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Professor of Materials Engineering
 Optical Materials Engineering Laboratory
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PERSONAL INFORMATION

- Born: 1968, St. Louis, USA.
- Citizenship: USA.

PROFESSIONAL PREPARATION

- University of California, San Diego; NSF Postdoctoral Fellowship; 1995–1997;
 Advisor: W. E. Moerner (now at Stanford University); Topic: Single-Molecule Spectroscopy.
- Massachusetts Institute of Technology (MIT); Ph.D. in Physical Chemistry; 1995;
 Advisor: M. G. Bawendi; Thesis Topic: Optical Properties of Colloidal Quantum Dots.
- University of Chicago; B.S. in Chemistry; 1990.

PROFESSIONAL APPOINTMENTS

- Professor of Materials Engineering; ETH Zurich; 2010–present.
- Head of the Department of Mechanical and Process Engineering; ETH Zurich; 2016–2019.
- Professor of Chemical Engineering and Materials Science; Univ. of Minnesota; 2006–2010.
- Alexander von Humboldt Research Fellow; Technical University of Munich; 2006–2007.
- Director of Graduate Studies in Chemical Engineering; Univ. of Minnesota; 2004–2010.
- Associate Professor of Chemical Engineering and Materials Science; Univ. of Minnesota; 2001–2006.
- Research Scientist; NEC Research Institute; Princeton, USA; 1997–2001.

SELECTED HONORS AND AWARDS

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| 2023 | Elected as Fellow, Optica (formerly Optical Society of America, OSA). |
| 2020 | IBM Research 2018 Pat Goldberg Memorial Best Paper Award. |
| 2018 | Golden Owl Award for Excellent Teaching (selected by students as best in Department). |
| 2017 | <i>ACS Nano</i> Lectureship Award. |
| 2015 | Credit Suisse Award for Best Teaching (selected by students as best instructor at ETH). |
| 2015 | Max Rössler Prize. |
| 2014–2019 | European Research Council (ERC) Advanced Grant Awardee. |
| 2012 | Golden Owl Award for Excellent Teaching (selected by students as best in Department). |
| 2009 | Fellow of the American Association for the Advancement of Science (AAAS). |
| 2006 | Fellow of the American Physical Society (APS). |

SELECTED PROFESSIONAL ACTIVITIES

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| 2021– | Chair of the Awards Committee; ETH Zurich. |
| 2020– | Member of Workstream 2; rETHink Project; ETH Zurich. |
| 2017– | Member of the Awards Committee; ETH Zurich. |
| 2016– | Member of Editorial Board; <i>Nano Letters</i> . |
| 2015– | Member of Editorial Board; <i>ACS Photonics</i> . |
| 2013– | Member of the Tenure Committee; ETH Zurich. |
| 2013–2015 | Member of the Research Commission; ETH Zurich. |

REPRESENTATIVE PUBLICATIONS (CAREER TOTAL: 167)

*Denotes corresponding author.

For complete publication list: <https://scholar.google.ch/citations?user=SOi3kXgAAAAJ&hl=en&oi=ao>
<https://www.webofscience.com/wos/author/record/323445>

