Ludovico Cademartiri

One Page Summary

Associate Professor
Department of Chemistry, Life Sciences, and Environmental Sustainability
University of Parma
Parco Area delle Scienze, 11/a, 43124 Parma, Italy
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Expertise	Experimental Materials Chemistry and Physical Chemistry
History	University of Parma, Italy *(Laurea, Mater. Science)* – advisor: *G. Calestani* ***i)*** *Evaporation-induced self-assembly of colloids to form photonic crystals.* University of Toronto, Canada *(PhD, Chemistry)* – advisor: *G. A. Ozin* ***i)*** *Synthesis and characterization of colloidal nanostructures.* ***ii)*** *Experimental studies of polymer-like behaviour in inorganic nanowires.* ***iii)*** *Synthesis and characterization of C60-based self-assembled mesoporous materials.* ***iv)*** *Photonic quasicrystals design and fabrication.* ***v)*** *Experimental tuning of luminescence lifetime of quantum dots by photonic bandgaps.* ***vi)*** *Plasma processing of nanocrystal solids.* Harvard University, USA *(PostDoc)* – advisor: *G. M. Whitesides* ***i)*** *Electric and acoustic control of flames.* ***ii)*** *Large scale molecular junctions.* Iowa State University, USA *(Asst Prof., Materials Science & Engineering)* ***i)*** *Materials by design.* ***ii)*** *Organisms in engineered environments.* University of Parma, Italy *(Assoc. Prof., Chemistry)* ***i)*** *Materials by design.* ***ii)*** *Organisms in engineered environments.*
Highlights	▫ Discovery of polymer-like conformation and growth kinetic in crystals ▫ Development of physical network models of ecosystems for the study of collective behaviors in communities of organisms
Selected Awards	▫ Arnold & Mabel Beckman Young Investigator Award (AAU Award) ▫ Plant Science Institute Faculty Fellow ▫ Franco Strazzabosco Award for Young Engineers ▫ TIME's Magazine Top50 Inventions of 2011 ▫ Research featured on CNN Live, Fox, MSNBC, Nature News ▫ Materials Research Society Graduate Student Award (2005 *and* 2006) ▫ American Chemical Society Young Investigator Award ▫ Governor General Gold Medal ▫ IUPAC Prize for Young Chemists (*Honorable Mention*) ▫ Canadian Society of Chemistry Doctoral Award ▫ Canadian Society of Chemistry Prize for Grad. Work in Inorg. Chemistry
Publications	**58** *(17 first author, 34 corresp. author, aver. IF = 12.6, covers = 7, H-index (Scholar) = 29, cites (Scholar) = ~4300, cites/paper = 75)*
Textbooks	**2** *(published by Wiley-VCH and RSC, with forewords by Jean-Marie Lehn and Chad A. Mirkin)*
Funding Raised	**8.60 M$ (2.9M$ for my lab)**

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Curriculum Vitae

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Education

Laurea Magistrale *(cum laude)*, Materials Science — Nov 2002
University of Parma, Parma, Italy
Thesis: *"Fabrication and Characterization of Thin Films of Photonic Crystals Obtained by Self-Assembly of Monodisperse Colloids"*

Ph.D., Interdisciplinary Chemistry — Jun 2008
University of Toronto, Toronto, Canada
Thesis: *"Colloidal Nanostructures: a Curiosity-Driven Investigation"*

Positions

Research Assistant, University of Parma — Sep 2001 – Nov 2002
Advisor: Gianluca Calestani

- *Colloid Self-assembly*
  Development of a new technique for the deposition of ordered arrays of colloids based on the agitation of the meniscus. The previously held assumption was that the dispersion had to be stationary for assembly to occur.

