped TiO_2 made from Colloidal Nanocrystals." Bryan, J. D.; Heald, S. M.; Chambers, S. A.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2004**, *126*, 11640–11647.
31. "Epitaxial Growth and Properties of Cobalt-doped ZnO on α-Al_2O_3 Single Crystal Substrates." Tuan, A.; Bryan, J. D.; Pakomov, A. B.; Shutthanandan, V.; Thevuthasan, S.; McCready, D. E.; Gaspar, D.; Engelhard, M. H.; Rogers, Jr., J. W.; Krishnan, K.; Gamelin, D. R.; Chambers S. A.; *Phys. Rev. B*., **2004**, *70*, 054424.
30. "Synthesis of Colloidal Mn^{2+}:ZnO Quantum Dots and High-T_C Ferromagnetic Nanocrystalline Thin Films." Norberg, N. S.; Kittilstved, K. R.; Amonette, J. E.; Kukkadapu, R. K.; Schwartz, D. A.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2004**, *126*, 9387–9398.
29. "A Simple Room-Temperature Preparation of Colloidal ZnO Quantum Dots from Homogeneous Polar Aprotic Solutions." Schwartz, D. A.; Gamelin, D. R. *Proc. SPIE-Int. Soc. Opt. Eng.,* **2003**, *5224*, 1–7. (invited article)
28. "High-Temperature Ferromagnetism in Ni^{2+}-doped ZnO Aggregates Prepared from Colloidal Diluted Magnetic Semiconductor Quantum Dots." Radovanovic, P. V.; Gamelin, D. R. *Phys. Rev. Lett.*, **2003**, *91*, 157202.
27. "Magnetic Quantum Dots: Synthesis, Spectroscopy, and Magnetism of Co^{2+}- and Ni^{2+}-Doped ZnO Nanocrystals." Schwartz, D. A.; Norberg, N. S.; Nguyen, Q. P.; Parker, J. M.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2003**, *125*, 13205–13218.
26. "Colloidal Transition-Metal-Doped ZnO Quantum Dots." Radovanovic, P. V.; Norberg, N. S.; McNally, K. E.; Gamelin, D. R. *J. Am. Chem. Soc.*, **2002**, *124*, 15192–15193.
25. "Isocrystalline Core/Shell Synthesis of High Quality II-VI Diluted Magnetic Semiconductor Quantum Dots: Ligand Field Spectroscopic Studies." Radovanovic, P. V.; Gamelin, D. R. *Proc. SPIE-Int. Soc. Opt. Eng.,* **2002**, *4807*, 223–231.

