

CURRICULUM VITAE  
LATHA VENKATARAMAN

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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	

Undergraduate Thesis: Phonon modes of Carbon Nanotubes	1993
Advisor: Mildred S. Dresselhaus	

## PROFESSIONAL APPOINTMENTS

### Columbia University:

Lawrence Gussman Professor of Applied Physics	July 2019
Vice Provost for Faculty Affairs	January 2019-July 2022
Professor of Applied Physics	July 2016
Professor of Chemistry	July 2016
Associate Professor of Applied Physics (with tenure)	July 2012
Associate Professor of Applied Physics	July 2011
Assistant Professor of Applied Physics	July 2007
Research Scientist, Department of Physics	September 2003

### Vytran Corporation:

Research Scientist	November 1999
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## AWARDS AND PATENTS

Single-Molecule Diodes with High On/Off Ratios Through Environmental Control	2016
Fellow, American Physical Society	2015
Alfred P. Sloan Research Fellowship	2011
Kim Award for Faculty Involvement, Columbia University	2010
Packard Fellowship in Science and Engineering	2008
National Science Foundation Career Award	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

## LIST OF PUBLICATIONS

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

A full list can also be found at my [Google Scholar Profile](#).

- [1] N. Orchanian, S. Guizzo, M.L. Steigerwald\*, C. Nuckolls\*, **L. Venkataraman\***, *Electric-Field-Induced Coupling of Aryl Iodides with a Nickel(0) Complex*, **Chemical Communications** (2022)
- [2] L. Li, S. Gunasekaran, Y. Wei, C. Nuckolls, **L. Venkataraman\***, *Reversed Conductance Decay of 1D Topological Insulators by Tight-Binding Analysis*, **J. Phys. Chem. Lett.** 13, 9703–9710 (2022)
- [3] I. Stone, R.L. Starr, N. Hoffmann, X. Wang, A. Evans, C. Nuckolls, T. Lambert, M.L. Steigerwald, T. Berkelbach\*, X. Roy\*, **L. Venkataraman\***, *Interfacial electric fields catalyze Ullmann coupling reactions on gold surfaces*, **Chemical Science** 13, 10798 (2022).
- [4] L. Li, J. Low, J. Wilhelm, G. Liao, S. Gunasekaran, C. Prindle, R. Starr, D. Golze, C. Nuckolls, M.L. Steigerwald, F. Evers\*, L. Campos\*, X. Yin\*, **L. Venkataraman\***, *Highly Conducting Single Molecule Topological Insulators Based on Mono- and Di-Radical Cations*, **Nature Chemistry** Vol. 14, p. 1061–1067 (2022).
- [5] W. Lee, S. Louie, A. Evans, N. Orchanian, I. Stone, B. Zhang, Y. Wei, X. Roy, C. Nuckolls, **L. Venkataraman\***, *Increased molecular conductance in oligo[n]phenylene wires by thermally enhanced dihedral planarization*, **Nano Letters** (2022) Vol. 22, 12, 4919–4924.
- [6] Z. Jin, Q. Cheng, A. Evans, J. Gray, R. Zhang, S.T. Bao, **L. Venkataraman**, Y. Yang, C. Nuckolls\*,  *$\pi$ -Conjugated redox-active two-dimensional polymers as organic cathode materials*, **Chemical Science** (2022) **13**, 3533–3538.
- [7] F. Evers\*, A. Aharony, N. Bar-Gill, O. Entin-Wohlman, P. Hedegard, O. Hod, P. Jelinek, G. Kamieniarz, M. Lemeshko, K. Michaeli, V. Mujica, R. Naaman, Y. Paltiel, S. Refaely-Abramson, O. Tal, J. Thijssen, M. Thoss, J. M. van Ruitenbeek, **L. Venkataraman**, D. H. Waldeck, B. Yan, L. Kronik\*, *Theory of Chirality Induced Spin Selectivity: Progress and Challenges*, **Advanced Materials** (2022) Vol. 34, Iss. 13, 2106629.
- [8] A. Paoletta, E-F. Fung, **L. Venkataraman\***, *Gap size-dependent plasmonic enhancement in electroluminescent tunnel junctions*, **ACS Photonics** (2022) 9, 2, 688–693.
- [9] T. Fu, K. Frommer, C. Nuckolls, **L. Venkataraman\***, *Single-Molecule Junction Formation in Break-Junction Measurements*, **J. Phys. Chem. Lett.** v12, 44, 10802–10807 (2021).
- [10] I. Stone, R.L. Starr, Y. Zang, C. Nuckolls, M.L. Steigerwald, T.H. Lambert, X. Roy\*, **L. Venkataraman\***, *A Single-Molecule Blueprint for Synthesis*, **Nature Reviews Chemistry** 5, 695–710 (2021).