Research Assistant, University of Toronto — Aug 2003 – May 2008
Advisor: Geoffrey A. Ozin

- *Nanocomposites*
  Development of Nanocrystal "Plasma Polymerization" (NPP), a process for turning colloidal nanocrystal arrays into flexible solid-state materials of arbitrary shape and architecture with no loss of the size-dependent properties of the building blocks.
- *Nanocrystal Synthesis*
  Development of a general strategy for the synthesis of colloidal nanocrystals which is scalable to gram quantities, green(er), and yields materials of high monodispersity and novel shapes and functions. Synthesized NIR-emitting quantum dots with the narrowest emission linewidth (52meV) reported to date.
- *Quantum dots optical properties*
  Establishment of the size dependence of the extinction coefficient in strongly quantum confined quantum dots.
- *Mesoporous Materials*
  Production of the first C60-based mesoporous material.
- *Photonic Crystals*
  Conception and development of the first three-dimensional photonic

quasicrystal for optical wavelengths.
Report of the first example of dynamic tuning of photoluminescence lifetime due to a photonic bandgap.

- *Teaching*
  Coauthorship of two internationally distributed textbooks on the topic of nanochemistry: one for graduate and one for undergraduate teaching.

Postdoctoral Fellow, University of Toronto Jun 2008 – Aug 2008
Advisor: Geoffrey A. Ozin

- *Nanowires and Polymers*
  Discovery that ultrathin inorganic nanowires can grow by a mechanism closely resembling step-growth polymerization.
  Discovery that ultrathin nanowires can display a conformation in solution closely resembling the one of polymers.

Postdoctoral Fellow, Harvard University Oct 2008 – Dec 2011
Advisor: George M. Whitesides

- *Combustion and Flames.*
  Discovery of interactions of flames with oscillating electric fields (flame suppression, inhibition of ignition and propagation, focusing of heat transfer).
  Development of an understanding of the main mechanisms involved in the complex interaction of flames with oscillating electric fields.
- *Electrical Arcs*
  Co-discovery of random walk-like diffusion of intermittent electrical arcs.
  Discovery of a strategy for the mechanical manipulation of electrical arcs.
- *Large Area Molecular Junctions*
  Study of the surface of liquid Ga-In electrodes used in molecular junctions of self-assembled monolayers.
- *Nanofabrication*
  Microtome-based nanofabrication (nanoskiving) of nanocrystal architectures.
  Drill-based microfabrication.

Assistant Professor, Iowa State University Jan 2012 – Feb 2020
Department of Materials Science & Engineering

- *Environments by Design*
  Understanding plant development and chemical communication in the soil ecosphere through the design of engineered environments.
- *Materials by Design*
  Using plasma/nanocrystals reactions to create bulk nanostructure materials.
- *"Morphological" Properties of Materials*
  Introducing the unique properties of flexible and foldable shapes in the realm of nanomaterials.

Visiting Fellow, University of Bristol, UK May 2012 – May 2012
Department of Aerospace Engineering

- *Materials by Design*
  Using plasmas on nanocrystal superlattices to create nanostructured thin films

Asst. Prof. (courtesy), Iowa State University Aug 2012 – Feb 2020

Department of Chemical and Biological Engineering

Associate Scientist Nov 2012 – Feb 2020
Ames Laboratory, Department of Energy

Associate Professor, University of Parma March 2020 – present
Department of Materials Science & Engineering

- *Environments by Design*
  Understanding plant development and chemical communication in the soil ecosphere through the design of engineered environments.
- *Materials by Design*
  Using plasma/nanocrystals reactions to create bulk nanostructure materials.
- *Nucleation & Growth*
  Explore the similarities of the growth kinetics of crystals and polymers.

