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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:

2012 – 2013: Deputy Director, Molecular Foundry, LBNL
2008 – 2012: Director, Inorganic Nanostructures Facility, Molecular Foundry, LBNL

Journal Publications:

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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," *submitted*. https://chemrxiv.org/articles/Synthesis_and_Dual-Mode_Electrochromism_of_Anisotropic_Monoclinic_Nb12O29_Colloidal_Nanoplatelets/12108612

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Editorial & Commentary:

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

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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.

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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.

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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.

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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 (2 terms)

Graduate and Postdoctoral Advisors and Advisees:

First name	Last name	Relationship	Co-advisor	Current Affiliation
Manuel	Dominguez	student	EV Anslyn	UT Austin
Stephen	Gibbs	student		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
Lauren	Reimnitz	student		UT Austin

Sofia	Shubert	student		UT Austin
Benjamin	Zydlewski	student		UT Austin
Progna	Banerjee	postdoc		UT Austin
Molly	Jhong	postdoc		UT Austin
Jongsik	Park	postdoc		UT Austin
Varada	Palakkal	postdoc		UT Austin
Bharat	Tandon	postdoc		UT Austin
Ankit	Agrawal	student		LBNL (postdoc)
Amy	Bergerud	student		Seagate
Marissa	Caldwell	student	H-SP Wong, Stanford	Medtronic
Shin Hum	Cho	student		Samsung
Clayton	Dahlman	student		UCSB (postdoc)
Guillermo	Garcia	student		Heliotrope Technologies
Sungyeon	Heo	student		Princeton Univ. (postdoc)
Robert	Johns	student		Facebook
Sebastien	Lounis	student		Activate/Cyclotron Road
Gary	Ong	student		Celadyne Technologies
Evan	Runnerstrom	student		Army Research Office
Camila	Saez Cabezas	student	TM Truskett, UT Austin	Dow
Corey	Staller	student		Celadyne Technologies
Raffaella	Buonsanti	postdoc		EPFL
Emory	Chan	postdoc		LBNL
Sandeep	Ghosh	postdoc		ASM
Gang	Han	postdoc	BE Cohen, LBNL	Univ. of Massachusetts
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	Velo3D
Hoi Ri	Moon	postdoc	JJ Urban, LBNL	UNIST
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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		Apple
Yizheng	Tan	postdoc		Santa Clara University
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		UC Berkeley/LBNL
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 Labortories
- Cyclotron Road, Lawrence Berkeley National Laboratory

Journal Editorial Activities:

- *Nano Letters*, Associate Editor (2015 -)
- *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:

10.2019	University of California, San Diego, Nanoengineering
08.2019	American Chemical Society, San Diego (award lecture)
06.2019	American Chemical Society Colloids, 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