Curriculum Vitae, Hedi Mattoussi

Work address
Florida State University
Dept. of Chemistry and Biochemistry
Tallahassee, FL 32306
Tel: (850) 645-8615
Email: mattoussi@chem.fsu.edu
Website: https://www.chem.fsu.edu/~mattoussi/

Education

PIERRE & MARIE CURIE UNIVERSITY (PARIS VI), Paris, France

- *Habilitation to Direct Research, Physical Chemistry/Nanomaterials, February 1994*
- *Ph.D.* Physical Chemistry*, October 1987*; Work done at the Collège de France, Condensed Matter Physics Laboratory
- *M. S. Condensed Matter Physics, June 1984*

FACULTY OF SCIENCES TUNIS, Tunisia

- *B. S. Physics, June 1982*; graduated with honors

Appointments

- May 2018 - present: Distinguished Research Professor, Florida State University, Department of Chemistry and Biochemistry, Tallahassee, FL
- 08/2009- present: Professor, Florida State University, Department of Chemistry and Biochemistry, Tallahassee, FL
- 09/1997 – 08/2009: Senior Research Scientist, Naval Research Laboratory, Washington, DC
- 07/1995 – 08/1997: Visiting Scientist, Mass. Inst. of Tech., Center for Material Science, Cambridge, MA
- 10/1994 – 06/1995: Assistant Professor, University of Tunis, Tunisia
- 06/1992 – 09/1994: Assistant Scientist, Department of Physics, University of Florida, Gainesville, FL
- 01/1989 – 06/1992: Postdoctoral Research Associate, Chemistry Department, Carnegie Mellon University, Pittsburgh, PA
- 11/1987 – 12/1988: Postdoctoral Research Associate, Polymer Science Department, University of Massachusetts Amherst, MA
- 1984 – 1987: Research associate, Condensed Matter Physics Laboratory, College de France, Paris, France

Honors and Fellowships

- Graduate Faculty Mentor Award, Florida State University 2022
- Fellow of the Materials Research Society (MRS), Class of 2020
- The Nanqiang Memorial Academic Lecture of Xiamen University, Xiamen, China 2019
- Distinguished Research Professor Award, Florida State University 2018
- Fellow of the Royal Society of Chemistry (FRSC, UK), Class of 2015

- Fellow of the American Physical Society, Class of 2014
- Fellow of the American Chemical Society, Class of 2011
- 2008 Thomas Edison Sigma Xi Basic Science Award
- 2008 Top Navy Engineer of the Year Award
- Technology Transfer Award, Department of the Navy, 2006
- Gambrinus Guest Professor Fellowship, University of Dortmund, Germany, Summer 2006
- Visiting Professor, Universitat Autonoma de Barcelona, Department of Physics, Barcelona, Spain; Summer 2005
- Navy Special Act Award 01/2003

Awards Won by Students and Postdoctoral Associates

- Best Poster Award (Sisi Wang, Graduate Student) at Fall 2020 MRS Meeting, Boston, MA
- Ocean Insights Young Investigator Award (Zhicheng Jin, graduate student), SPIE West 2020 meeting, San Francisco, CA
- Ocean Optics Young Investigator Award (Anshika Kapur, graduate student), SPIE West 2018 meeting, San Francisco, CA
- Ocean Optics Young Investigator Award (Wentao Wang, graduate student), SPIE West 2016 meeting, San Francisco, CA
- Best Poster Award (Naiqian Zhan, graduate student) 245th ACS National Meeting, New Orleans, LA, Spring 2013
- Best Publication Award by a National Research Council (NRC) postdoctoral fellow 2005 (H.T. Uyeda under PI supervision)
- Best Publication Award by a National Research Council (NRC) postdoctoral fellow 2010 (M.H. Stewart under PI supervision)

Service and Synergistic Activities (Partial Listing)