Selected Awards

PSI Faculty Scholar Award	2015
Arnold & Mabel Beckman Young Investigator Award	2014
Franco Strazzabosco Award for Young Engineers	2014
TIME's Magazine Top50 Inventions of 2011	2011
Natural Sciences and Engineering Research Council of Canada Postdoctoral Fellowship	2009
IUPAC Prize for Young Chemists – Honorable Mention	2009
Canadian Society of Chemistry Doctoral Award	2009
Governor General's Gold Medal *"...granted to the grad student with highest academic standing at the University of Toronto..."*	2008
American Chemical Society DIC Young Investigator Award	2008
Canadian Society of Chemistry Prize for Graduate Work in Inorganic Chemistry	2008
Materials Research Society Graduate Student Award – Silver Medal	2006
Materials Research Society Graduate Student Award – Silver Medal	2005

Teaching

Course development, Nanochemistry, Kenyatta University	2010
POGIL (Process-Oriented Guided Inquiry Learning) workshop	2009
Research Supervisor (8 GRAs and URAs)	2004 – 2008
Teaching Asst., Undergraduate Solid State Chemistry	2006 – 2007
Teaching Asst., Undergraduate Physical Chemistry	2003 – 2005
Thermodynamics for Materials Engineering (MatE 311)	2012, 2014-19
Thermodynamics and Kinetics for Materials Science (MSE 520)	2013 – 2014

Profess. Service

Referee: *Nature, Nature Mater., Nature Nanotech., Nature Comm., Chem. Soc. Rev., Adv. Mater., J. Am. Chem. Soc., Angew. Chem., ACS Nano, Nano Today, Small, ACS Appl. Mater. Int., J. Phys. Chem., Langmuir, J. Roy. Soc. Interf., Nanoscale, Optics Comm., Sens. Act., Optics Lett., Phil. Trans. R. Soc. A, Polymer, Eur. J. Inorg. Chem., ChemPlusChem, J. Nanopart. Res., ChemSuSChem, Polymer Chem., ChemComm, J. Chem. Phys..*

Affiliations

Member, Society of Experimental Biology

Member, American Society of Agronomy
Member, Crop Science Society of America
Member, Soil Science of America
Member, Materials Research Society
Member, American Society of Gravitational and Space Research

Funding

750K$(750K$) - Beckman Young Investigator Award (2014-present)
450K$(450K$) - Intel Co. (2014-2017)
450K$(450K$) - Plant Science Institute Faculty Fellow Award, ISU (2015-present)
26K$(26K$) - Exploratory Research Grant, CoE, ISU (2016-2017)
270K$(150K$) - NSF/USDA EAGER (2016-present)
100K$(50K$) - Regent's Innovation Fund (2017-2018)
1200K$(187K$) - NSF ITEST - (2018-2020)
153K$(153K$) – PIONEER – (2018-2019)
1500K$(270K$) – NSF DRK12 – (2018-2020)
3700K$(400K$) – DoE – (2019-2021)

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Publication List

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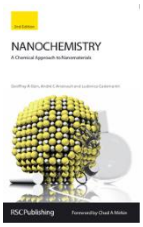
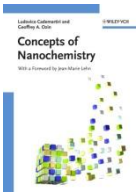
A. Textbooks



1. "Nanochemistry – a Chemical Approach to Nanomaterials" - II Edition
   G. A. Ozin, A. C. Arsenault, L. Cademartiri
   Royal Society of Chemistry, 2009, 820 pages
   Foreword by Prof. Chad A. Mirkin



2. "Concepts of Nanochemistry"
   L. Cademartiri and G. A. Ozin
   Wiley-VCH, 2009, 282 pages
   Foreword by Prof. Jean-Marie Lehn
   from the review by Prof. Nikolaus Korber on Angewandte Chemie 2010, 49, 3409 – 3411:
   "It can be emphatically recommended. Read it, or you will be missing something extraordinary."

