

CURRICULUM VITAE
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EDUCATION

Ph.D. Physics, Harvard University	1999
M.S. Physics, Harvard University	1997
B.S. Physics, Massachusetts Institute of Technology	1993
Doctoral Thesis: Electronic Properties of One Dimensional Conductors	1999
Advisor: Prof. Charles M. Lieber	

PROFESSIONAL EMPLOYMENT

Associate Professor Tenured	Department of Applied Physics and Applied Mathematics, Columbia University	2012
Associate Professor Untenured	Department of Applied Physics and Applied Mathematics, Columbia University	2011
Assistant Professor	Department of Applied Physics and Applied Mathematics, Columbia University	2007
Research Scientist	Department of Physics and Center for Electron Transport in Molecular Nanostructures, Columbia University	2003
Research Scientist	Vytran Corporation	1999

AWARDS AND PATENTS

Alfred P. Sloan Research Fellowship	2011
Kim Award for Faculty Involvement, Columbia University	2010
Packard Fellowship in Science and Engineering	2008
NSF Career	2008
Professional Schools Research Fellowship Award, Columbia University	2007
Method of Splicing Specialty Fibers with Low Loss, Vytran Corporation	2004
White Prize for Excellence in Teaching, Harvard University	1999
Applied Physics Fellowship, Harvard University	1993

TEACHING

Spring 2008-2014: Applied Electromagnetism – for Junior Applied Physics Majors
Fall 2008-2013: Quantum Physics of Matter – for Seniors and 1st year Graduate Students

INVITED PRESENTATIONS

1. ESPMI-VIII, Invited Talk, Tuscon, Arizona, October 2015.
2. Regensberg, Invited Talk, Germany, September 2015.
3. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2015.
4. Tata Institute of Fundamental Research, Seminar, June 2015
5. The Batsheva de Rothschild Seminar on Molecular Electronics 2015, Israel, Invited Talk, June 2015.
6. Chemistry Department Seminar, "Chemistry and Physics of Single-Molecule Circuits", University of British Columbia, March 2015.
7. American Physical Society March Meeting, "Conductance and Thermopower in Thiophene and Oxidized Thiophene Single-Molecule Junctions", Invited Talk, March 2015.
8. Chemistry Department Colloquium, "Chemistry and Physics of Single-Molecule Circuits", Columbia University, February 2015.
9. Laboratory of Surface Modification seminar, "Chemistry and Physics of Single-Molecule Circuits", Rutgers University, January 2015.
10. International Workshop "Controlled Charge and Heat Transport at the Molecular Scale", Invited Talk, Konstanz, Germany.
11. Molecular Machines and Devices: Beilstein Nanotechnology Symposium, Invited Talk, September 2014.
12. From Carbon-Rich Molecules to Carbon-Based Materials Conference, Morocco, Invited Talk, September 2014 (declined).
13. Faraday Discussions: Organics, Photonics & Electronics, Glasgow, Invited Talk, September 2014.
14. Seminar at the Jawaharlal Nehru Centre for Advanced Scientific Research in Bangalore, India, August 2014.
15. ICN+T 2014, Vail Colorado, Invited Talk, July 2014. "Chemistry and Physics at the Single Molecule Level".
16. Workshop: Surfaces, Interfaces and Functionalization Processes in Organic Compounds and Applications, Trieste, Italy, Invited Talk, June 2014. "Chemistry and Physics at the Single Molecule Level".
17. Electronic Processes in Organic Materials Gordon Conference, Invited Talk, May 2014. "Controlling Electron Transport in Single-Molecule Junctions".
18. Polymer/Materials Seminar, University of North Carolina, Chapel Hill, February 2014. "Chemistry and Physics at the Single Molecule Level".
19. Tokyo Institute of Technology, Seminar, Tokyo, Japan. November 2013. "Mechanics of Single-Molecule Junctions".
20. International School and Symposium on Molecular Materials, Tokyo, Japan, November 2013. "Structure and Electronics of Single Molecule Circuits".
21. Modeling Single-Molecule Junctions: Novel Spectroscopies and Control, Berlin October 2013, "Mechanics of Single-Molecule Junctions".

