

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

Visiting:

Satish Dhawan IoE Visiting Chair Professor at February 2023
Solid State and Structural Chemistry, Indian Institute of Science

Vytran Corporation:

Research Scientist November 1999

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

ADVISORY BOARD

Journal of the American Chemical Society
Chemical Science
Nano Letters

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] Q. Zou, J. Qiu, Y. Zang, H. Tian, L. Venkataraman, Modulating single-molecule charge transport through external stimulus, *eScience* (2023).
- [2] L. Li, S. Louie, A.M. Evans, E. Meirzadeh, C. Nuckolls*, **L. Venkataraman***, *Topological radical pairs produce ultrahigh conductance in long molecular wires*, **JACS** 145, 4, 2492–2498 (2023).
- [3] B. Zhang, C. Schaack, C.R. Prindle, E.A. Vo, M. Aziz, M.L. Steigerwald, T.C. Berkelbach*, C. Nuckolls*, **L. Venkataraman***, *Electric fields drive bond homolysis*, **Chemical Science** 14, 1769 (2023).
- [4] 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**, vol. 58, 12556-12559 (2022).
- [5] 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).
- [6] 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).
- [7] 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).
- [8] 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.

- [9] Z. Jin, Q. Cheng, A. Evans, J. Gray, R. Zhang, S.T. Bao, **L. Venkataraman**, Y. Yang, C. Nuckolls*, *π -Conjugated redox-active two-dimensional polymers as organic cathode materials*, **Chemical Science** (2022) **13**, 3533-3538.
- [10] 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.
- [11] A. Paoletta, E-F. Fung, **L. Venkataraman***, *Gap size-dependent plasmonic enhancement in electroluminescent tunnel junctions*, **ACS Photonics** (2022) **9**, 2, 688–693.
- [12] 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).
- [13] 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).
- [14] 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).
- [15] 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.
- [16] 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.
- [17] 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.
- [18] 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.
- [19] 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.

- [20] 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
- [21] 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.
- [22] S. Gunasekaran, **L. Venkataraman***, *Tight-binding analysis of helical states in carbyne*, **J. Chem. Phys.**, 2020, 153, 124304.
- [23] 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.
- [24] 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.
- [25] 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).
- [26] A. Magyarkuti, N. Balogh, Z. Balogh, **L. Venkataraman**, A. Halbritter*, *Unsupervised feature recognition in single molecule break junction data*, **Nanoscale**, 12, 8355–8363 (2020).
- [27] 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).
- [28] S. Gunasekaran, J. Greenwald, **L. Venkataraman***, *Visualizing Quantum Interference in Molecular Junctions*, **Nano Letters**, 20, 4, 2843-2848 (2020).
- [29] D. Hernangómez-Pérez*, S. Gunasekaran, **L. Venkataraman**, F. Evers*, *Solitronics with polyacetylenes*, **Nano Letters**, 20, 4, 2615–2619 (2020).
- [30] 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)
- [31] 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).
- [32] T. Fu, S. Smith, M. Camarasa-Gómez, X. Yu, J. Xue, C. Nuckolls*, F. Evers*, **L. Venkataraman***, S. Wei*, *Enhanced Coupling Through π -Stacking in Imidazole-Based Molecular Junctions*, **Chemical Science**, Accepted (2019)

- [33] M. Garner, H. Li, M. Neupane, Q. Zou, T. Liu, T. Su, Z. Shangguan, D. Paley, F. Ng, S. Xiao, C. Nuckolls*, **L. Venkataraman***, G. Solomon*, *Permethylation Introduces Destructive Quantum Interference in Saturated Silanes*, *JACS*, 141,39, 15471-15476 (2019)
- [34] 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).
- [35] 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).
- [36] 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).
- [37] 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).
- [38] 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).
- [39] 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.
- [40] 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).
- [41] 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)
- [42] 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).
- [43] 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)

- [44] 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).
- [45] 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 σ -interference*, **Nature**, 558, 415–419 (2018).
- [46] 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).
- [47] A. Magyarkuti, O. Adak, A. Halbritter*, **L. Venkataraman***, *Electronic and Mechanical Characteristics of Stacked Dimer Molecular Junctions*, **Nanoscale** 10, 8014-8022 (2018)
- [48] 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).
- [49] G. Lovat, B. Choi, D.W. Paley, M.L. Steigerwald, **L. Venkataraman***, X. Roy*, *Room-temperature current blockade in atomically defined single-cluster junctions*, **Nature Nanotechnology**, 12, 1050–1054, (2017)
- [50] 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)
- [51] 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).
- [52] 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).
- [53] 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)
- [54] 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).