B. Peer-Reviewed Publications in Scientific Journals

3. Flux-Assisted Self-Assembly of Monodisperse Colloids *(paper)*
   L. Cademartiri, A. Sutti, G. Calestani, P. Nozar, C. Dionigi, A. Migliori*
   Langmuir 2003, 19, 7944-7947

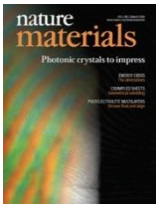
4. The Early Stages of the Self-Assembly Process of Polystyrene Beads for Photonic Application *(communication)*
   P. Nozar, C. Dionigi, A. Migliori, G. Calestani, L. Cademartiri*
   Synthetic Metals 2003, 139, 667-670

5. Nanocrystals as Precursors for Flexible Functional Films *(communication)*
   L. Cademartiri, G. von Freymann, A. C. Arsenault, J. Bertolotti, D. S. Wiersma, V. Kitaev, G. A. Ozin**
   Small 2005, 1 (12), 1184-1187

6. Multigram Scale, Solventless and Diffusion-Controlled Route to Highly Monodisperse PbS Nanocrystals *(communication)*
   *L. Cademartiri, J. Bertolotti, R. Sapienza, D. S. Wiersma, G. von Freymann, G. A. Ozin**
   Journal of Physical Chemistry B 2006, 110(2), 671-673

7. From Color Fingerprinting to the Control Of Photoluminescence in Elastic Photonic Crystals *(communication)*
   A. C. Arsenault, T. J. Clark, G. von Freymann, L. Cademartiri, R. Sapienza, J. Bertolotti, E. Vekris, S. Wong, V. Kitaev, I. Manners, R. Z. Wang, S. John, D. S.

*Wiersma, G. A. Ozin**
Nature Materials 2006, 5(3), 179-184



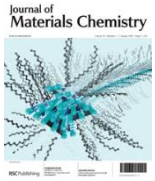
8. Shape-Controlled Bi_2S_3 Nanocrystals and their Plasma Polymerization into Flexible Films *(communication)*
*R. Malakooti, L. Cademartiri (co-first author), Y. Akçakir, S. Petrov, A. Migliori, G. A. Ozin**
Advanced Materials 2006, 18, 2189-2194

9. Size Dependent Extinction Coefficients of PbS Quantum Dots *(paper)*
*L. Cademartiri, E. Montanari, G. Calestani, A. Migliori, A. Guagliardi, G. A. Ozin**
Journal of the American Chemical Society 2006, 128, 10337-10346

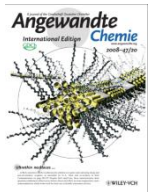
10. Three-Dimensional Silicon Inverse Photonic Quasicrystals for Infrared Wavelengths *(communication)*
A. Ledermann, L. Cademartiri, M. Hermatschweiler, C. Toninelli, G. A. Ozin, D. S. Wiersma, M. Wegener, and G. von Freymann*
Nature Materials 2006, 5, 942-945

11. Plasma within Templates: Molding Flexible Nanocrystal Solids into Multifunctional Architectures *(communication)*
*A. Ghadimi, L. Cademartiri, U. Kamp, G. A. Ozin**
Nano Letters 2007, 7(12), 3864-3868

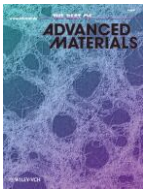
12. C60-PMO: Periodic Mesoporous Buckyballsilica *(paper)*
*W. Whitnall, L. Cademartiri, G. A. Ozin**
Journal of the American Chemical Society 2007, 129(50), 15644-15649



13. Ultrathin Sb_2S_3 Nanowires and Nanoplatelets *(communication)*
*R. Malakooti, L. Cademartiri (co-first author), A. Migliori, G. A. Ozin**
Journal of Materials Chemistry 2008, 18, 66 – 69



14. Large Scale Synthesis of Ultrathin Bi_2S_3 Necklace Nanowires *(communication)*
*L. Cademartiri, R. Malakooti, P. G. O'Brien, A. Migliori, S. Petrov, N. P. Kherani, G. A. Ozin**
Angewandte Chemie International Edition 2008, 20, 3814-3817



15. Nanocrystal Plasma Polymerization – From Colloidal Nanocrystals to Inorganic Architectures *(invited review)*
*L. Cademartiri, A. Ghadimi, G. A. Ozin**
Accounts of Chemical Research 2008, 41, 1820-1830