22. NANOTECHNOLOGY AND SUSTAINABILITY: New Research in Italy and the United States, October 2013, "Probing van der Waals Forces at the Single-Molecule Level"
23. Packard Fellows Meeting, Denver, Colorado, September 2013 "Probing Electronics and Mechanics One Molecule at a Time"
24. Yale University, Material Science Seminar, September 2013, "Electronics and Mechanics of Single-Molecule Circuits"
25. Quantum Transport in Nanoscale Molecular Systems, Telluride, July 2013, "Electronics of Single-Molecule Circuits"
26. Building blocks for carbon-based electronics: From molecules to nanotubes, Regensburg, April 2013, "Electronics and Structure of Single-Molecule Circuits"
27. American Physical Society March Meeting, "Probing van der Waals Forces at the Single-Molecule Level", March 2013
28. Princeton University Physical Chemistry Seminar, "Mechanics and Electronics at the Single-Molecule Level", March 2013
29. 4th International Symposium on Trends in Nanoscience, "Mechanics and Electronics at the Single-Molecule Level" Germany, February 2013
30. University of Konstanz, Physics Department Seminar, "Electronics of Single Molecule Circuits", Konstanz, February 2013
31. ElecMol'12, Grenoble, "Structure and Electronics of Single-Molecule Circuits", France, December 2012
32. Gordon Conference on Single Molecule Approaches to Biology, "Measuring Bond Rupture Forces at the Single-Molecule Level", July 2012
33. Molecular Electronics International Meeting, "Probing the Conductance Superposition Law in Single Molecule Circuits", Jerusalem, July 2012
34. NC-AFM Conference, "Conductance and force measurements across single-molecule junctions", Czech Republic, July 2012
35. Lorentz Workshop on Future Directions of Molecular Electronics, "Conductance and force measurements across single-molecule junctions", June 2012
36. Quantum Transport in Molecular Nanostructures, "Electronics of Single Molecule Circuits", Dublin, May 2012
37. University of Delaware, Physics Department, "Electronics and Mechanics of Single Molecule Circuits", April 2012
38. New York University Nanoscience Discussion Group, "Feeling the Invisible: Quantum Interference in Single Molecule Circuits", New York, April 2012
39. Seminar at Denmark Technical University "Electronics and Mechanics of Single Molecule Circuits", Copenhagen, February 2012
40. Chemistry Department Seminar at the University of Copenhagen "Electronics and Mechanics of Single Molecule Circuits", Copenhagen, February 2012
41. AVS 58th Annual International Symposium and Exhibition Nashville, TN, October 2011
42. European Theoretical Spectroscopy Facility (ETSF), Torino, Italy, September 2011
43. 11th European Conference of Molecular Electronics (ECME 2011), Barcelona, September 2011.
44. Physical Organic Chemistry Gordon Research Conference, June 2011
45. Pan American Advanced Studies Institute, Cartagena, Colombia, June 2011

46. Marquette University, Chemistry Colloquium, March 2011
47. Indian Institute of Science, Chemistry Colloquium, October 2010
48. University of Pennsylvania, Physics Colloquium, October 2010
49. Massachusetts Institute of Technology, Physical Chemistry Seminar, October 2010
50. Yale University Applied Physics Seminar, September 2010
51. Spring College on Computational Nanoscience, Trieste, Italy, May 2010
52. The Russell Berrie Nanotechnology Institute at Technion, Winter School, Israel Feb 2010
53. New York University Nanoscience Discussion Group, New York, Feb 2010
54. Institute for Nanotechnology, Karlsruhe, Germany, Jan 2010
55. International Conference on Molecular Electronics, Emmetten, Switzerland, Jan 2010
56. Tata Institute of Fundamental Research, Mumbai, India, Dec 2009
57. Kavli Institute for Theoretical Physics at the University of California, Santa Barbara, Nov 2009
58. Packard Fellows meeting, September 2009
59. Invited Talk at the Contractor's Meeting organized by the Basic Energy Sciences Division of the U.S. Department of Energy, June 2009
60. Physics Colloquium, Rutgers University, April 2009
61. Invited talk at MRS Symposium B, April 2009
62. Invited talk at MRS Symposium Z, April 2009
63. Colloquium, Physical Review, March 2009
64. IWEPM2009, Kirchberg/Tirol, Austria, March 2009 (declined)
65. Physics@FOM, Veldhoven, Netherlands, January 2009
66. Emergent Nanoscience Workshop, Columbia University, December 2008
67. University of Massachusetts, Amherst, November 2008
68. Department of Applied Physics, Columbia University, October 2008
69. Yeshiva University Physics Colloquium, September 2008
70. Gordon Conference, Electron Donor-Acceptor Interactions, August 2008
71. French – American Young Engineering Scientists Symposium, July 2008
72. IMEC, Belgium, July 2008
73. ESPMI IV Workshop, Princeton University, June 2008
74. Fundamentals of Electronic Nanosystems, St. Petersburg, June 2008 (declined)
75. HOT NANO TOPICS 2008, Slovenia, May 2008 (declined)
76. NSLS-CFN Workshop, Brookhaven National Labs, May 2008
77. VSLI-TSA Conference, Taiwan, April 2008
78. Chemistry Department, City College of New York, March 2008.
79. Chemistry Department, University of Maryland, November 2007.
80. Molecular Foundry, Lawrence Berkeley National Labs, October 2007.
81. Applied Physics, Columbia University, September 2007.
82. ELETTRA Synchrotron Light Laboratory, Trieste, Italy, July 2007.
83. Brookhaven National Labs, Undergraduate Outreach, June 2007
84. Building Electronic Function into Nanoscale Molecular Architectures, NSF-sponsored Workshop, June 2007
85. New York Academy of Sciences, May 2007
86. Chemistry Department, Princeton University, March 2007