- Associate Editor, Physical Chemistry Chemical Physics (PCCP, RSC journal), June 2013 – June 2018
- Advisory Board of Materials Horizon (RSC journal), 2013-present
- Advisory Board of Physical Chemistry Chemical Physics (PCCP), 2013-present
- Served on several NIH, NSF and ONR review panels, and reviewed several (mail in) individual proposals
- Organizer of a symposium at the 257th ACS National Meeting, Orlando, FL, March 31 – April 4, 2019. Symposium title: "Understanding the Inorganic-organic Interface in Colloidal Nanomaterials"
- Organizer of a symposium at the ICMAT-2019 meeting, Singapore, June 23-28, 2019. Symposium title: "Colloidal Nanoparticle-Based Probes and Sensors"
- Organizing committee member of numerous SPIE symposia on "Colloidal Nanoparticles for Biomedical Applications," 2001, 2002, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
- Organizer of symposium at the 252nd American Chemical Society National Meeting, Philadelphia, PA, August 21-25, 2016. Symposium title: "Composite Colloids for SERS Biodetection"
- Organizer of the NanoFlorida 2015 meeting, Tallahassee, FL May 12-15, 2015

- Organizer of a symposium (4 days) at the Materials Research Society (MRS) fall 2011 meeting entitled: **"**Functional Semiconductor Nanocrystals and Metal-Hybrid Structures"
- Member of the organizing committee; the international conference "Nanoscience with Nanocrystals (NaNaX4)" Munich/Tutzing, Germany, April 11 - 15, 2010
- Organizer of the symposium entitled: "Fluorescent Probes in Biophysics and Chemistry," 239th National Meeting, San Francisco, CA, March 21-25, 2010
- Organizer of a symposium (four days) at the Materials Research Society (MRS) fall 2009 meeting entitled: **"**Biological Imaging and Sensing Using Nanoparticle Assemblies," ~120 participants
- Organizer of a tutorial at the Materials Research Society Fall 2009 meeting entitled: "Interfacing Inorganic Nanoparticles with Biology: Synthesis, Coupling Chemistry, Sensor Design and Imaging."
- Organizer of a symposium (three days) at the Materials Research Society (MRS) fall 2007 meeting entitled: **"**Quantum-Dot and Nanoparticle Bioconjugates-Tools for Sensing and Biomedical Imaging," ~110 participants
- Organizer (and speaker) of a tutorial at the Materials Research Society Fall 2007 meeting entitled: "Interfacing Quantum Dots, Metallic and Magnetic Nanoparticles with Biology," together with Jinwoo Cheon (Yonsei Univ., Korea) and Vincent Rotello (U. Mass., Amherst); ~100 attendees
- Organizer of a symposium (four and half days) at the Materials Research Society (MRS) fall 2005 meeting entitled: **"**Quantum Confined Semiconductor Nanostructures: Fabrication, Physical Properties, and Applications," ~250 participants/attendees
- Organizer of a one-day tutorial at the Materials Research Society (MRS) fall 2005 meeting entitled: "Quantum Confined Semiconductor Nanostructures, Fabrication, Characterization, and Spectroscopic Properties," ~ 80 attendees
- Organizer of a symposium (four and half days) at the Materials Research Society (MRS) fall 2003 meeting entitled: "Quantum Dots, Nanoparticles, and Nanowires;" ~300 participants/attendees.
- Organizer of a tutorial at the Materials Research Society (MRS) fall 2003 meeting entitled: "Luminescent QD-bioconjugates: Novel and Promising Tools for Biological Tagging Applications;" ~90 attendees
- Served on the organizing committee of the OSA National Meetings 2006 and 2008

Professional Affiliations:

American Chemical Society (ACS)
American Physical Society (APS)
The Royal Society of Chemistry (RSC)
Materials Research Society (MRS)
Society of Photo-Optical Instrumentation Engineers (SPIE)
Optical Society of America (OSA)

Teaching:

Courses Taught at the Florida State University, Course No., Course Title - Terms

- CHM 1045- General Chemistry I - Fall 2022
- CHM 1051- Honors General Chemistry II - Spring 2016
- CHM 4410 – Physical Chemistry I (*thermodynamics & kinetics*) – Fall 2012, 2013, 2014, 2015, 2017, 2018 and 2019

- CHM 4411 – Physical Chemistry II (*quantum & stat. mechanics*) – Spring 2011, 2012, 2013, 2014, 2019, 2021, 2022
- CHM 5718 - Special Topics in Materials Chemistry: NanoBio Materials – Fall 2010, Fall 2011, Spring 2015
- CHM 5908 - Focus on Physical Chemistry, Fall 2016
- CHM 5718 - Topics in Materials Chemistry II, Spring 2017
- CHM 5585 - Experimental Methods in Physical Chemistry, Spring 2018
- CHM 5908 - Focus on Physical Chemistry, Spring 2020
- CHM 5480 - Quantum Mechanics, Graduate level – Fall 2020
- CHM 5718 - Special Topics in Materials Chemistry: Nano-Materials, Fall 2021