16. Ultrathin Nanowires: A Materials Chemistry Perspective (review)
*L. Cademartiri and G. A. Ozin**
Advanced Materials 2009, 21(9), 1013-1020

17. Crosslinking Bi_2S_3 Ultrathin Nanowires: A Platform for Nanostructure Formation and Biomolecule Detection *(communication)*
*L. Cademartiri, F. Scotognella, P. G. O'Brien, B. V. Lotsch, J. Thomson, N. P. Kherani, G. A. Ozin**
Nano Letters 2009, 9(4), 1482-1486

18. Nanochemistry: What's Next? *(essay)*
G. A. Ozin and L. Cademartiri**
Small 2009, 5(11), 1240-1244

19. Nanofabrication by Self-Assembly *(invited review)*
G. A. Ozin, K. Hou, B. V. Lotsch, L. Cademartiri, D. P. Puzzo, F. Scotognella, A. Ghadimi, J. Thomson*
Materials Today 2009, 12(5), 12-23

20. Emerging Strategies for the Synthesis of Highly Monodisperse Colloidal Nanostructures *(invited review)*
*L. Cademartiri and G. A. Ozin**
Philosophical Transactions of the Royal Society A 2010, 368(1927), 4229-4248

21. Ultrathin Bi_2S_3 Nanowires: Surface and Core Structure at the Cluster-Nanocrystal Transition *(paper)*
*J. W. Thomson, L. Cademartiri, M. MacDonald, S. Petrov, G. Calestani, P. Zhang, G. A. Ozin**
Journal of the American Chemical Society 2010, 132(26), 9058-9068

22. Survey of Materials for Nanoskiving and Influence of the Cutting Process on the Nanostructures Produced *(paper)*
*D. J. Lipomi, R. V. Martinez, R. M. Rioux, L. Cademartiri, W. F. Reus, G. M. Whitesides**
ACS Applied Materials & Interfaces 2010, 2(9), 2503-2514

23. From Ideas to Innovation: Nanochemistry as a Case History *(essay)*
G.A. Ozin and L. Cademartiri**
Small 2011, 7(1), 49-54

24. On the Nature and Importance of the Transition between Molecules and Nanocrystals: Towards a Chemistry of "Nanoscale Perfection" *(invited review)*
L. Cademartiri, V. Kitaev**
Nanoscale 2011, 3, 3435

25. Using Shape for Self-Assembly *(invited review, Festschrift for Alan L. Mackay)*
L. Cademartiri, K. J. M. Bishop, P. W. Snyder, G. A. Ozin*
Philosophical Transactions of the Royal Society A 2012, 370, 2824-2847

26. The Electrical Resistance of Ag^{TS}-$S(CH_2)_{n-1}CH_3$//Ga_2O_3/EGaIn Tunneling Junctions *(paper)*
*L. Cademartiri, M. M. Thuo, C. A. Nijhuis, W. F. Reus, S. Tricard, J. R. Barber, R. N. S. Sodhi, P. Brodersen, C. G. Kim, R. C. Chiechi, G. M. Whitesides**
Journal of Physical Chemistry C 2012, 116(20), 10848–10860

27. Polymer-like Conformation and Growth Kinetics of Bi_2S_3 Nanowires *(paper)*
L. Cademartiri, G. Guerin, K. J. M. Bishop, M.A. Winnik, G. A. Ozin**
Journal of the American Chemical Society 2012, 134 (22), 9327-9334

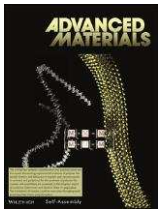
28. Using Explosions to Power a Soft Robot *(communication)*
*R. F. Shepherd, A. A. Stokes, J. Freake, J. Barber, P. W. Snyder, A. D. Mazzeo, L. Cademartiri, S. A. Morin, G. M. Whitesides**
Angewandte Chemie International Edition, 2013, 125 (10), 2964-2968