87. American Physical Society March Meeting, March 2007
88. Barnard College Chemistry Department, February 2007
89. Physics Department Colloquium, University of Toronto, February 2007
90. Condensed Matter Seminar, New York University Department of Physics, February 2007
91. Mesilla Chemistry Workshop 'Electron Transfer and Molecular Devices', February 2007
92. Department of Applied Physics, Columbia University, February 2007
93. Department of Applied and Engineering Physics, Cornell University, January 2007
94. Brookhaven National Laboratories, January 2007
95. Canadian Institute of Advanced Research meeting, November 2006
96. Nanoscale Functional Materials, Cornell University, October 2006
97. Duke University, October 2006
98. 4th Annual Molecular Conduction and Sensor Workshop, July 2006
99. Chemistry and Physics of Nanostructure Fabrication Gordon Research Conference, July 2006
100. NNIN Synergy conference, Harvard University, May 2006

LIST OF PUBLICATIONS

Students/Post-docs are underlined, corresponding authors have *

- [1] H. Li, T. Su, M. L. Steigerwald, C. Nuckolls*, **L. Venkataraman***, *Electric Field Breakdown in Single Molecule Junctions*, **JACS**, ASAP, (2015).
- [2] T. Su, H. Li, M. L. Steigerwald, **L. Venkataraman***, C. Nuckolls*, *Stereoelectronic Switching in Single-Molecule Junctions*, **Nature Chemistry**, 7, 215–220 (2015).
- [3] E.J. Dell, B. Capozzi, J. Xia, **L. Venkataraman***, L. M. Campos*, *Molecular Length Dictates the Nature of Charge Carriers in Single-Molecule Junctions*, **Nature Chemistry**, 7, 209–214 (2015).
- [4] G. Balducci, M. Romeo, M. Stener, G. Fronzoni, D. Cvetko, A. Cossaro, G. Kladnik, L. Venkataraman, A. Morgante, *Computational Study of Amino Mediated Molecular Interaction Evidenced in N1s NEXAFS: 1,4-Diaminobenzene on Au (111)*, **J. Phys. Chem. C.**, 119, 1988-1995, (2015).
- [5] A. Batra, J.S. Meisner, P. Darancet, Q. Chen, M.L. Steigerwald, C. Nuckolls, **L. Venkataraman***, *FD 174: Molecular Diodes Enabled by Quantum Interference*, **Faraday Discussions**, 174, 79-89 (2014)
- [6] A. Batra, D. Cvetko, G. Kladnik, O. Adak, C. Cardoso, A. Ferretti, D. Prezzi, E. Molinari, A. Morgante*, **L. Venkataraman***, *Probing the Mechanism for Graphene Nanoribbon Formation on Gold Surfaces through X-ray Spectroscopy*, **Chem. Sci.** vol. 5, p 4419-4423 (2014).