- [11] B. Zhang, M. H. Garner, L. Li, L. Campos, G. Solomon\*, **L. Venkataraman\***, *Destructive Quantum Interference in Heterocyclic Alkanes: The Search for Ultra-short Molecular Insulators*, **Chemical Science**, 12, 10299 - 10305 (2021).
- [12] J. E. Greenwald, J. Cameron, N. J. Findlay, T. Fu, S. Gunasekaran, P. J. Skabara\*, **L. Venkataraman\***, *Highly Non-Linear Transport Across Single-Molecule Junctions via Destructive Quantum Interference*, **Nature Nanotechnology**, 2021, 16, 313–317.
- [13] S. M. Rivero, P.G. Arroyo, L. Li, S. Gunasekaran, T. Stuyver, M. J. Mancheño, M. Alonso, **L. Venkataraman**, J. L. Segura, J. Casado\*, *Single-molecule conductance in a unique cross-conjugated tetra(aminoaryl)ethene*, **Chemical Communications**, 2021, 57, 591-594.
- [14] Y. Zang, E-D Fung, T. Fu, S. Ray, M. Garner, A. Borges, M.L. Steigerwald, S. Patil, G. Solomon\*, **L. Venkataraman\***, *Voltage Induced Single-Molecule Junction Planarization*, **Nano Letters**, 2021, 21, 1, 673–679.
- [15] E-D. Fung, **L. Venkataraman\***, *Too Cool for Blackbody Radiation: Overbias Photon Emission in Ambient STM Due to Multi-Electron Processes*, **Nano Letters**, 20, 12, 8912–8918.
- [16] F. Guijarro, S. Medina Rivero, S. Gunasekaran, I. Arrechea-Marcos, R. Ortiz, R. Caballero Briceño, P. de la Cruz, F. Langa, **L. Venkataraman**, J. Casado\*, Synthesis and electronic properties of pyridine end-capped cyclopentadithiophene-vinylene oligomers, **RSC Advances**, 2020, 10, 41264.
- [17] E. Doud, R. Starr, G. Kladnik, A. Voevodin, E. Montes, N. P. Arasu, Y. Zang, P. Zahl, A. Morgante\*, **L. Venkataraman\***, H. Vázquez\*, D. Cvetko\*, X. Roy\*, Cyclopropenylidene as Strong Carbene Anchoring Groups on Au Surface, **JACS**, 142, 47, 19902–19906
- [18] Y. Zang, T. Fu, Q. Zou\*, F. Ng, H. Li, M. Steigerwald, C. Nuckolls\*, **L. Venkataraman\***, *Cumulene Wires Display Increasing Conductance with Increasing Length*, **Nano Letters**, 2020, 20, 11, 8415–8419.
- [19] S. Gunasekaran, **L. Venkataraman\***, *Tight-binding analysis of helical states in carbyne*, **J. Chem. Phys.**, 2020, 153, 124304.
- [20] S. Gunasekaran, D. Reed, D. Paley, A. Bartholomew, **L. Venkataraman\***, M. Steigerwald\*, X. Roy\*, C. Nuckolls\*, *Single-Electron Currents in Designer Single-Cluster Devices*, **JACS**, 2020, 142, 35, 14924–14932.
- [21] M. Camarasa-Gomez, D. Hernangomez-Perez, M. Inkpen, G. Lovat, E.D. Fung, X. Roy, **L. Venkataraman\***, F. Evers\*, *Mechanically-tunable Quantum Interference in Ferrocene-based Single-Molecule Junctions*, **Nano Letters**, 2020, 20, 6381–6386.
- [22] T. Fu, Y. Zang, Q. Zou, C. Nuckolls, **L. Venkataraman\***, *Using Deep Learning to Identify Molecular Junction Characteristics*, **Nano Letters**, 2020, 20, 5, 3320–3325 (2020).