Undergraduate Research Students Supervised at FSU: *> 16*

Postdoctoral Associates and Visiting scientists Supervised at FSU, Time Period and Current Position

- Hyon Bin Na, Postdoctoral Associate (December 2009 – March 2012), now Assistant Professor at Myongji University, Department of Chemical Engineering, Seoul, Korea.
- Goutam Palui, Postdoctoral and Research Associate (December 2009 – October 2017), now Research Scientist at the National Center for Toxicological Research, U.S. Food and Drug Administration, AK.
- Suraj Dixit (Postdoctoral Associate, December 2009 – August 2011), Research Associate at Center for Biomedical Imaging, Medical University of South Carolina, Charleston, SC.
- Fadi Aldeek, Postdoctoral Associate (November 2011 – April 2014), now Senior Scientist at the Florida Department of Agriculture and Consumer Services, Tallahassee, FL.
- M. A. Habeeb Muhammed, Postdoctoral Associate (January 2011 – August 2012), now Research Associate at King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia.
- Malak Safi, Postdoctoral Associate (February 2012 – December 2013), now a Postdoctoral Associate at Université Paris-Sud, Orsay, France.
- Dr. Birong Zeng, Visiting Professor Xiamen University, Xiamen, China (September, 2013 – September, 2014); now professor at Xiamen University.
- Tommaso Avellini, visiting graduate student from Univ. of Bologna, Italy (March 2010 – October 2010), now Postdoctoral Associate at the Istituto Italiano di Tecnologia, Genoa, Italy.
- Laura Trapiella-Alfonso, visiting graduate student from Univ. of Oviedo, Spain (September 2010 – January 2011), now Postdoctoral Associate, Rene Descartes University, Paris, France.
- Jan-Philip Merkl, Fulbright visiting graduate student from Univ. of Hamburg, Germany (September, 2013 – June, 2014), now Research Scientist at BASF Construction Solutions GmbH, Dr.-Albert-Frank-Straße 32, 83308 Trostberg, Germany.
- Caio Guilherme Secco de Souza, visiting graduate student from University of Sao Paulo (June 2014 – December 2014), now Postdoctoral associate at University of Sao Carlos.
- Yuya Sugiyama, Asahi KASEI Corporation, Shizuoka, Japan (August 2016 – present)

Dissertations and Theses (committee member) 2010-present

- Zachary VanOrman (PI: L. Nienhaus), *defended/graduated August 2022*

- Mo Yang (PI: J. Schlenoff), *defended/graduated November 2021*
- Pamela Knoll (PI: O. Steinbock), *defended/graduated March 2021*
- Tianhan Liu (PI: Peng Xiong, Physics), served as a *University Representative, defended/graduated February 2021*
- Weijia Leng (PI: M. Roper), *defended/graduated July 2020*
- Quingpu Wang (PI: O. Steinbock), *defended/graduated March 2020*
- Behtash Ahakeri (PI: J. Schlenoff), *MS 2016*
- Jose David Delgado-Saldarriaga (PI: J. Schlenoff), *defended/graduated April 2018*
- Ron Ramsubhag (PI: G. Dudley), *defended/graduated July 2017*
- Christopher Escobar, served as a *University Representative* (PI: T. Cross), *defended May 2017*
- Chi-han Huang (PI: W. Yang), *MS, defended/graduated September 2016*
- Elias Nakouzi (PI: O. Steinbock), *Ph.D., defended/graduated November 2016*
- Paratchata Batsomboon (PI: G. Dudley), *Ph.D., defended/graduated* November 2016
- Shaoxiong Tian (PI: H. Li), *Ph.D., defended/graduated June 2016*
- Kristopher Kelly (PI: J. Schlenoff), *Ph.D., defended/graduated* May 2016
- Lenzi Williams (PI: K. Knappenberger), *Ph.D., defended/graduated April 2016.*
- Carlos Arias Ramos, (PI: J. Schlenoff), *Ph.D., defended/graduated* March 2016
- Joon-Il Kim, (PI: X. Peng, Physics Department at FSU), served as a *University Representative Ph.D., defended/graduated* March 2016
- Xiaoyan Tan (*PI: M. Shatruk), Ph.D., defended/graduated February 2016*
- Stefan Bresch (PI: I. Alabugin), *Ph.D., defended/graduated* November 2015
- Chongyue Yi (PI: K. Knappenberger), *Ph.D., defended/graduated April 2015.*
- Flynt Goodson (PI: S. Saha), *Ph.D., defended/graduated* June 2014
- Marie Z. Markarian (PI: J. Schlenoff), *Ph.D., defended/graduated* June 2011