24. "Magnetic Circular Dichroism Spectroscopy of Co^{2+}:CdS Diluted Magnetic Semiconductor Quantum Dots." Radovanovic, P. V.; Gamelin, D. R. *Proc. SPIE-Int. Soc. Opt. Eng.,* **2002**, *4809*, 51–61.
23. "Electronic Absorption Spectroscopy of Cobalt Ions in Diluted Magnetic Semiconductor Quantum Dots: Demonstration of an Isocrystalline Core/Shell Synthetic Method" Radovanovic, P. V.; Gamelin, D. R. *J. Am. Chem. Soc.,* **2001**, *123*, 12207–12214.
22. "Excited-State Dynamics and Sequential Two-Photon Upconversion Excitation of Mo^{3+}-Doped Chloro- and Bromo-Elpasolites." Gamelin, D. R.; Güdel, H. U. *J. Phys. Chem. B*, **2000**, *104*, 11045–11057.
21. "Chemical Modification of Transition Metal Upconversion Properties: Exchange Enhancement of Ni^{2+} Upconversion Rates in Ni^{2+}:$RbMnCl_3$." Wenger, O. S.; Gamelin, D. R.; Güdel, H. U. *J. Am. Chem. Soc.*, **2000**, *122*, 7408–7409.
20. "The Role of Laser Heating in the Intrinsic Optical Bistability of Yb^{3+}-Doped Bromide Lattices." Gamelin, D. R.; Lüthi, S. R.; Güdel, H. U. *J. Phys. Chem. B*, **2000**, *104*, 10222–10234.
19. "Excited-State Exchange Coupling in Bent Mn(III)-O-Mn(III) Complexes: Dominance of the π/σ Superexchange Pathway and Its Possible Contributions to the Reactivities of Binuclear Metalloproteins." Brunold, T. C.; Gamelin, D. R.; Solomon, E. I. *J. Am. Chem. Soc.*, **2000**, *122*, 8511–8523.
18. "Upconversion Processes in Transition Metal and Rare Earth Metal Systems." Gamelin, D. R.; Güdel, H. U. *Topics in Current Chemistry*, **2000**, *214*, 1–56.
17. "Site-Selective Yellow to Violet and Near-Infrared to Green Upconversion in $BaLu_2F_8$:Nd^{3+}." Wenger, O. S.; Gamelin, D. R.; Güdel, H. U.; Butashin, A. V.; Kaminskii, A. A. *Phys. Rev., B.*, **2000**, *61*, 16530–16537.
16. "Design of Luminescent Inorganic Materials: New Photophysical Processes studied by Optical Spectroscopy." Gamelin, D. R.; Güdel, H. U. *Accts. Chem. Res.*, **2000**, *33*, 235–242.
15. "Power Dependence of Upconversion Luminescence in Lanthanide and Transition-Metal-Ion Systems." Pollnau, M.; Gamelin, D. R.; Luthi, S. R.; Güdel, H. U.; Hehlen, M. P. *Phys. Rev. B.*, **2000**, *61*, 3337–3346.
14. "Electronic Structure Contributions to Electron Transfer in Blue Cu and Cu_A." Randall, D. W.; Gamelin, D. R.; LaCroix, L. B.; Solomon, E. I. *J. Biol. Inorg. Chem.*, **2000**, *5*, 16–29.
13. "Upconversion Processes of 5d Transition Metal Ions in Crystals." Gamelin, D. R.; Wermuth, M.; Güdel, H. U. *J. Lumin.,* **1999**, *83–84*, 405–410.
12. "Spectroscopy and Dynamics of Re^{3+} Near-IR-to-Visible Luminescence Upconversion." Gamelin, D. R.; Güdel, H. U. *Inorg. Chem.*, **1999**, *38*, 5154–5164.
11. "Site-Selective Optical Spectroscopy and Upconversion Mechanisms of the Laser Material $BaLu_2F_8$:Er^{3+}." Wenger, O. S.; Gamelin, D. R.; Güdel, H. U.; Butashin, A. V.; Kaminskii, A. A. *Phys. Rev. B.*, **1999**, 60, 5312–5320.
10. "Two-Photon Spectroscopy of Transition Metals: Near-IR-to-Visible Upconversion Luminescence by Re^{4+} and Mo^{3+}." Gamelin, D. R.; Güdel, H. U. *J. Am. Chem. Soc.*, **1998**, *120*, 12143–12144.
9. "Spectroscopic Studies of Oxidized Manganese Catalase and μ-oxo-bridged Dimanganese(III) Model Complexes: Electronic Structure of the Active Site and its Relation to Catalysis." Brunold, T. C.; Gamelin, D. R.; Stemmler, T. L.; Penner-Hahn, J. E.; Armstrong, W. E.; Solomon, E. I. *J. Am. Chem. Soc.*, **1998**, *120*, 8724–8738.