- [55] 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)
- [56] M. Inkpen*, Y. Leroux, P. Hapiot, L. Campos, **L. Venkataraman***, *Reversible On-Surface Wiring of Resistive Circuits*, **Chemical Science**, 8, 4340-4346 (2017).
- [57] 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).
- [58] 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).
- [59] F. Evers and **L. Venkataraman**, *Preface: Special Topic on Frontiers in Molecular Scale Electronics*, **J. Chem. Phys.** 146, 092101 (2017).
- [60] 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).
- [61] 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).
- [62] 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).
- [63] A. Borges, E. Fung, F. Ng, **L. Venkataraman***, G. C. Solomon*, Probing the Conductance of the σ -System of Bipyridine Using Destructive Interference, **J. Phys. Chem. Letters**, 7, pp 4825–4829 (2016).
- [64] N. T. Kim, H. Li, **L. Venkataraman***, J. L. Leighton*, High-Conductance Pathways in Ring-Strained Disilanes by Way of Direct σ -Si-Si to Au Coordination, **JACS**, 138 (36), pp 11505–11508 (2016).
- [65] M. Koepf, C. Koenigsmann, W. Ding, A. Batra, C.F.A. Negre, **L. Venkataraman***, G. W. Brudvig*, V.S. Batista*, C. A. Schmuttenmaer*, R.H. Crabtree*, *Controlling the Rectification Properties of Molecular Junctions through Molecule–Electrode Coupling*, **Nanoscale**, 8, p 16357-16362 (2016).
- [66] 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).

- [67] 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).
- [68] T. Su, H. Li, R. Klausen, J. R. Widawsky, A. Batra, M. L. Steigerwald, **L. Venkataraman***, C. Nuckolls*, *Tuning Conductance in π - σ - π Single-Molecule Wires*, **JACS**, 138 (24), p 7791–7795 (2016).
- [69] H. Li, M. Garner, Z. Shanguan, 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).
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- [72] T. Su, M. Neupane, M. L. Steigerwald*, **L. Venkataraman***, C. Nuckolls*, *Chemical principles of single-molecule electronics*, **Nature Material Reviews**, 1 (3) 1 (2016).
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- [74] 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).
- [75] W. Ding, M. Koepf, C. Koenigsmann, A. Batra, **L. Venkataraman***, C. F. A. Negre*, G. W. Brudvig*, R. H. Crabtree*, C. A. Schmittenmaer*, V. S. Batista*, *Computational Design of Intrinsic Molecular Rectifiers based on Asymmetric Functionalization of N-phenylbenzamide*, **JCTC**, 11, 5888–5896 (2015).
- [76] 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).
- [77] T. Su, H. Li, V. Zhang, M. Neupane, A. Batra, R. S. Klaussen, B. Kumar, M. L. Steigerwald*, **L. Venkataraman***, C. Nuckolls*, *Single-Molecule Conductance in Atomically Precise Germanium Wires*, **JACS**, 137 (38), 12400–12405 (2015).

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Pre-Columbia Publications:

- [149] L. Venkataraman, C. M. Lieber, 'Molybdenum Selenide Molecular Wires as One Dimensional Conductors', **Phys. Rev. Lett.** 83, 5334-5337 (1999).

- [150] F. Silvera, J. Bonalde, T. M. Brill, K. Penanen, L. Venkataraman, 'Experiments Designed to Achieve BEC in Spin-Polarized Hydrogen', Condensed Matter Theories, Vol. 12, edited by J. W. Clark and P. V. Panat (Nova Science Publishers, NY, 1997.)
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INVITED PRESENTATIONS