Featured on Nature News, Scientific American, Engadget, Gizmag, Physorg, Chemistry World, HuffingtonPost

29. AC Electric Fields Drive Steady Flows in Flames *(paper)*
*A. Drews, L. Cademartiri, M. Chemama, M. Brenner, G. M. Whitesides, K. J. M. Bishop**
Physical Review E, 2012, 86(3), 036314

___ ISU work ___

30. Recent Advances in the Synthesis of Colloidal Nanowires *(invited review)*
*A. Repko, L. Cademartiri**
Canadian Journal of Chemistry 2012, 90(12), 1015-1031



31. Nanowires and Nanostructures that Grow like Polymers *(progress report)*
*S. Shaw, L. Cademartiri**
Advanced Materials, 2013, 25(35), 4829-4844

32. Electric Winds Driven by AC Corona Discharges *(paper)*
*A. M. Drews, L. Cademartiri, G. M. Whitesides, K. J. M. Bishop**
Journal of Applied Physics, 2013, 114, 143302

33. A Simple and Versatile 2-Dimensional Platform to Study Plant Germination and Growth under Controlled Humidity *(paper)*
*T. Sizmur, K. R. Lind, S. Benomar, H. VanEvery, L. Cademartiri**
PLoS ONE, 2014, 9(5), e96730

34. LEGO® Bricks as Building Blocks for Centimeter Scale Biological Environments *(paper)*
*K. R. Lind, T. Sizmur, S. Benomar, A. I. Miller, L. Cademartiri**
PLoS ONE, 2014, 9 (6), e100867
Featured on Popular Science, Wired, Smithsonian Magazine, Discovery Magazine.

35. Programmable Self-Assembly *(review)*
L. Cademartiri, K. J. M. Bishop*
Nature Materials, 2015, 14, 2-9

36. Flexible One-Dimensional Nanostructures *(invited review)*
*B. Yuan, L. Cademartiri**
Journal of Materials Science & Technology, 2015, 31, 607-615

37. Thermal Processing of Silicone Coatings for Green, Scalable, and Healable Superhydrophobic Surfaces *(communication)*
*X. Tian, S. Shaw, K. R. Lind, L. Cademartiri**
Advanced Materials, 2016, 19, 3677-3682

38. Building Materials from Colloidal Nanocrystal Arrays: Preventing Crack Formation During Ligand Removal by Controlling Structure and Solvation *(communication)*
*S. Shaw, B. Yuan, X. Tian, K. J. Miller, B. M. Cote, J. L. Colaux, A. Migliori, M. G. Panthani, L. Cademartiri**
Advanced Materials, 2016, 28, 40, 8892-8899

39. Plant Growth Environments With Programmable Relative Humidity And Homogeneous Nutrient Availability *(article)*
*K. R. Lind, N. Lee, T. Sizmur, O. Siemianowski, S. van Bruggen, B. Ganapathysubramaniam, L. Cademartiri**
PLoS ONE, 2016, 11(6), e0155960

40. Building Materials from Colloidal Nanocrystal Arrays: Evolution of the Structure, Composition, and Mechanical Properties Upon Removal of Ligands by O_2 Plasma *(communication)*
*S. Shaw, J. L. Colaux, J. L. Hay, F. C. Peiris, L. Cademartiri**
Advanced Materials, 2016, 28, 40, 8900-8905

41. Towards Bulk Syntheses Of Nanomaterials: An Homeostatically Supersaturated Synthesis Of Polymer-Like Bi_2S_3 Nanowires With Nearly 100% Yield And No Injection *(communication)*
*B. Yuan, J. A. Brandt, S. Shaw, P. Mohapatra, L. Cademartiri**
RSC Advances, 2016, 6, 113815-113819

42. Optics-Free, Plasma-Based Lithography In Inorganic Resists Made Up Of Nanoparticles *(communication)*
*S. Shaw, K. J. Miller, J. L. Colaux, and L. Cademartiri**
Journal of Micro/Nanolithography, MEMS, and MOEMS, 2016, 15, 031607