- [23] A. Magyarkuti, N. Balogh, Z. Balogh, **L. Venkataraman**, A. Halbritter\*, *Unsupervised feature recognition in single molecule break junction data*, **Nanoscale**, 12, 8355–8363 (2020).
- [24] R. Starr, T. Fu, E. Doud, I. Stone, X. Roy\*, **L. Venkataraman\***, *Gold-Carbon Contacts from Oxidative Addition of Aryl Iodides*, **JACS**, 142, 15, 7128-7133 (2020).
- [25] S. Gunasekaran, J. Greenwald, **L. Venkataraman\***, *Visualizing Quantum Interference in Molecular Junctions*, **Nano Letters**, 20, 4, 2843-2848 (2020).
- [26] D. Hernangómez-Pérez\*, S. Gunasekaran, **L. Venkataraman**, F. Evers\*, *Solitons with polyacetylenes*, **Nano Letters**, 20, 4, 2615–2619 (2020).
- [27] C. Gutiérrez-Cerón, R. Oñate, J. Zagal, A. Pizarro, J. F. Silva, C. Castro-Castillo, M. C. Rezende, M. Flores, D. Cortés- Arriagada, A. Toro-Labbé, L. Campos, **L. Venkataraman**, I. Ponce\*, *Molecular conductance versus inductive effects of axial ligands on the electrocatalytic activity of self-assembled iron phthalocyanines: The oxygen reduction reaction*, **Electrochimica Acta**, Volume 327, 134996 (2019)
- [28] Y. Zang, Q. Zou\*, T. Fu, F. Ng, B. Fowler, J. Yang, H. Li, M. L. Steigerwald\*, C. Nuckolls\*, **L. Venkataraman\***, *Directing Isomerization Reactions of Cumulenes with Electric Fields*, **Nature Communications**, Volume 10, 4482 (2019).
- [29] T. Fu, S. Smith, M. Camarasa-Gómez, X. Yu, J. Xue, C. Nuckolls\*, F. Evers\*, **L. Venkataraman\***, S. Wei\*, *Enhanced Coupling Through  $\pi$ -Stacking in Imidazole-Based Molecular Junctions*, **Chemical Science**, Accepted (2019)
- [30] M. Garner, H. Li, M. Neupane, Q. Zou, T. Liu, T. Su, Z. Shanguan, D. Paley, F. Ng, S. Xiao, C. Nuckolls\*, **L. Venkataraman\***, G. Solomon\*, *Permethylated Introducing Destructive Quantum Interference in Saturated Silanes*, **JACS**, 141,39, 15471-15476 (2019)
- [31] M. L. Ball, B. Zhang, T. Fu, A. M. Schattman, D. W. Paley, F. Ng, **L. Venkataraman\***, C. Nuckolls\*, M. L. Steigerwald\*, *The Importance of Intramolecular Conductivity in Three Dimensional Molecular Solids*, **Chemical Science**, 10, 9339–9344 (2019).
- [32] Y. Zang, I. Stone, M. S. Inkpen, F. Ng, T. H. Lambert, C. Nuckolls, M. L. Steigerwald, X. Roy\*, **L. Venkataraman\***, *In situ coupling of single molecules driven by Au-catalyzed electrooxidation*, **Angewandte Chemie**, Vol. 58, p. 16008-16012 (2019).
- [33] L. Patera, S. Sokolov, J. Low, L. Campos, **L. Venkataraman\***, J. Repp\*, *Resolving the unpaired-electron orbital distribution in a stable organic radical by Kondo resonance mapping*, **Angewandte Chemie**, Vol. 58, p. 11063-11067 (2019).
- [34] J. Low, G. Kladnik, L. Patera, S. Sokolov, G. Lovat, E. Kumarasamy, J. Repp, L. Campos\*, D. Cvetko\*, A. Morgante\*, **L. Venkataraman\***, *The Environment-Dependent Behavior of the Blatter Radical at the Metal Molecule Interface*, **Nano Letters**, 19 (4), p. 2543–2548 (2019).

- [35] E-D. Fung, D. Gelbwaser-Klimovsky, J. Taylor, J. Low, J. Xia, I. Davydenko, L. Campos, S. Marder, U. Peskin\*, **L. Venkataraman\***, *Breaking Down Resonance: Non-Linear Transport and the Breakdown of Coherent Tunneling Models in Single Molecule Junctions*, **Nano Letters**, 19 (4), p. 2555–2561 (2019).
- [36] M. S. Inkpen\*, Z.-F. Liu, H. Li, L. Campos, J. B. Neaton, **L. Venkataraman\***, *Non-chemisorbed gold-sulfur binding prevails in self-assembled monolayers*, **Nature Chemistry**, 11, p. 351–358 (2019). Featured in Nature Review Materials as a Research Highlight.
- [37] G. Lovat, E. Doud, D. Lu, G. Kladnik, M.S. Inkpen, M.L. Steigerwald, D. Cvetko, M. S. Hybertsen, A. Morgante\*, X. Roy\*, **L. Venkataraman\***, *Electronic Structure and Geometry of N-Heterocyclic Carbenes on Au(111)*, **Chemical Science**, 10, p930 – 935 (2019).
- [38] H. Li, M. H. Garner, Z. Shangguan, Y. Chen, Q. Zheng, T. Su, M. Neupane, T. Liu, M. Steigerwald, F. Ng, C. Nuckolls, S. Xiao\*, G. Solomon\*, **L. Venkataraman\***, *Large Variations in Single Molecule Conductance of Cyclic and Bicyclic Silanes*, **JACS** 140 (44), pp 15080–15088 (2018)
- [39] Y. Zang, S. Ray, E-D. Fung, A. Borges, M. H. Garner, M. L. Steigerwald, G.C. Solomon\*, S. Patil\*, **L. Venkataraman\***, *Resonant Transport in Single-Diketopyrrolopyrrole Junctions*, **JACS** 140 (41), pp 13167–13170 (2018).
- [40] S. Gunasekaran, D. Hernangómez-Pérez, I. Davydenko, S. Marder\*, F. Evers\*, **L. Venkataraman\***, *Near Length-Independent Conductance of Polymethine Molecular Wires*, **Nano Letters**, 18 (10), pp 6387–6391(2018)
- [41] E. Doud, M. S. Inkpen, G. Lovat, E. Montes, D.W. Paley, M.L. Steigerwald, H. Vázquez\*, **L. Venkataraman\***, X. Roy\*, *In Situ Formation of N-Heterocyclic Carbene-Bound Single-Molecule Junctions*, **JACS** 140 (28), 8944–8949 (2018).
- [42] M. H. Garner, H. Li, Y. Chen, T. A. Su, Z. Shangguan, D. W. Paley, T. Liu, F. Ng, H. Li, S. Xiao\*, C. Nuckolls\*, **L. Venkataraman\***, G. C. Solomon\*, *Comprehensive suppression of single-molecule conductance using destructive  $\sigma$ -interference*, **Nature**, 558, 415–419 (2018).
- [43] A. Ravikumar, G. Kladnik, M. Müller, A. Cossaro, G. Bavdek, L. L. Patera, D. Sánchez-Portal, **L. Venkataraman**, A. Morgante, G. P. Brivio, D. Cvetko, G. Fratesi\*, *Tuning ultrafast electron injection dynamics at organic-graphene/metal interfaces*, **Nanoscale** 10, 8014-8022, (2018).
- [44] A. Magyarkuti, O. Adak, A. Halbritter\*, **L. Venkataraman\***, *Electronic and Mechanical Characteristics of Stacked Dimer Molecular Junctions*, **Nanoscale** 10, 8014-8022 (2018)
- [45] J. Brisendine, S. Refaely-Abramson, Z. F. Liu, J. Cui, F. Ng, J. B. Neaton\*, R. Koder\*, **L. Venkataraman\***, *Probing Charge Transport through Peptide Bonds*, **J. Phys. Chem. Lett.**, 9, 763–767 (2018).