External Committee Member

- Kais Gharbi (Universite de Toulouse, France, PI: Diana Ciuculescu), Ph.D. defended on December 15, 2017. Assembled and summarized an evaluation report for the dissertation.
- Alexandre Mouquin (Universite de Montreal, Montreal Canada, PIs: F. Winnik and D. Maysinger), *Ph.D., defended/graduated* May 2014. Assembled and summarized an evaluation report for the Ph.D. dissertation
- Elena Muro (U. Pierre and Marie Curie, Paris; PI: B. Dubertret), *Ph.D., defended/Graduated* May 2011. Assembled and summarized an evaluation report for the Ph.D. dissertation

Publications (Hedi Mattoussi)

Overall ~ 250 publications, including 173 published, or in press, refereed articles, 12 invited book chapters, Co-editor of two book volumes, 70 proceedings, and 17 US issued patents.
Citations as of September 15, 2022: Google Scholar sources (over 46,900 citations, H index 85): https://scholar.google.com/citations?user=1E-vbl4AAAAJ&hl=en

Refereed Journals:

1. S.E. Donmez, S. Wang, X. Lin, and H. **Mattoussi**, "Photocatalytic Degradation of Alkyl Halide Molecules Promoted by $CsPbBr_3$ Perovskite Quantum Dots," *J. Phys. Chem. C.* **2022**, Under revision

2. Z. Jin, N. Dridi, G. Palui, V. Palomo, J.V. Jokerst, P.E. Dawson, Q-X. Amy Sang, and **H. Mattoussi**, "Quantum Dot-Peptide Conjugates as Energy Transfer Probe for Sensing the Proteolytic Activity of Matrix Metalloproteinase-14," *Anal. Chem.* **2022**, under revision

3. Z. Jin, N. Dridi, G. Palui, V. Palomo, J.V. Jokerst, P.E. Dawson, Q-X. Amy Sang, and **H. Mattoussi**, "Evaluating the Catalytic Efficiency of the Human Membrane-Type 1 Matrix Metalloproteinase (MMP-14) Using AuNP−Peptide Conjugates," *J. Am. Chem. Soc.* **2022**, under revision.

4. S. Wang, W. Wang, S.E. Donmez, Y. Xin, **H. Mattoussi**, "Engineering Highly Fluorescent and Colloidally Stable Blue-Emitting $CsPbBr_3$ Nanoplatelets Using Polysalt/$PbBr_2$ Ligands," *Chem. Mater.* **2022**, 34, 4924−4936. https://doi.org/10.1021/acs.chemmater.2c00082

5. J. Gong, M. Adnani, B.T. Jones, Y. Xin, S. Wang, S.V. Patel, E. Lochner, **H. Mattoussi**, Y-Y Hu, H. Gao, "Nanoscale Encapsulation of Hybrid Perovskites Using Hybrid Atomic Layer Deposition," *J. Phys. Chem. Lett.* **2022**, 13, 18, 4082–4089. https://doi.org/10.1021/acs.jpclett.2c00862

6. L. Du, S. Helsper, N. Arabzadeh Nosratabad, W. Wang, D.A. Fadool, C. Amiens, S. Grant and **H. Mattoussi**, "A Multifunctional Contrast Agent for 19F Magnetic Resonance Imaging," *Bioconjugate Chem.* **2022**, 33, 881−891. https://doi.org/10.1021/acs.bioconjchem.2c00116

7. S. Wang, L. Du, S. Donmez, Y. Xin and **H. Mattoussi**, "Polysalt Ligands Achieve Higher Quantum Yield and Improved Colloidal Stability for CsPbBr3 Quantum Dots," *Nanoscale* **2021**, 13, 16705–16718. DOI: 10.1039/D1NR04753A