1. “Electrically Tunable Quantum Confinement of Neutral Excitons,” D. Thureja, A. Imamoglu*, T. Smolenski, I. Amelio, A. Popert, T. Chervy, X. Lu, S. Liu, K. Barmak, K. Watanabe, T. Taniguchi, D. J. Norris, M. Kroner, and P. A. Murthy*; *Nature* **606**, 298 (2022).
2. “Freeform Electronic and Photonic Landscapes in Hexagonal Boron Nitride,” N. Lassaline, D. Thureja, T. Chervy, D. Petter, P. Murthy, A. W. Knoll, and D. J. Norris*; *Nano Letters* **21**, 8175 (2021).
3. “Unraveling the Growth Mechanism of Magic-Sized Semiconductor Nanocrystals,” A. S. Mule, S. Mazzotti, A. A. Rossinelli, M. Aellen, P. T. Prins, J. C. van der Bok, S. F. Solari, Y. M. Glauser, P. V. Kumar, A. Riedinger, and D. J. Norris*; *Journal of the American Chemical Society* **143**, 2037 (2021).
4. “Optical Fourier Surfaces,” N. Lassaline, R. Brechbühler, S. J. W. Vonk, K. Ridderbeek, M. Spieser, S. Bisig, B. le Feber, F. T. Rabouw, and D. J. Norris*; *Nature* **582**, 506 (2020).
5. “Bright Triplet Excitons in Lead Halide Perovskites,” M. A. Becker, R. Vaxenburg, G. Nedelcu, P. C. Sercel, A. Shabaev, M. J. Mehl, J. G. Michopoulos, S. G. Lambrakos, N. Bernstein, J. L. Lyons, T. Stöferle, R. F. Mahrt, M. V. Kovalenko*, D. J. Norris*, G. Rainò*, and Al. L. Efros*; *Nature* **553**, 189 (2018).
6. “An Intrinsic Growth Instability in Isotropic Materials Leads to Quasi-Two-Dimensional Nanoplatelets,” A. Riedinger, F. D. Ott, A. Mule, S. Mazzotti, P. N. Knüsel, S. J. P. Kress, F. Prins, S. C. Erwin*, and D. J. Norris*; *Nature Materials* **16**, 743 (2017).
7. “Wedge Waveguides and Resonators for Quantum Plasmonics,” S. J. P. Kress, F. V. Antolinez, P. Richner, S. V. Jayanti, D. K. Kim, F. Prins, A. Riedinger, M. P. C. Fischer, S. Meyer, K. M. McPeak, D. Poulikakos, and D. J. Norris*; *Nano Letters* **15**, 6267 (2015).
8. “Plasmonic Films Can Easily Be Better: Rules and Recipes,” K. M. McPeak, S. V. Jayanti, S. J. P. Kress, S. Meyer, S. Iotti, A. Rossinelli, and D. J. Norris*; *ACS Photonics* **2**, 326 (2015).
9. “Electronic Impurity Doping in CdSe Nanocrystals,” A. Sahu, M. S. Kang, A. Kompch, C. Notthoff, A. W. Wills, D. Deng, M. Winterer, C. D. Frisbie, and D. J. Norris*; *Nano Letters* **12**, 2587 (2012).
10. “Hot Electron Transfer from Semiconductor Nanocrystals,” W. A. Tisdale, K. J. Williams, B. C. Timp, D. J. Norris*, E. S. Aydil*, and X.-Y. Zhu*; *Science* **328**, 1543 (2010).
11. “Ultra-Smooth Patterned Metals for Plasmonics and Metamaterials,” P. Nagpal, N. C. Lindquist, S.-H. Oh, and D. J. Norris*; *Science* **325**, 594 (2009).
12. “Doped Nanocrystals,” D. J. Norris*, Al. L. Efros, and S. C. Erwin; *Science* **319**, 1776 (2008).
13. “Photosensitization of ZnO Nanowires with CdSe Quantum Dots for Photovoltaic Devices,” K. S. Leschkies, R. Divakar, J. Basu, E. Enache-Pommer, J. E. Boerner, C. B. Carter, U. R. Kortshagen, D. J. Norris*, and E. S. Aydil*; *Nano Lett.* **7**, 1793 (2007).
14. “Doping Semiconductor Nanocrystals,” S. C. Erwin*, L. Zu, M. I. Haftel, Al. L. Efros, T. A. Kennedy, and D. J. Norris*; *Nature* **436**, 91 (2005).
15. “In Vivo Imaging of Quantum Dots Encapsulated in Phospholipid Micelles,” B. Dubertret*, P. Skourides, D. J. Norris*, V. Noireaux, A. H. Brivanlou, and A. Libchaber; *Science* **298**, 1759 (2002).
16. “On-Chip Natural Assembly of Silicon Photonic Bandgap Crystals,” Yu. A. Vlasov, X.-Z. Bo, J. C. Sturm, and D. J. Norris*; *Nature* **414**, 289 (2001).
17. “High-Quality Manganese-Doped ZnSe Nanocrystals,” D. J. Norris*, N. Yao, F. T. Charnock, and T. A. Kennedy; *Nano Letters* **1**, 3 (2001).
18. “Measurement and Assignment of the Size-Dependent Optical Spectrum in CdSe Quantum Dots,” D. J. Norris and M. G. Bawendi*; *Physical Review B* **53**, 16338 (1996).
19. “Observation of the ‘Dark Exciton’ in CdSe Quantum Dots,” M. Nirmal, D. J. Norris, M. Kuno, M. G. Bawendi, Al. L. Efros, and M. Rosen; *Physical Review Letters* **75**, 3728 (1995).
20. “Synthesis and Characterization of Nearly Monodisperse CdE (E = S, Se, Te) Semiconductor Nanocrystallites,” C. B. Murray, D. J. Norris, and M. G. Bawendi*; *Journal of the American Chemical Society* **115**, 8706 (1993).