1. University of Wisconsin, Madison Materials Chemistry Seminar, September 2023
2. Telluride Workshop on Quantum Transport, July 2023
3. Keynote speaker, ICOE-2023, Madrid, Spain, July 2023
4. Electronic Transport in Molecular Quantum Conductors, Invited talk, June 2023, Weizmann Institute, Israel
5. Queens University, Canada, May 2023
6. ISTA, Vienna, April 2023
7. MRS Spring Meeting, San Francisco, April 2023
8. Harvard University Physics Department Lunch-Break Student Seminar, March 2023
9. Indian Institute of Science Chemistry Colloquium, February 2023
10. CUWiP Boston University Plenary Talk, January 2023
11. ICSM 2022, Glasgow, July 2022 (Virtual)
12. Boston University Chemistry Seminar, June 2022
13. Bronx Science High School Davidson Lecture, June 2022
14. Weizmann Institute Chemical Physics Seminar, May 2022
15. Bio-derived Electronics Conference, Ein Gedi, May 2022
16. Lausanne Physical Chemistry Seminar, April 2022
17. Argonne National Lab Chemical Sciences and Engineering Seminar, February 2022 (ZOOM)
18. International Conference on Molecular Electronics, Lyon, France, December 2021 (ZOOM).
19. Albert J Moscovitz lecture, Chemistry Department, University of Minnesota, November 2021.
20. AVS - Pushing the Boundaries of Energy Transfer in Materials, October 2021. (Declined)
21. ACS Symposium on Deep learning for chemistry, Invited talk, August 2021. (ZOOM)
22. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2021
23. ICSM 2021 Keynote Speaker, June 2021. (ZOOM)
24. RQMP Prestigious Lecture Series on Advanced Materials, Keynote Speaker, May 2021 (ZOOM)
25. NSLS-II and CFN Users' Meeting Scientific Plenary Talk, May 2021 (ZOOM)

26. Chemistry Colloquium at Hamburg University, May 2021, (ZOOM)
27. ACS Symposium on the Chemistry of Molecular Electronics April 2021 (ZOOM)
28. Berkeley Chemistry Colloquium, April 2021 (ZOOM)
29. Tata Institute of Fundamental Research Seminar, December 2020 (ZOOM)
30. Trieste Nano Science Lecture, December 2020 (ZOOM)
31. Leiden University Physics Seminar, October 2020 (ZOOM)
32. The Single-Molecule Sensors and NanoSystems, Invited Talk, Barcelona 2020 - Cancelled
33. ACS Workshop on Chemistry of Molecular Electronics, March 2020 - Cancelled
34. Analytical Chemistry Seminar, Indiana University, March 2020 - Cancelled
35. Workshop on the theory of CISS, Weizmann Institute, Israel, January 2020
36. Physics Colloquium, ICTS Bangalore, December 2019
37. Indian Institute of Science Physics Seminar, Bangalore, December 2019
38. Invited talk, 9th International Conference on Low-Dimensional Devices, Chile, December 2019
39. Closs Memorial Lecture, University of Chicago, November 2019
40. Physics Colloquium, City College, New York, September 2019
41. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2019
42. Chemistry Seminar, Cornell University, May 2019
43. Physics Colloquium, Emory University, April 2019
44. International Conference on Complex & Functional Materials, Kolkata, India, December 2018.
45. Molecular Engineering Seminar, U. Washington, Seattle, November 2018
46. Plenary Talk, ECMOS2018, Spain, October 2018.
47. Chemistry Colloquium, Binghamton University, September 2018
48. Chemistry Colloquium, University of Southern California, April 2018.
49. ACS March Meeting, Workshop organizer, New Orleans, March 2018.
50. Quantum Nanoscience Department Seminar, TU Delft, March 2018.
51. Villars Wilson Meloche Lectureship, University of Wisconsin, Madison, February 2018.
52. Binational Japanese-German Workshop Single-Molecule Science and Technology, Konstanz, December 2017.
53. Quantum Conductance Workshop, City University of New York, November 2017
54. Keynote speaker, FisMat 2017, Trieste, Italy, October 2017
55. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2017
56. Xiamen University PCOSS Lecture, July 2017
57. Wuhan University of Technology, Invited Seminar, July 2017
58. Institute of Chemistry, Chinese Academy of Sciences, Molecular Science Lecture, July 2017
59. Center for Nanoscale Materials User Meeting, Argonne National Labs, Plenary Speaker, May 2017
60. UCSD Chemistry Seminar, May 2017.
61. Eastern Regional Photosynthesis Conference, Keynote Speaker, Woodshole, MA, April 2017.
62. Many paths to interference: a journey between quantum dots and single molecule junctions, Dresden, Germany, April 2017.