8. L. Du, N. Arabzadeh Nosratabad, Z. Jin, C. Zhang, S. Wang and **H. Mattoussi**, "N-Heterocyclic Carbene Based Multicoordinating Ligands for Stabilizing Semiconductor Nanocrystals," *J. Am. Chem. Soc.* **2021**, 143, 1873−1884. DOI: 10.1021/jacs.0c10592

9. N. Arabzadeh Nosratabad, Z. Jin, L. Du, M. Thakur, Y. Xin, and **H. Mattoussi**, "Gold Nanoparticles Surface-Stabilized with N-Heterocyclic Carbene Coating: Mono versus Multidentate Ligands," *Chem. Mater.* **2021**, 33, 921−933. DOI: 10.1021/acs.chemmater.0c03918

10. A. B. Schwartz, A. Kapur, Z. Huang, R. Anangi, J. M. Spear, S. Stagg, E. Fardone, Z. Dekan, J. Rosenberg, S. Grant, G. F. King, **H. Mattoussi**, and D. A. Fadool, "Olfactory Bulb Targeted QD bioconjugate and Kv1.3 Blocking Peptide Improve Metabolic Health in Obese Male Mice," *J. Neurochem.* **2021**; 157, 1876–1896. DOI: 10.1111/jnc.15200

11. Z. Jin, Y. Sugiyama, C. Zhang, G. Palui, Y. Xin, L. Du, S. Wang, N. Dridi, and **H. Mattoussi**, "Rapid Photoligation of Gold Nanocolloids with Lipoic Acid-Based Ligands," *Chem. Mater.* **2020**, 32, 7469−7483. https://pubs.acs.org/doi/pdf/10.1021/acs.chemmater.0c00674

12. S. Wang, L. Du, Z. Jin, Y. Xin, and **H. Mattoussi**, "Enhanced Stabilization and Easy Phase Transfer of CsPbBr3 Perovskite Quantum Dots Promoted by High Affinity Polyzwitterionic Ligands," *J. Am. Chem. Soc.* **2020**, 142, 12669−12680. https://pubs.acs.org/doi/10.1021/jacs.0c03682

13. W. Wang and H. Mattoussi, "Engineering the Bio-Nano Interface Using a Multifunctional Coordinating Polymer Coating," *Acc. Chem. Res.* **2020**, 53, 1124−1138. https://dx.doi.org/10.1021/acs.accounts.9b00641

14. C. Zhang, Z Jin, B. Zeng, W. Wang, G. Palui, and **H. Mattoussi**, "Characterizing the Brownian Diffusion of Nanocolloids and Molecular Solutions: Diffusion Ordered NMR Spectroscopy versus Dynamic Light Scattering," *J. Phys. Chem.* **B 2020**, 124, 22, 4631–4650. https://doi.org/10.1021/acs.jpcb.0c02177

15. W. Wang, E. A. van Niekerk, Y. Zhang, L. Du, X. Ji, S. Wang, J.D. Baker, K. Groeniger, F.M. Raymo and **H. Mattoussi**, "Compact, "Clickable" Quantum Dots Photoligated with Multifunctional Zwitterionic Polymers for Immunofluorescence and In-Vivo Imaging," *Bioconjugate Chem.* **2020**, 31, 1497−1509. https://doi.org/10.1021/acs.bioconjchem.0c00169

16. C. Xia, W. Wang, L. Du, F.T. Rabouw, D.J. van den Heuvel, H.C. Gerritsen, **H. Mattoussi**, and C. de Mello Donega, "Förster Resonance Energy Transfer between Colloidal CuInS2/ZnS Quantum Dots and Dark Quenchers," *J. Phys. Chem. C* **2020,** 124, 1717-1731. DOI: 10.1021/acs.jpcc.9b10536

17. J-P. Merkl, M. Safi, C. Schmidtke, F. Aldeek, J. Ostermann, T. Domitrovic, S. Gärtner, J.E. Johnson, H. Weller, and **H. Mattoussi**, "Small protein sequences can induce cellular uptake of complex nanohybrids," *Beilstein J. Nanotechnol.* **2019,** *10,* 2477–2482. DOI: 10.3762/bjnano.10.238

18. Z. Jin, A. Kapur, W. Wang, J. Diaz Hernandez, M. Thakur, and **H. Mattoussi**, "The Dual Function of Lipoic Acid Groups as Surface Anchors and Reactive Sites for Implementing Maleimide Coupling Chemistry," *J. Chem. Phys.* **2019**, 151, 64703-1– 64703-9; DOI: 10.1063/1.5126432