SELECTED INVITED PRESENTATIONS FROM LAST 10 YEARS (CAREER TOTAL: 291)

1. Keynote, Bilkent Univ., Nano Day Symposium; Virtual; Jun. 2021.
2. Keynote, NANOPLUS Conference; Virtual; Apr. 2020.
3. Colloquium, Harvard Univ., Applied Physics Department; Cambridge, USA; Jan. 2020.
4. Seminar, MIT, Modern Optics and Spectroscopy; Cambridge, USA; Nov. 2019.
5. Colloquium, Univ. Konstanz, Department of Chemistry; Konstanz, DE; Nov. 2018.
6. Colloquium, Florida State Univ., Department of Physics; Tallahassee, USA; Apr. 2017.
7. Keynote, 5th Molecular Materials Meeting (M3); Singapore; Aug. 2015.
8. Keynote, 36th Progress in Electromagnetics Research Symposium (PIERS); Prague, CZ; Jul. 2015.
9. Plenary, Quantum Dot 2014 Conference (QD2014); Pisa, IT; May 2014.
10. Colloquium, Technical University of Berlin, Department of Physics; Berlin, DE; Nov. 2013.
11. Colloquium, Institute for Atomic and Molecular Physics (AMOLF); Amsterdam, NL; Nov. 2013.
12. Colloquium, Hamburg University of Technology, Materials Science; Hamburg, DE; Jun. 2013.

GRANTED AND PENDING PATENTS FROM LAST 10 YEARS (CAREER TOTAL: 8)

1. "Method for Producing a Nano-Structured Element Made of Hexagonal Boron Nitride and Device Comprising Such an Element," D. J. Norris, N. Lassaline, and D. Thureja; European Patent Application (2021).
2. C. R. Lightner, D. Gisler, D. J. Norris, "Optical Activity Measurements with Frequency Modulation," European Patent Application (2020).
3. D. J. Norris, F. Rabouw, R. Brechbühler, N. Lassaline, "Diffractive Optical Element," International Patent Application (2019).
4. D. J. Norris, S. E. Han, P. Nagpal, A. Bhan, N. C. Lindquist, S.-H. Oh, "Replication of Patterned Thin-Film Structures for Use in Plasmonics and Metamaterials," U.S. Patent 9,356,238 (2016).
5. D. J. Norris, S. E. Han, P. Nagpal, A. Bhan, N. C. Lindquist, S.-H. Oh, "Replication of Patterned Thin-Film Structures for Use in Plasmonics and Metamaterials," U.S. Patent 8,948,562 (2015).

TEACHING ACTIVITIES

- 2023 – Co-Lecturer, Nanophotonics, ETH Zurich.
- 2021 – Lecturer, Chemistry (for mechanical engineers), ETH Zurich.
- 2013– Lecturer, Introduction to Plasmonics, ETH Zurich.
- 2011– Lecturer, Introduction to Quantum Mechanics for Engineers, ETH Zurich.
- 2009–2010 Recitation Instructor, Reaction Kinetics and Reactor Design, Univ. of Minnesota.
- 2007–2010 Recitation Instructor, Chemical Engineering Thermodynamics, Univ. of Minnesota.
- 2006 Recitation Instructor, Reaction Kinetics and Reactor Design, Univ. of Minnesota.
- 2003–2005 Lecture, Introduction to Materials Science and Engineering, Univ. of Minnesota.
- 2002–2005 Lecturer, Colloids and Dispersions, Univ. of Minnesota.