- [7] A. Batra, G. Kladnik, N. Gorjizadeh, J. Meisner, M.L. Steigerwald, C. Nuckolls, S.Y. Quek*, D. Cvetko, A. Morgante*, **L. Venkataraman***, *Trimethyltin Mediated Covalent Gold-Carbon Bond Formation*, **JACS**, 136, 12556–12559 (2014).
- [8] Z. F. Liu, S. Wei, H. Yoon, O. Adak, I. Ponce, Y. Jiang, W.-D. Jang, L.M. Campos, **L. Venkataraman***, J.B. Neaton*, *The Effect of Transition Metal Coordination on Single-Molecule Junction Conductance of Porphyrins*, **Nano Letters**, 14, 5365–5370 (2014).
- [9] B. Capozzi, E.J. Dell, T.C. Berkelbach, D.R. Reichman, **L. Venkataraman***, L.M. Campos*, *Length-Dependent Conductance of Oligothiophenes*, **JACS**, 136, 10486 (2014).
- [10] T. Kim, Z.F. Liu, C. Lee, J.B. Neaton, **L. Venkataraman***, *Charge Transport and Rectification in Molecular Junctions Formed with Carbon-Based Electrodes*, **Proc. Natl. Acad. Sci.**, 111, 10928-10932 (2014).
- [11] S.V. Aradhya, A. Nielsen, M.S. Hybertsen, **L. Venkataraman***, *Quantitative Bond Energetics in Atomic-Scale Junctions*, **ACS Nano** 8, 7522–7530 (2014).
- [12] J. Xia, B. Capozzi, S. Wei, M. Strange, A. Batra, J. Moreno, R. Amir, E. Amir, G. Solomon, **L. Venkataraman***, L. Campos*, *Breakdown of Interference Rules in Azulene, a Non-Alternant Hydrocarbon*, **Nano Letters** 14, 2941–2945 (2014).
- [13] B. Capozzi, Q. Chen, P. Darancet, M. Buzzeo, J.B. Neaton, C. Nuckolls, **L. Venkataraman***, *Tunable Charge Transport in Single-Molecule Junctions via Electrolytic Gating*, **Nano Letters**, 14, 1400–1404 (2014).
- [14] R. Klausen, J. Widawsky, T. Su, H. Li, M.L. Steigerwald*, **L. Venkataraman***, C. Nuckolls*, *Evaluating Atomic Components in Molecular Circuits*, **Chemical Science**, 5, 1561-1564 (2014).
- [15] T. Kim, P. Darancet, J.R. Widawsky, M. Kotiuga, S.Y. Quek, J.B. Neaton*, **L. Venkataraman***, *Determination of Energy Level Alignment and Coupling Strength in 4,4'-Bipyridine Single-Molecule Junctions*, **Nano Letters**, 14, 794-798 (2014).
- [16] W. Chen, H. Li, J. R. Widawsky, C. Appayee, **L. Venkataraman***, R. Breslow*, *Aromaticity Decreases Single-Molecule Junction Conductance*, **JACS**, 136, 918-920 (2014).
- [17] G. Géranton, C. Seiler, A. Bagrets, **L. Venkataraman**, F. Evers, *Transport properties of individual C60-molecules*, **J. Chem. Phys.**, vol 139, 234701 (2013).
- [18] A. Batra, P. Darancet, Q. Chen, J. Meisner, J. Widawsky, J.B. Neaton*, C. Nuckolls*, **L. Venkataraman***, *Tuning Rectification in Single-Molecular Diodes*, **Nano Letters**, 13, 6233 (2013).