19. D. Mishra, S. Wang, Z. Jin, Yan Xin E. Lochner, **H. Mattoussi**, "Highly Fluorescent Hybrid Au/Ag Nanoclusters Stabilized with Poly(ethylene glycol)- and Zwitterion-Modified Thiolate Ligands," *Phys. Chem. Chem. Phys. (PCCP)* **2019,** 21, 21317-21328. DOI: 10.1039/c9cp03723c

20. W. Perng, G. Palui, W. Wang and **H. Mattoussi**, "Elucidating the Role of Surface Coating in the Promotion or Prevention of Protein Corona around Quantum Dots," *Bioconjugate Chem.* **2019**, 30, 2469−2480. DOI: 10.1021/acs.bioconjchem.9b00549

21. M. Yang, P. Moroz, Z. Jin, D.S. Budkina, N. Sundrani, D. Porotnikov, J. Cassidy, Y. Sugiyama, A.N. Tarnovsky, **H. Mattoussi**, M. Zamkov, "Delayed Photoluminescence in Metal-Conjugated Fluorophores." *J. Am. Chem. Soc.* **2019**, 141, 11286-11297. DOI: 10.1021/jacs.9b04697

22. Z. Jin, L. Du, C. Zhang, Y. Sugiyama, W. Wang, G. Palui, S. Wang and **H. Mattoussi**, "Modification of Poly(Maleic Anhydride)-Based Polymers with H_2N–R Nucleophiles: Addition or Substitution Reaction?," *Bioconjugate Chem.* **2019**, 30, 871−880. DOI:10.1021/acs.bioconjchem.9b00008

23. A. Kapur, S. Medina, W. Wang, G. Palui, X. Ji, J.P. Schneider, and **H. Mattoussi** "Enhanced Intracellular Delivery of Luminescent Quantum Dots Mediated by a Membrane-Active Peptide," *ACS Omega* **2018**, 3, 17164−17172. DOI: 10.1021/acsomega.8b02918

24. L. Du, W. Wang, C. Zhang, Z. Jin, G. Palui, and **H. Mattoussi**, "A Versatile Coordinating Ligand for Coating Semiconductor, Metal and Metal-Oxide Nanocrystals," *Chem. Mater.* **2018**, 30, 7269–7279. DOI: 10.1021/acs.chemmater.8b03527

25. A. Kapur, S. Medina, W. Wang, G. Palui, J. P. Schneider and **H. Mattoussi**, "Intracellular Delivery of Gold Nanocolloids Promoted by a Chemically Conjugated Anticancer Peptide," *ACS Omega* **2018**, 3, 12754–12762. DOI: 10.1021/acsomega.8b02276

26. V. Palomo, P.A. Cistrone, N. Zhan, G. Pauli, **H. Mattoussi**, P.E. Dawson, "Efficient Assembly of Quantum Dots with Homogenous Glycans Derived from Natural *N*-linked Glycoproteins," Bioconjugate Chem. **2018**, 29, 3144−3153. DOI: 10.1021/acs.bioconjchem.8b00477

27. P. Moroz, Z. Jin, Y. Sugiyama, D-A. Lara, D. Khon, **H. Mattoussi** and M. Zamkov, "Competition of Charge and Energy Transfer Processes in Donor−Acceptor Fluorescence Pairs: Calibrating the Spectroscopic Ruler," *ACS Nano* **2018**, 12, 5657−5665. DOI: 10.1021/acsnano.8b01451

28. C. Zhang, G. Palui, B. Zeng, N. Zhan, B. Chen and **H. Mattoussi**, "Non-invasive Characterization of the Organic Coating of Biocompatible Quantum Dots using NMR Spectroscopy," *Chem. Mater.* **2018**, 30, 3454−3466. DOI: 10.1021/acs.chemmater.8b01033

29. D. Mishra, V. Lobodin, C. Zhang, F. Aldeek, **H. Mattoussi**, "Gold-doped Silver Nanoclusters with Enhanced Photophysical Properties," *Phys. Chem. Chem. Phys. (PCCP)* **2018**, 20, 12992−13007. DOI: 10.1039/c7cp08682b

30. G. Yang, W. Wang, B. Chen, **H. Mattoussi**, D.T. Hallinan Jr., "Scaling Laws for Polymer Chains Grafted onto Nanoparticles," *Macromol. Chem. Phys.* **2018**, 1700417 (1-9). DOI: 10.1002/macp.200700417