- [46] G. Lovat, B. Choi, D.W. Paley, M.L. Steigerwald, L. Venkataraman\*, X. Roy\*, *Room-temperature current blockade in atomically defined single-cluster junctions*, **Nanotechnology**, 12, 1050–1054, (2017)
- [47] X. Yin, Y. Zang, L. Zhu, J. Z. Low, Z.F. Liu, J. Cui, J. B. Neaton\*, L. Venkataraman\*, L. M. Campos\*, *A Reversible Single-Molecule Switch based on Activated Antiaromaticity*, **Science Advances**, 3,10, eaao2615 (2017)
- [48] Y. Zang, A. Pinkard, Z-F. Liu, J.B. Neaton, M. L. Steigerwald, X. Roy\*, L. Venkataraman\*, *Electronically transparent Au-N bonds for molecular junctions*, **JACS**, 139 (42), pp 14845–14848 (2017).
- [49] H. Li, T. A. Su, M. Camarasa-Gómez, D. Hernangómez-Pérez, S. E. Henn, V. Pokorný, C. D. Caniglia, M.S. Inkpen, R. Korytár, M. L. Steigerwald\*, C. Nuckolls\*, F. Evers\*, L. Venkataraman\*, *Silver Makes Better Electrical Contacts to Thiol Terminated Silanes than Gold*, **Angewandte Chemie**, 56, (45) p14145–14148 (2017).
- [50] H. Li, M. Garner, T. Su, A. Jensen, M. Inkpen, M.L. Steigerwald, L. Venkataraman\*, G. Solomon\*, C. Nuckolls\*, *Extreme Conductance Suppression in Molecular Siloxanes*, **JACS**, 139 (30), pp 10212–10215 (2017)
- [51] A. Borges, J. Xia, S-H. Liu, L. Venkataraman\*, G. Solomon\*, *The role of through-space interactions in modulating constructive and destructive interference effects in benzene*, **Nano Letters**, 17 (7), pp 4436–4442 (2017).
- [52] Y. Tsuji, T. Stuyver, S. Gunasekaran, L. Venkataraman, *The Influence of Linkers on Quantum Interference: A Linker Theorem*, **J. Phys. Chem. C**, 121 (27), pp 14451–14462. (2017)
- [53] M. Inkpen\*, Y. Leroux, P. Hapiot, L. Campos, L. Venkataraman\*, *Reversible On-Surface Wiring of Resistive Circuits*, **Chemical Science**, 8, 4340-4346 (2017).
- [54] T. Su, H. Li, R. Klausen, N. Kim, M. Neupane, J. Leighton\*, M. L. Steigerwald\*, L. Venkataraman\*, C. Nuckolls\*, *Silane and Germane Molecular Electronics*, **Acc. Chem. Res.**, 50 (4), p 1088–1095 (2017).
- [55] J. Low, B. Capozzi, J. Cui, S. Wei, L. Venkataraman\*, L. Campos\*, *Tuning the polarity of charge carriers using electron deficient thiophenes*, **Chemical Science**, 8, 3254-3259 (2017).
- [56] F. Evers and L. Venkataraman, *Preface: Special Topic on Frontiers in Molecular Scale Electronics*, **J. Chem. Phys.** 146, 092101 (2017).
- [57] M. Kamenetska, J.R. Widawsky, M. Dell'Angela, M. Frei, L. Venkataraman\*, *Temperature Dependent Tunneling Conductance of Single Molecule Junctions*, **J. Chem. Phys.** 146, 092311 (2017).