8. "Electronic Spectroscopy of Mixed-Valence Cu_A-Type Centers: Ligand-Field Control of Ground-State Properties Related to Electron Transfer." Gamelin, D. R.; Randall, D. W.; Hay, M. T.; Houser, R. P.; Mulder, T. C.; Canters, G. W.; de Vries, S.; Tolman, W. B.; Lu, Y.; Solomon, E. I. *J. Am. Chem. Soc.*, **1998**, *120*, 5246–5263.
7. "Spectroscopic Characterization of an Engineered Purple Cu_A Center in Azurin." Hay, M. T.; Ang, M. C.; Gamelin, D. R.; Solomon, E. I.; Antholine, W. E.; Blackburn, N. J.; Massey, P. D.; Kwon, A. H.; Lu, Y. *Inorg. Chem.,* **1998**, *37*, 191–198.
6. "The Influence of Copper-Sulfur Covalency and Copper-Copper Bonding on Valence Delocalization and Electron Transfer in the Cu_A Site of Cytochrome *c* Oxidase." Williams, K. R.; Gamelin, D. R.; LaCroix, L. B.; Houser, R. P.; Tolman, W. B.; Mulder, T. C.; de Vries, S.; Hedman, B.; Hodgson, K. O.; Solomon, E. I. *J. Am. Chem. Soc.*, **1997**, *119*, 613–614.
5. "Excited-State Contributions to Ground-State Properties of Mixed-Valence Dimers: Spectral and Electronic-Structural Studies of $[Fe_2(OH)_3(tmtacn)_2]^{2+}$ Related to the $[Fe_2S_2]^{+}$ Active Sites of Plant-Type Ferredoxins." Gamelin, D. R.; Bominaar, E. L.; Kirk, M. L.; Wieghardt, K.; Solomon, E. I. *J. Am. Chem. Soc.*, **1996**, *118*, 8085–8097.
4. "Excited-State Distortions and Electron Delocalization in Mixed-Valence Dimers: Vibronic Analysis of the Near-IR Absorption and Resonance Raman Profiles of $[Fe_2(OH)_3(tmtacn)_2]^{2+}$." Gamelin, D. R.; Bominaar, E. L.; Mathonière, C.; Kirk, M. L.; Wieghardt, K.; Girerd, J.-J.; Solomon, E. I. *Inorg. Chem.*, **1996**, *35*, 4323–4335.
3. "Bioinorganic Spectroscopy." Solomon, E. I.; Kirk, M. L.; Gamelin, D. R.; Pulver, S. *Methods in Enzymology*, **1995**, *246*, 71–110.
2. "Electronic Structure and Spectroscopy of Manganese Catalase and Di-μ-oxo $[Mn^{III}Mn^{IV}]$ Model Complexes." Gamelin, D. R.; Kirk, M. L.; Stemmler, T. L.; Pal, S.; Armstrong, W. H.; Penner-Hahn, J. E.; Solomon, E. I. *J. Am. Chem. Soc.*, **1994**, *116*, 2392–2399.
1. "Structural Investigation of the Ground and Excited States of $ClRe(CO)_3(4,4'\text{-bipyridyl})_2$ Using Vibrational Spectroscopy." Gamelin, D. R.; George, M. W.; Glyn, P.; Grevels, F.-W.; Johnson, F. P. A.; Klotzbücher, W.; Morrison, S. L.; Russel, G.; Schaffner, K.; Turner, J. J. *Inorg. Chem.*, **1994**, *33*, 3246–3250.

TEACHER/SCHOLAR AWARDS

2006 Distinguished Teaching Award, UW, Chemistry Department
2005 Camille Dreyfus Teacher-Scholar Award, Dreyfus Foundation
2003 Cottrell Scholar Award, Research Corporation
2003 PECASE/CAREER Award, National Science Foundation

SELECT UNIVERSITY AND PROFESSIONAL SERVICE ACTIVITIES

Founding Director, UW Molecular Engineering Materials Center (NSF MRSEC) (2017–present)
Co-Founder, Chief Science Advisor, BlueDot Photonics, Inc. (2019–present)
Washington State Academy of Sciences, Membership Committee, Physical and Mathematical Sciences Section (2020–present)

Founding joint organizer, Nanocrystals Northwest conference (2019–present, biennial)
Editorial Board, *Journal of Luminescence*, Elsevier (2017–present)
Pauling Award Selection Committee (2017–2019)
Chair/Vice Chair, GRC on Colloidal Semiconductor Nanocrystals (2018/2016)
Associate Editor, *Chemical Communications*, Royal Society of Chemistry (2010–2022)
Editorial Advisory Board member, ACS *Inorganic Chemistry* (2009–2011)
Editorial Advisory Board member, *ACS Catalysis* (2010–2011)
Chair, Nanoscience Subdivision, ACS Division of Inorganic Chemistry (2006–2007)
Steering Committee, Joint Institute of Nanoscience, University of Washington/Pacific Northwest National Laboratories (2004–2007)