- [19] T. Su, J. Widawsky, H. Li, R. Klausen, J. Leighton*, M. Steigerwald*, **L. Venkataraman***, C. Nuckolls*, *Silicon Ring Strain Creates High-Conductance Pathways in Single-Molecule Circuits*, **JACS**, 135, 18331 (2013).
- [20] E.J. Dell, B. Capozzi, K.H. DuBay, T.C. Berkelbach, J.R. Moreno, D.R. Reichman, **L. Venkataraman***, L.M. Campos*, *Impact of Molecular Symmetry on Single-Molecule Conductance*, **JACS**, vol. 135, p 11724-11727, (2013).
- [21] G. Kladnik, D. Cvetko, A. Batra, M. Dell'Angela, A. Cossaro, M. Kamenetska, **L. Venkataraman***, A. Morgante*, *Ultrafast Charge Transfer Through Non-Covalent Au-N Interactions in Molecular Systems*, **J. Phys. Chem. C.**, vol 117, p 16477 (2013).
- [22] T. Kim, H. Vázquez, M.S. Hybertsen* and **L. Venkataraman***, 'Conductance of Molecular Junctions Formed with Silver Electrodes', **Nano Letters**, 13, 3358-3364 (2013).
- [23] S. V. Aradhya and **L. Venkataraman***, 'Single-Molecule Junctions Beyond Electronic Transport', Invited Review, **Nature Nanotechnology** 8, 399–410 (2013).
- [24] J. R. Widawsky, W. Chen, H. Vazquez, T. Kim, R. Breslow, M. S. Hybertsen, **L. Venkataraman***, 'Length-Dependent Thermopower of Highly Conducting Au-C Bonded Single Molecule Junctions', **Nano Letters**, 13, 2889–2894 (2013).
- [25] S. Aradhya, M. Frei, A. Halbritter, **L. Venkataraman***, 'Correlating Structure, Conductance and Mechanics of Silver Atomic-Scale Contacts', **ACS Nano**, 7, 3706–3712, (2013).
- [26] J.S. Meisner, S. Ahn, S.V. Aradhya, M. Krikorian, R. Parameswaran, M.L. Steigerwald, **L. Venkataraman***, and C. Nuckolls* 'The Importance of Direct Metal- π Coupling in Electronic Transport Through Conjugated Single-molecule Junctions', **J. Am. Chem. Soc.**, 134, 20440–20445, (2012).
- [27] P. Darancet, J.R. Widawsky, H.J. Choi, **L. Venkataraman***, J.B. Neaton* 'Quantitative Current-Voltage Characteristics in Molecular Junctions from First Principles', **Nano Letters**, 12, 6250–6254, (2012).
- [28] X. Roy, C. L. Schenck, S. Ahn, R. A. Lalancette, **L. Venkataraman***, C. Nuckolls*, and M. L. Steigerwald*, 'Quantum Soldering of Individual Quantum Dots', **Angew. Chem. Int. Ed.**, 51: 12473–12476 (2012).
- [29] H. Vazquez, R. Skouta, S. Schneebeli, M. Kamenetska, R. Breslow*, **L. Venkataraman***, M.S. Hybertsen*, 'Probing the Conductance Superposition Law in Single Molecule Circuits with Parallel Paths', **Nature Nanotechnology**, 7, 663-667, (2012).

- [30] A. Batra, G. Kladnik, H. Vázquez, J.S. Meisner, L. Floreano, C. Nuckolls, D. Cvetko, A. Morgante*, **L. Venkataraman***, '*Quantifying Through-Space Charge Transfer Dynamics in π -Coupled Molecular Systems*', **Nature Communications**, 3, 1086, (2012).
- [31] S. V. Aradhya, M. Frei, M.S. Hybertsen*, **L. Venkataraman***, '*Van der Waals Interactions in Metal-Organic Interfaces at the Single-Molecule Level*', **Nature Materials**, 11, 872-876, (2012).
- [32] S. Ahn, S. V. Aradhya, R. S. Klausen, B. Capozzi, X. Roy, M. L. Steigerwald, C. Nuckolls*, **L. Venkataraman***, '*Electronic Transport and Mechanical Stability of Carboxyl Linked Single-Molecule Junctions*', **PCCP**, 14, 13841–13845, (2012).
- [33] P. Makk, D. Tomaszewski, J. Martinek, Z. Balogh, S. Csonka, M. Wawrzyniak, M. Frei, **L. Venkataraman***, and A. Halbritter*, "Correlation Analysis of Atomic and Single-Molecule Junction Conductance", *ACS Nano* ASAP (2012).
- [34] R. S. Klausen, J. R. Widawsky, M. L. Steigerwald, **L. Venkataraman***, and C. Nuckolls*, "Conductive Molecular Silicon", **J. Am. Chem. Soc.** 134, 4541-4544 (2012).
- [35] S. V. Aradhya, J. S. Meisner, M. Krikorian, S. Ahn, R. Parameswaran, M. L. Steigerwald, C. Nuckolls*, and **L. Venkataraman***, "Dissecting Contact Mechanics from Quantum Interference in Single-Molecule Junctions of Stilbene Derivatives", **Nano Letters** 12, 1643-1647 (2012).
- [36] M. Frei, S. V. Aradhya, M. S. Hybertsen*, and **L. Venkataraman***, "Linker Dependent Bond Rupture Force Measurements in Single-Molecule Junctions", **J. Am. Chem. Soc.** 134, 4003-4006 (2012).
- [37] J. R. Widawsky, P. Darancet, J. B. Neaton, **L. Venkataraman***, 'Simultaneous Determination of Conductance and Thermopower of Single Molecule Junctions', **Nano Letters** 12, 354–358, (2012)
- [38] W. Chen, J. R. Widawsky, H. Vázquez, S. T. Schneebeli, M. S. Hybertsen*, R. Breslow*, **L. Venkataraman***, 'Highly Conducting π -Conjugated Molecular Junctions Covalently Bonded to Gold Electrodes', *J. Am. Chem. Soc.* 133, 17160-17163 (2011)
- [39] M. Kamenetska, M. Dell'Angela, J.R. Widawsky, G. Kladnik, A. Verdini, A. Cossaro, D. Cvetko, A. Morgante, **L. Venkataraman***, 'Structure and Energy Level Alignment of Tetramethyl Benzenediamine on Au(111)', **J. Phys. Chem. C** 111, 12625-12630, (2011).
- [40] B.M. Boardman, J.R. Widawsky, Y.S. Park, **L. Venkataraman***, M.L. Steigerwald and C. Nuckolls, 'Conductance of Single-Cobalt Chalcogenide Cluster Junctions', **J. Am. Chem. Soc.** 133, 8455–8457, (2011).