- [58] E.-D. Fung, O. Adak, G. Lovat, D. Scarabelli, **L. Venkataraman\***, *Too Hot for Photon-Assisted Transport: Hot-Electrons Dominate Conductance Enhancement in Illuminated Single-Molecule Junctions*, **Nano Letters**, 17, 1255–1261 (2017).
- [59] H. Li, N. Kim, T. Su, M. L. Steigerwald, C. Nuckolls\*, P. Darancet\*, J. Leighton\*, **L. Venkataraman\***, Mechanism for Si—Si Bond Rupture in Single Molecule Junctions, **JACS**, 138 (49), pp 16159–16164 (2016).
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- [61] N. T. Kim, H. Li, **L. Venkataraman\***, J. L. Leighton\*, High-Conductance Pathways in Ring-Strained Disilanes by Way of Direct  $\sigma$ -Si-Si to Au Coordination, **JACS**, 138 (36), pp 11505–11508 (2016).
- [62] M. Koepf, C. Koenigsmann, W. Ding, A. Batra, C.F.A. Negre, **L. Venkataraman\***, G. W. Brudvig\*, V.S. Batista\*, C. A. Schmittenmaer\*, R.H. Crabtree\*, *Controlling the Rectification Properties of Molecular Junctions through Molecule–Electrode Coupling*, **Nanoscale**, 8, p 16357-16362 (2016).
- [63] D. Cvetko\*, G. Fratesi\*, G. Kladnik, A. Cossaro, G. P. Brivio, **L. Venkataraman\***, A. Morgante, *Energy Level Alignment and Ultrafast Charge Injection at Metal–Organic Interfaces*, **PCCP**, 18, 22140-22145 (2016).
- [64] C. Koenigsmann, W. Ding, M. Koepf, A. Batra, **L. Venkataraman\***, C. F. A. Negre\*, G. W. Brudvig\*, R. H. Crabtree\*, V. S. Batista\*, C. A. Schmittenmaer\*, *Structure-Function Relationships in Single-Molecule Rectification by N-phenylbenzamide Derivatives*, **New Journal of Chemistry**, 40, 7373-7378 (2016).
- [65] T. Su, H. Li, R. Klausen, J. R. Widawsky, A. Batra, M. L. Steigerwald, **L. Venkataraman\***, C. Nuckolls\*, *Tuning Conductance in  $\pi$ - $\sigma$ - $\pi$  Single–Molecule Wires*, **JACS**, 138 (24), p 7791–7795 (2016).
- [66] H. Li, M. Garner, Z. Shangguan, Q. Zheng, T. Su, M. Neupane, P. Li, A. Velian, M. L. Steigerwald, S. Xiao\*, C. Nuckolls\*, G. Solomon\*, **L. Venkataraman\***, *Conformations of Cyclopentasilane Stereoisomers Control Molecular Junction Conductance*, **Chemical Science**, 7, p 5657-5662 (2016).
- [67] B. Capozzi, J. Low, J. Xia, Z-F. Liu, J.B. Neaton\*, L. Campos\*, **L. Venkataraman\***, *Mapping the Transmission Function of Single-Molecule Junctions*, **Nano Letters**, 16 (6), p 3949–3954 (2016).
- [68] M. Hybertsen\* and **L. Venkataraman\***, *Structure-Property Relationships in Atomic-Scale Junctions: Histograms and Beyond*, **Accounts of Chemical Research**, 49 (3), 452–460 (2016).

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- [71] **O. Adak**, G. Kladnik, G. Bavdek, A. Cossaro, A. Morgante\*, D. Cvetko\*, **L. Venkataraman\***, *Ultrafast Bidirectional Charge Transport and Electron Decoherence At Molecule/Surfaces Interfaces: A Comparison of Gold, Graphene and Graphene Nanoribbon Surfaces*, **Nano Letters**, 15, 8316–8321 (2015).
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- [73] M. Strange, G. Solomon, **L. Venkataraman\***, L. M. Campos\*, *Reply to "Comment on 'Breakdown of Interference Rules in Azulene, a Nonalternant Hydrocarbon'"*, **Nano Letters**, 15 (11), 7177–7178 (2015).
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- [75] M. Kotiuga, P. Darancet, **C. Arroyo**, **L. Venkataraman**, J. B. Neaton\*, *Adsorption-Induced Solvent-Based Electrostatic Gating of Charge Transport through Molecular Junctions*, **Nano Letters**, 15 (7), 4498–4503 (2015).
- [76] **B. Capozzi**, J. Xia, **O. Adak**, E. Dell, Z. Liu, **J.C. Taylor**, J. B. Neaton\*, L. Campos\* and **L. Venkataraman\***, *Single-Molecule Diodes with High Rectification Ratios through Environmental Control*, **Nature Nanotechnology**, 10, 522–527 (2015).
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- [80] T. Su, **H. Li**, M. L. Steigerwald, **L. Venkataraman\***, C. Nuckolls\*, *Stereoelectronic Switching in Single-Molecule Junctions*, **Nature Chemistry**, 7, 215–220 (2015).