43. Sulfur In Oleylamine Is A Powerful And Versatile Etchant For Oxide, Sulfide, And Metal Colloidal Nanoparticles *(article)*
*B. Yuan, X.C. Tian, S. Shaw, R. Petersen, L. Cademartiri**
Physica Status Solidi A, 2017, 214, 5, 1600543

44. Simplicity as a Route to Impact in Materials Research *(review)*
*X.C. Tian, K.L. Lind, B. Yuan, S. Shaw, O. Siemianowski, L. Cademartiri**
Advanced Materials, 2017, 29, 1604681

45. Surface And Buried Interface Layer Studies On Challenging Structures As Studied By ARXPS *(article)*
R. N. S. Sodhi, P. Brodersen, L. Cademartiri, M. M. Thuo, C. A. Nijhuis*
Surface & Interface Analysis, 2017, 49, 13, 1309-1315

46. Building Materials From Colloidal Nanocrystal Arrays: Molecular Control Of Solid/Solid Interfaces In Nanostructured Tetragonal ZrO_2 *(article)*
*S. Shaw, T. F. Silva, J. M. Bobbitt, F. Naab, C. L. Rodrigues, B. Yuan, J. J. Chang, X.C. Tian, E.A. Smith, L. Cademartiri**
Chemistry of Materials, 2017, 29, 18, 7888-7900

47. Calcination Does Not Remove All Carbon From Colloidal Nanocrystal Assemblies *(communication)*
*P. Mohapatra, S. Shaw, D. Mendivelso-Perez, J. M. Bobbitt, T. F. Silva, F. Naab, B. Yuan, X.C. Tian, E.A. Smith, L. Cademartiri**
Nature Communications, 2017, 8, 1, 2038

48. HOMEs for Plants and Microbes - A Phenotyping Approach With Quantitative Control Of Signaling Between Organisms And Their Individual Environments *(communication)*
*O. Siemianowski, K. R. Lind, X. C. Tian, M. Cain, S. Xu, B. Ganapathysubramanian, L. Cademartiri**
Lab on a Chip, 2018, 18, 620-626

49. From Petri Dishes to Model Ecosystems
*O. Siemianowski, K. R. Lind, X. C. Tian, M. Cain, S. Xu, B. Ganapathysubramanian, L. Cademartiri**
Trends in Plant Science, 2018, 23, 5, 378-381

50. Selective Removal Of Ligands from Colloidal Nanocrystal Assemblies With Non-Oxidizing He Plasmas
*S. Shaw, X.C. Tian, T. F. Silva, J. M. Bobbitt, F. Naab, C. L. Rodrigues, E. A. Smith, L. Cademartiri**
Chemistry of Materials, 2018, 30 (17), 5961–5967

51. Large Scale Synthesis of Colloidal Si Nanocrystals and their Helium Plasma Processing into Spin-On, Carbon-Free Nanocrystalline Si Films
*P. Mohapatra, D. Mendivelso-Perez, J. M. Bobbitt, S. Shaw, B. Yuan, X. C. Tian, E. A. Smith, L. Cademartiri**
ACS Applied Materials & Interfaces, 2018, 10 (24), 20740–20747

52. Heterogeneous Catalysts From Colloidal Nanocrystals Through Plasma-Processing
*J. J. Chang, X. C. Tian, L. Cademartiri**
submitted

53. Self-Regulated Porosity and Reactivity in Mesoporous Heterogeneous Catalysts Using Colloidal Nanocrystals
*X. C. Tian, T. W. Goh, O. VandenBerg, J. VanDerslice, T. F. Silva, F. Naab, J. L. Hay, J. J. Chang, B. Yuan, F. C. Peiris, W. Huang, L. Cademartiri**
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54. On The Kinetics Of The Removal Of Ligands From Films Of Colloidal Nanocrystals By Plasmas
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