- [41] Z-L Cheng, R. Skouta, H. Vazquez, J. R. Widawsky, S. Schneebeli, W. Chen, M.S.Hybertsen*, R.Breslow*, **L.Venkataraman***, 'In situ Formation of Highly Conducting, Covalent Au-C Contacts for Single Molecule Transport', **Nature Nanotechnology**, 6, 353-357, (2011).
- [42] V. Fatemi, M. Kamenetska, J. B. Neaton*, **L. Venkataraman***, 'Environmental Control of Molecular Scale Transport', **Nano Letters**, 11, 1988-1992, (2011).
- [43] J. S. Meisner, M. Kamenetska, M. Krikorian, D. F. Sedbrook, M.L. Steigerwald, **L. Venkataraman***, C. Nuckolls*, 'A Single-molecule Potentiometer', **Nano Letters** 11, 1575-1579 (2011).
- [44] M. Frei, S. V. Aradhya, M. Koentopp, M. S. Hybertsen*, **L. Venkataraman***, 'Bond Rupture Force Measurements in Single Molecule Junctions', **Nano Letters**, 11, 1575-1579 (2011).
- [45] S. Schneebeli, M. Kamenetska, Z. Cheng, R. Skouta, R.A. Friesner, **L. Venkataraman***, R. Breslow*, 'Single molecule conductance through multiple π - π stacked benzene rings determined with direct electrode to benzene ring connections', **J. Am. Chem. Soc.**, 133, 2136–2139 (2011) (Cover)
- [46] S. Schneebeli, M. Kamenetska, F. Foss, H. Vazquez, R. Skouta, M. S. Hybertsen*, **L. Venkataraman***, R. Breslow*, 'Electrical Properties of Biphenylenes', **Organic Letters** 12, 4114-4117, (2010).
- [47] R. Parameswaran, J. R. Widawsky, H. Vázquez, Y. S. Park, B.M. Boardman, C. Nuckolls, M.L. Steigerwald, M.S. Hybertsen*, **L. Venkataraman***, 'Conductance of Single Molecule Junctions with Diphenylphosphine Linkers', **J. Phys. Chem. Lett.**, 1, 2114-2119 (2010).
- [48] M. Dell'Angela, G. Kladnik, A. Cossaro, A. Verdini, M. Kamenetska, I. Tamblyn, S.Y. Quek, J.B. Neaton*, D. Cvetko, A. Morgante*, **L. Venkataraman***, 'Relating Energy Level Alignment and Amine-Linked Molecular Junction Conductance', **Nano Letters**, 10, 2470-2474 (2010).
- [49] M. Kamenetska, Su Ying Quek, A. C. Whalley, M. L. Steigerwald, H.J. Choi, Steven G. Louie, C. Nuckolls, M.S. Hybertsen, J. B. Neaton*, **L. Venkataraman***, 'Conductance and Geometry of Pyridine-Linked Single Molecule Junctions', **J. Am. Chem. Soc.**, 132, 6817–6821 (2010).
- [50] J. R. Widawsky, M. Kamenetska, J. Klare, C. Nuckolls, M.L. Steigerwald, M.S. Hybertsen, **L. Venkataraman***, 'Electronic Transport Across Single Molecular Wire Junctions: Voltage Dependence of Conductance', **Nanotechnology**, vol 20, 434009 (2009).
- [51] Y. S. Park, J. R. Widawsky, M. Kamenetska, M. L. Steigerwald, M.S. Hybertsen, C. Nuckolls, **L. Venkataraman***, 'Frustrated Rotations in Single Molecule Junction', **J. Am. Chem. Soc.** 2009, 131, 10820-10821.