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#### Pre-Columbia Publications:

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#### **INVITED PRESENTATIONS**

1. ICSM 2022, Glasgow, July 2022 (Virtual)
2. Lausanne Physical Chemistry Seminar, April 2022
3. Argonne National Lab Chemical Sciences and Engineering Seminar, February 2022 (ZOOM)
4. International Conference on Molecular Electronics, Lyon, France, December 2021 (ZOOM).
5. Chemistry Seminar, University of Minnesota, November 2021.
6. AVS - Pushing the Boundaries of Energy Transfer in Materials, October 2021. (Declined)
7. ACS Symposium on Deep learning for chemistry, Invited talk, August 2021. (ZOOM)
8. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2021

9. ICSM 2021 Keynote Speaker, June 2021. (ZOOM)
10. RQMP Prestigious Lecture Series on Advanced Materials, Keynote Speaker, May 2021 (ZOOM)
11. NSLS-II and CFN Users' Meeting Scientific Plenary Talk, May 2021 (ZOOM)
12. Chemistry Colloquium at Hamburg University, May 2021, (ZOOM)
13. ACS Symposium on the Chemistry of Molecular Electronics April 2021 (ZOOM)
14. Berkeley Chemistry Colloquium, April 2021 (ZOOM)
15. Tata Institute of Fundamental Research Seminar, December 2020 (ZOOM)
16. Trieste Nano Science Lecture, December 2020 (ZOOM)
17. Leiden University Physics Seminar, October 2020 (ZOOM)
18. The Single-Molecule Sensors and NanoSystems, Invited Talk, Barcelona 2020 - Cancelled
19. ACS Workshop on Chemistry of Molecular Electronics, March 2020 - Cancelled
20. Analytical Chemistry Seminar, Indiana University, March 2020 - Cancelled
21. Workshop on the theory of CISS, Weizmann Institute, Israel, January 2020
22. Physics Colloquium, ICTS Bangalore, December 2019
23. Indian Institute of Science Physics Seminar, Bangalore, December 2019
24. Invited talk, 9th International Conference on Low-Dimensional Devices, Chile, December 2019
25. Closs Memorial Lecture, University of Chicago, November 2019
26. Physics Colloquium, City College, New York, September 2019
27. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2019
28. Chemistry Seminar, Cornell University, May 2019
29. Physics Colloquium, Emory University, April 2019
30. International Conference on Complex & Functional Materials, Kolkata, India, December 2018.
31. Molecular Engineering Seminar, U. Washington, Seattle, November 2018
32. Plenary Talk, ECMOS2018, Spain, October 2018.
33. Chemistry Colloquium, Binghamton University, September 2018
34. Chemistry Colloquium, University of Southern California, April 2018.
35. ACS March Meeting, Workshop organizer, New Orleans, March 2018.
36. Quantum Nanoscience Department Seminar, TU Delft, March 2018.
37. Villars Wilson Meloche Lectureship, University of Wisconsin, Madison, February 2018.
38. Binational Japanese-German Workshop Single-Molecule Science and Technology, Konstanz, December 2017.
39. Quantum Conductance Workshop, City University of New York, November 2017
40. Keynote speaker, FisMat 2017, Trieste, Italy, October 2017
41. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2017
42. Xiamen University PCOSS Lecture, July 2017
43. Wuhan University of Technology, Invited Seminar, July 2017
44. Institute of Chemistry, Chinese Academy of Sciences, Molecular Science Lecture, July 2017
45. Center for Nanoscale Materials User Meeting, Argonne National Labs, Plenary Speaker, May 2017
46. UCSD Chemistry Seminar, May 2017.