63. George Washington University Chemistry Seminar, March 2017.
64. Frontiers in Physical Chemistry Symposium, Caltech, February 2017.
65. Indian Institute of Science Chemistry Seminar, January 2017.
66. MRS Redox Activity on the Molecular Level Fundamental Studies and Applications Symposium, November 2016.
67. Semiconductor Research Corporation GRC Technology Transfer e-Workshop, November 2016.
68. Physical Chemistry Seminar, University of Rochester, New York, November 2016
69. Physical Chemistry Seminar, Colorado University, Boulder, October 2016
70. Workshop on Dynamical Systems, Milan September 2016
71. Conductivity & Magnetism in Molecular Materials Gordon Conference, Mount Holyoke, MA, August 2016
72. Chemistry Seminar, Ben Gurion University, Israel, July 2016
73. Chemistry Colloquium, Weizmann Institute, Israel, July 2016
74. COPE Seminar at Georgia Tech, April 2016.
75. University of California, Berkeley, Physical Chemistry Seminar, April 2016.
76. 10th Anniversary Celebration of the Molecular Foundry at Berkeley, Invited Talk, March 2016.
77. ACS March Meeting, Invited Talk, San Diego, March 2016.
78. ICTS Public Lecture, TIFR Bangalore, January 2016.
79. NSF Colloquium at TIFR, Mumbai, January 2016.
80. ISACS18: Challenges in Organic Materials and Supramolecular Chemistry, Plenary Talk, Bangalore, India, November 2015.
81. Colloquium, Center for Nanoscale Materials, Argonne National Labs, November 2015
82. ESPMI-VIII, Invited Talk, Tuscon, Arizona, October 2015.
83. Regensberg, Invited Talk, Germany, September 2015.
84. International Conference on Charge Transfer and Transport at the Nanoscale, Invited Talk, Santiago de Compostela, Spain. September 2015.
85. Quantum Transport in Nanoscale Molecular Systems, Telluride, Conference Organizer, July 2015.
86. Quantum Interference in Molecular Junctions, Workshop, Copenhagen, July 2015.
87. Tata Institute of Fundamental Research, Seminar, June 2015
88. The Batsheva de Rothschild Seminar on Molecular Electronics 2015, Israel, Invited Talk, June 2015.
89. University College London, Invited talk, "Theory meets experiment: molecular nanoscience and applications", June 2015.
90. Chemistry Department Seminar, "Chemistry and Physics of Single-Molecule Circuits", University of British Columbia, March 2015.
91. American Physical Society March Meeting, "Conductance and Thermopower in Thiophene and Oxidized Thiophene Single-Molecule Junctions", Invited Talk, March 2015.
92. Chemistry Department Colloquium, "Chemistry and Physics of Single-Molecule Circuits", Columbia University, February 2015.
93. Laboratory of Surface Modification seminar, "Chemistry and Physics of Single-Molecule Circuits", Rutgers University, January 2015.
94. International Workshop "Controlled Charge and Heat Transport at the Molecular Scale", Invited Talk, Konstanz, Germany.