- [52] M. Kamenetska, M. Koentopp, A. C. Whalley, Y. S. Park, M. L. Steigerwald, C. Nuckolls, M.S. Hybertsen*, **L. Venkataraman***, 'Formation and Evolution of Single Molecule Junctions' Physical Review Letters, 102, 126803 (2009).
- [53] S. Y. Quek, M. Kamenetska, M.L. Steigerwald, H. J. Choi, S. G. Louie, M.S. Hybertsen, J.B. Neaton*, **L. Venkataraman***, 'Mechanically-Controlled Binary Conductance Switching of a Single-Molecule Junction', Nature Nanotechnology, vol. **4**, 230 (2009)
- [54] **L. Venkataraman***, 'Benzene provides the missing link in molecular junctions', Invited Physics Viewpoint, 2008, 1, 5.
- [55] M. S. Hybertsen*, **L. Venkataraman***, J. E. Klare, A. C. Whalley, M. L. Steigerwald and C. Nuckolls, Amine-linked single-molecule circuits: systematic trends across molecular families ', Invited Review, J. Phys.: Condensed Matter 20 (2008) 374115.
- [56] **L. Venkataraman***, "Molecular Junctions: Seeing is Believing", Nature Nanotechnology, 2008, 3, 187-188.
- [57] Y. S. Park, A. C. Whalley, M. Kamenetska, M.L. Steigerwald, M. S. Hybertsen, C. Nuckolls, **L. Venkataraman***, 'Contact Chemistry and Single Molecule Conductance: A Comparison of Phosphines, Methyl Thiols and Amines', J. Am. Chem. Soc. 2007, 129, 15768-15769.
- [58] D. Millar, **L. Venkataraman** and L. H. Doerrer*, 'Efficacy of Au-Au Contacts for Molecular Conductance Measurement', J. Phys. Chem. C., 2007, 111, 17635-17639.
- [59] S. Y. Quek, **L. Venkataraman**, C. H. Choi, S. G. Louie, M. S. Hybertsen, J. B. Neaton*, 'Amine-Gold Linked Single-Molecule Circuits: Experiment and Theory', Nano Letters, Vol 7, p 3477-3482, 2007.
- [60] J. R. Quinn, Frank W. Foss Jr., **L. Venkataraman*** and Ronald Breslow*, 'Oxidation Potentials Correlate with Conductivities of Aromatic Molecular Wires' J. Am. Chem. Soc. 2007, 129, 12376-12377.
- [61] J. R. Quinn, F. Foss, **L. Venkataraman***, M. S. Hybertsen, R. Breslow, 'Single-Molecule Junction Conductance through Diaminoacene', J. Am. Chem. Soc. 2007, 129, (21), 6714-6715.
- [62] **L. Venkataraman***, Y. S. Park, A. C. Whalley, C. Nuckolls, M. S. Hybertsen, and M. L. Steigerwald, 'Electronics and Chemistry: Varying Single Molecule Junction Conductance with Chemical Substituent', Nano Letters, Vol 7, p502-506, 2007.
- [63] **L. Venkataraman***, J.E. Klare, C. Nuckolls, M.S. Hybertsen* and M. L. Steigerwald, 'Dependence of Single Molecule Junction Conductance on Molecular Conformation', Nature, vol. 442, p904-907, 2006.

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