47. Eastern Regional Photosynthesis Conference, Keynote Speaker, Woodshole, MA, April 2017.
48. Many paths to interference: a journey between quantum dots and single molecule junctions, Dresden, Germany, April 2017.
49. George Washington University Chemistry Seminar, March 2017.
50. Frontiers in Physical Chemistry Symposium, Caltech, February 2017.
51. Indian Institute of Science Chemistry Seminar, January 2017.
52. MRS Redox Activity on the Molecular Level Fundamental Studies and Applications Symposium, November 2016.
53. Semiconductor Research Corporation GRC Technology Transfer e-Workshop, November 2016.
54. Physical Chemistry Seminar, University of Rochester, New York, November 2016
55. Physical Chemistry Seminar, Colorado University, Boulder, October 2016
56. Workshop on Dynamical Systems, Milan September 2016
57. Conductivity & Magnetism in Molecular Materials Gordon Conference, Mount Holyoke, MA, August 2016
58. Chemistry Seminar, Ben Gurion University, Israel, July 2016
59. Chemistry Colloquium, Weizmann Institute, Israel, July 2016
60. COPE Seminar at Georgia Tech, April 2016.
61. University of California, Berkeley, Physical Chemistry Seminar, April 2016.
62. 10<sup>th</sup> Anniversary Celebration of the Molecular Foundry at Berkeley, Invited Talk, March 2016.
63. ACS March Meeting, Invited Talk, San Diego, March 2016.
64. ICTS Public Lecture, TIFR Bangalore, January 2016.
65. NSF Colloquium at TIFR, Mumbai, January 2016.
66. ISACS18: Challenges in Organic Materials and Supramolecular Chemistry, Plenary Talk, Bangalore, India, November 2015.
67. Colloquium, Center for Nanoscale Materials, Argonne National Labs, November 2015
68. ESPMI-VIII, Invited Talk, Tuscon, Arizona, October 2015.
69. Regensburg, Invited Talk, Germany, September 2015.
70. International Conference on Charge Transfer and Transport at the Nanoscale, Invited Talk, Santiago de Compostela, Spain. September 2015.
71. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2015.
72. Quantum Interference in Molecular Junctions, Workshop, Copenhagen, July 2015.
73. Tata Institute of Fundamental Research, Seminar, June 2015
74. The Batsheva de Rothschild Seminar on Molecular Electronics 2015, Israel, Invited Talk, June 2015.
75. University College London, Invited talk, "Theory meets experiment: molecular nanoscience and applications", June 2015.
76. Chemistry Department Seminar, "Chemistry and Physics of Single-Molecule Circuits", University of British Columbia, March 2015.
77. American Physical Society March Meeting, "Conductance and Thermopower in Thiophene and Oxidized Thiophene Single-Molecule Junctions", Invited Talk, March 2015.
78. Chemistry Department Colloquium, "Chemistry and Physics of Single-Molecule Circuits", Columbia University, February 2015.



79. Laboratory of Surface Modification seminar, "Chemistry and Physics of Single-Molecule Circuits", Rutgers University, January 2015.
80. International Workshop "Controlled Charge and Heat Transport at the Molecular Scale", Invited Talk, Konstanz, Germany.
81. Molecular Machines and Devices: Beilstein Nanotechnology Symposium, Invited Talk, September 2014.
82. From Carbon-Rich Molecules to Carbon-Based Materials Conference, Morocco, Invited Talk, September 2014 (declined).
83. Faraday Discussions: Organics, Photonics & Electronics, Glasgow, Invited Talk, September 2014.
84. Seminar at the Jawaharlal Nehru Centre for Advanced Scientific Research in Bangalore, India, August 2014.
85. ICN+T 2014, Vail Colorado, Invited Talk, July 2014. "Chemistry and Physics at the Single Molecule Level".
86. 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".
87. Electronic Processes in Organic Materials Gordon Conference, Invited Talk, May 2014. "Controlling Electron Transport in Single-Molecule Junctions".
88. Polymer/Materials Seminar, University of North Carolina, Chapel Hill, February 2014. "Chemistry and Physics at the Single Molecule Level".
89. Tokyo Institute of Technology, Seminar, Tokyo, Japan. November 2013. "Mechanics of Single-Molecule Junctions".
90. International School and Symposium on Molecular Materials, Tokyo, Japan, November 2013. "Structure and Electronics of Single Molecule Circuits".
91. Modeling Single-Molecule Junctions: Novel Spectroscopies and Control, Berlin October 2013, "Mechanics of Single-Molecule Junctions".
92. NANOTECHNOLOGY AND SUSTAINABILITY: New Research in Italy and the United States, October 2013, "Probing van der Waals Forces at the Single-Molecule Level"
93. Packard Fellows Meeting, Denver, Colorado, September 2013 "Probing Electronics and Mechanics One Molecule at a Time"
94. Yale University, Material Science Seminar, September 2013, "Electronics and Mechanics of Single-Molecule Circuits"
95. Quantum Transport in Nanoscale Molecular Systems, Telluride, July 2013, "Electronics of Single-Molecule Circuits"
96. Building blocks for carbon-based electronics: From molecules to nanotubes, Regensburg, April 2013, "Electronics and Structure of Single-Molecule Circuits"
97. American Physical Society March Meeting, "Probing van der Waals Forces at the Single-Molecule Level", March 2013
98. Princeton University Physical Chemistry Seminar, "Mechanics and Electronics at the Single-Molecule Level", March 2013
99. 4th International Symposium on Trends in Nanoscience, "Mechanics and Electronics at the Single-Molecule Level" Germany, February 2013
100. University of Konstanz, Physics Department Seminar, "Electronics of Single Molecule Circuits", Konstanz, February 2013