31. D. Mishra, S. Wang, S. Michel, G. Palui, N. Zhan, W. Perng, Z. Jin, and **H. Mattoussi**, "Photochemical Transformation of Lipoic acid-based Ligands: Probing the Effects of Solvent, Ligand Structure, Oxygen and pH," *Phys. Chem. Chem. Phys.* **2018**, 20, 3895-3902. DOI: 10.1039/C7CP06350D

32. B. Zeng G. Palui, N. Zhan, C. Zhang, W. Wang, X. Ji, B. Chen, and **H. Mattoussi**, "Characterization of the Ligand Capping of Hydrophobic CdSe-ZnS Quantum Dots using NMR Spectroscopy," *Chem. Mater.* **2018**, 30, 225−238. DOI: 10.1021/acs.chemmater.7b04204

33. W. Wang, X. Ji, L. Du, **H. Mattoussi**, "Enhanced Colloidal Stability of Various Gold Nanostructures Using a Multi-coordinating Polymer Coating," *J. Phys. Chem. C* **2017**, 121, 22901−22913. DOI: 10.1021/acs.jpcc.7b07732

34. M. Shi, K.L. de Mesy-Bentley, G. Palui, **H. Mattoussi**, A. Elder, H. Yang, "The roles of surface chemistry, dissolution rate, and delivered dose in the cytotoxicity of copper nanoparticles," *Nanoscale* **2017**, 9, 4739–4750. DOI: 10.1039/C6NR09102D

35. A. Kapur, F. Aldeek, X. Ji, M. Safi, W. Wang, A. Del Cid, O. Steinbock and **H. Mattoussi**, "Self-assembled Gold Nanoparticle-Fluorescent Protein Conjugates as Platforms for Sensing Thiol Compounds via Modulation of Energy Transfer Quenching," *Bioconjugate Chem.* **2017**, 28, 678–687. DOI: 10.1021/acs.bioconjchem.7b00006

36. M. Safi, T. Domitrovic, N. Zhan, A. Kapur, F. Aldeek, J.E. Johnson, and **H. Mattoussi**, "Intracellular Delivery of Luminescent Quantum Dots Mediated by a Virus-Derived Lytic Peptide," *Bioconjugate Chem.* **2017**, 28, 64−74. DOI: 10.1021/acs.bioconjchem.6b00609

37. A.B. Schwartz, A. Kapur, W. Wang, Z. Huang, E. Fardone, G. Palui, **H. Mattoussi**, D.A. Fadool, "Margatoxin-bound quantum dots as a novel inhibitor of the voltage-gated ion channel Kv1.3," *J. Neurochemistry* **2017**, 140, 404−420. DOI: 10.1111/jnc.13891

38. J-P. Merkl, C. Schmidtke, F. Aldeek, M. Safi, A. Feld, H. Kloust, **H. Mattoussi**, H. Lange and H. Weller, "Functional-Group-Dependent Formation of Bioactive Fluorescent-Plasmonic Nanohybrids," *J. Phys. Chem. C* **2016**, *120*, 25732–25741. DOI: 10.1021/acs.jpcc.6b05204

39. W. Wang, X. Ji, H. Burns and **H. Mattoussi**, "A Multi-coordinating Polymer Ligand Optimized for the Functionalization of Metallic Nanocrystals and Nanorods," *Faraday Discuss.* **2016**, 191, 481−494. DOI: 10.1039/C6FD00056

40. A. Striolo, J. Kim, L. Liz-Marzan, L. Tadiello, M. Pauly, C. Murphy, A. Roig, D. Gracias, Y. Xia, J. Reguera, A. Mueller, K. Critchley, M. Brust, L. Scarabelli, M. Mayer, M. Thiele, M. Buzza, A. Deak, A.M. Bago Rodriguez, C. Kuttner, H. Wolf, E. Kay, A. Stocco, D. Portehault, **H. Mattoussi**, K. Heatley, E. Kumacheva, G. Gonzalez, C. Hanske, W. Tong, M. Nawaz Tahir, B. Abecassis, S. Granick, E. Duguet and A. Synytska, and K. Velikov "Janus and patchy nanoparticles: general discussion," *Faraday Discuss.* **2016**, 191, 117−139. DOI: 10.1039/C6FD90048H

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