101. ElecMol'12, Grenoble, "Structure and Electronics of Single-Molecule Circuits", France, December 2012
102. Gordon Conference on Single Molecule Approaches to Biology, "Measuring Bond Rupture Forces at the Single-Molecule Level", July 2012
103. Molecular Electronics International Meeting, "Probing the Conductance Superposition Law in Single Molecule Circuits", Jerusalem, July 2012
104. NC-AFM Conference, "Conductance and force measurements across single-molecule junctions", Czech Republic, July 2012
105. Lorentz Workshop on Future Directions of Molecular Electronics, "Conductance and force measurements across single-molecule junctions", June 2012
106. Quantum Transport in Molecular Nanostructures, "Electronics of Single Molecule Circuits", Dublin, May 2012
107. University of Delaware, Physics Department, "Electronics and Mechanics of Single Molecule Circuits", April 2012
108. New York University Nanoscience Discussion Group, "Feeling the Invisible: Quantum Interference in Single Molecule Circuits", New York, April 2012
109. Seminar at Denmark Technical University "Electronics and Mechanics of Single Molecule Circuits", Copenhagen, February 2012
110. Chemistry Department Seminar at the University of Copenhagen "Electronics and Mechanics of Single Molecule Circuits", Copenhagen, February 2012
111. AVS 58th Annual International Symposium and Exhibition Nashville, TN, October 2011
112. European Theoretical Spectroscopy Facility (ETSF), Torino, Italy, September 2011
113. 11th European Conference of Molecular Electronics (ECME 2011), Barcelona, September 2011.
114. Physical Organic Chemistry Gordon Research Conference, June 2011
115. Pan American Advanced Studies Institute, Cartagena, Colombia, June 2011
116. Marquette University, Chemistry Colloquium, March 2011
117. Indian Institute of Science, Chemistry Colloquium, October 2010
118. University of Pennsylvania, Physics Colloquium, October 2010
119. Massachusetts Institute of Technology, Physical Chemistry Seminar, October 2010
120. Yale University Applied Physics Seminar, September 2010
121. Spring College on Computational Nanoscience, Trieste, Italy, May 2010
122. The Russell Berrie Nanotechnology Institute at Technion, Winter School, Israel Feb 2010
123. New York University Nanoscience Discussion Group, New York, Feb 2010
124. Institute for Nanotechnology, Karlsruhe, Germany, Jan 2010
125. International Conference on Molecular Electronics, Emmetten, Switzerland, Jan 2010
126. Tata Institute of Fundamental Research, Mumbai, India, Dec 2009
127. Kavli Institute for Theoretical Physics at the University of California, Santa Barbara, Nov 2009
128. Packard Fellows meeting, September 2009
129. Invited Talk at the Contractor's Meeting organized by the Basic Energy Sciences Division of the U.S. Department of Energy, June 2009
130. Physics Colloquium, Rutgers University, April 2009
131. Invited talk at MRS Symposium B, April 2009
132. Invited talk at MRS Symposium Z, April 2009
133. Colloquium, Physical Review, March 2009

134. IWEPNM2009, Kirchberg/Tirol, Austria, March 2009 (declined)
135. Physics@FOM, Veldhoven, Netherlands, January 2009
136. Emergent Nanoscience Workshop, Columbia University, December 2008
137. University of Massachusetts, Amherst, November 2008
138. Department of Applied Physics, Columbia University, October 2008
139. Yeshiva University Physics Colloquium, September 2008
140. Gordon Conference, Electron Donor-Acceptor Interactions, August 2008
141. French – American Young Engineering Scientists Symposium, July 2008
142. IMEC, Belgium, July 2008
143. ESPMI IV Workshop, Princeton University, June 2008
144. Fundamentals of Electronic Nanosystems, St. Petersburg, June 2008 (declined)
145. HOT NANO TOPICS 2008, Slovenia, May 2008 (declined)
146. NSLS-CFN Workshop, Brookhaven National Labs, May 2008
147. VSLI-TSA Conference, Taiwan, April 2008
148. Chemistry Department, City College of New York, March 2008.
149. Chemistry Department, University of Maryland, November 2007.
150. Molecular Foundry, Lawrence Berkeley National Labs, October 2007.
151. Applied Physics, Columbia University, September 2007.
152. ELETTRA Synchrotron Light Laboratory, Trieste, Italy, July 2007.
153. Brookhaven National Labs, Undergraduate Outreach, June 2007
154. Building Electronic Function into Nanoscale Molecular Architectures, NSF-sponsored Workshop, June 2007
155. New York Academy of Sciences, May 2007
156. Chemistry Department, Princeton University, March 2007
157. American Physical Society March Meeting, March 2007
158. Barnard College Chemistry Department, February 2007
159. Physics Department Colloquium, University of Toronto, February 2007
160. Condensed Matter Seminar, New York University Department of Physics, February 2007
161. Mesilla Chemistry Workshop ‘Electron Transfer and Molecular Devices’, February 2007
162. Department of Applied Physics, Columbia University, February 2007
163. Department of Applied and Engineering Physics, Cornell University, January 2007
164. Brookhaven National Laboratories, January 2007
165. Canadian Institute of Advanced Research meeting, November 2006
166. Nanoscale Functional Materials, Cornell University, October 2006
167. Duke University, October 2006
168. 4th Annual Molecular Conduction and Sensor Workshop, July 2006
169. Chemistry and Physics of Nanostructure Fabrication Gordon Research Conference, July 2006
170. NNIN Synergy conference, Harvard University, May 2006