95. Molecular Machines and Devices: Beilstein Nanotechnology Symposium, Invited Talk, September 2014.
96. From Carbon-Rich Molecules to Carbon-Based Materials Conference, Morocco, Invited Talk, September 2014 (declined).
97. Faraday Discussions: Organics, Photonics & Electronics, Glasgow, Invited Talk, September 2014.
98. Seminar at the Jawaharlal Nehru Centre for Advanced Scientific Research in Bangalore, India, August 2014.
99. ICN+T 2014, Vail Colorado, Invited Talk, July 2014. "Chemistry and Physics at the Single Molecule Level".
100. 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".
101. Electronic Processes in Organic Materials Gordon Conference, Invited Talk, May 2014. "Controlling Electron Transport in Single-Molecule Junctions".
102. Polymer/Materials Seminar, University of North Carolina, Chapel Hill, February 2014. "Chemistry and Physics at the Single Molecule Level".
103. Tokyo Institute of Technology, Seminar, Tokyo, Japan. November 2013. "Mechanics of Single-Molecule Junctions".
104. International School and Symposium on Molecular Materials, Tokyo, Japan, November 2013. "Structure and Electronics of Single Molecule Circuits".
105. Modeling Single-Molecule Junctions: Novel Spectroscopies and Control, Berlin October 2013, "Mechanics of Single-Molecule Junctions".
106. NANOTECHNOLOGY AND SUSTAINABILITY: New Research in Italy and the United States, October 2013, "Probing van der Waals Forces at the Single-Molecule Level"
107. Packard Fellows Meeting, Denver, Colorado, September 2013 "Probing Electronics and Mechanics One Molecule at a Time"
108. Yale University, Material Science Seminar, September 2013, "Electronics and Mechanics of Single-Molecule Circuits"
109. Quantum Transport in Nanoscale Molecular Systems, Telluride, July 2013, "Electronics of Single-Molecule Circuits"
110. Building blocks for carbon-based electronics: From molecules to nanotubes, Regensburg, April 2013, "Electronics and Structure of Single-Molecule Circuits"
111. American Physical Society March Meeting, "Probing van der Waals Forces at the Single-Molecule Level", March 2013
112. Princeton University Physical Chemistry Seminar, "Mechanics and Electronics at the Single-Molecule Level", March 2013
113. 4th International Symposium on Trends in Nanoscience, "Mechanics and Electronics at the Single-Molecule Level" Germany, February 2013
114. University of Konstanz, Physics Department Seminar, "Electronics of Single Molecule Circuits", Konstanz, February 2013
115. ElecMol'12, Grenoble, "Structure and Electronics of Single-Molecule Circuits", France, December 2012
116. Gordon Conference on Single Molecule Approaches to Biology, "Measuring Bond Rupture Forces at the Single-Molecule Level", July 2012

117. Molecular Electronics International Meeting, "Probing the Conductance Superposition Law in Single Molecule Circuits", Jerusalem, July 2012
118. NC-AFM Conference, "Conductance and force measurements across single-molecule junctions", Czech Republic, July 2012
119. Lorentz Workshop on Future Directions of Molecular Electronics, "Conductance and force measurements across single-molecule junctions", June 2012
120. Quantum Transport in Molecular Nanostructures, "Electronics of Single Molecule Circuits", Dublin, May 2012
121. University of Delaware, Physics Department, "Electronics and Mechanics of Single Molecule Circuits", April 2012
122. New York University Nanoscience Discussion Group, "Feeling the Invisible: Quantum Interference in Single Molecule Circuits", New York, April 2012
123. Seminar at Denmark Technical University "Electronics and Mechanics of Single Molecule Circuits", Copenhagen, February 2012
124. Chemistry Department Seminar at the University of Copenhagen "Electronics and Mechanics of Single Molecule Circuits", Copenhagen, February 2012
125. AVS 58th Annual International Symposium and Exhibition Nashville, TN, October 2011
126. European Theoretical Spectroscopy Facility (ETSF), Torino, Italy, September 2011
127. 11th European Conference of Molecular Electronics (ECME 2011), Barcelona, September 2011.
128. Physical Organic Chemistry Gordon Research Conference, June 2011
129. Pan American Advanced Studies Institute, Cartagena, Colombia, June 2011
130. Marquette University, Chemistry Colloquium, March 2011
131. Indian Institute of Science, Chemistry Colloquium, October 2010
132. University of Pennsylvania, Physics Colloquium, October 2010
133. Massachusetts Institute of Technology, Physical Chemistry Seminar, October 2010
134. Yale University Applied Physics Seminar, September 2010
135. Spring College on Computational Nanoscience, Trieste, Italy, May 2010
136. The Russell Berrie Nanotechnology Institute at Technion, Winter School, Israel Feb 2010
137. New York University Nanoscience Discussion Group, New York, Feb 2010
138. Institute for Nanotechnology, Karlsruhe, Germany, Jan 2010
139. International Conference on Molecular Electronics, Emmetten, Switzerland, Jan 2010
140. Tata Institute of Fundamental Research, Mumbai, India, Dec 2009
141. Kavli Institute for Theoretical Physics at the University of California, Santa Barbara, Nov 2009
142. Packard Fellows meeting, September 2009
143. Invited Talk at the Contractor's Meeting organized by the Basic Energy Sciences Division of the U.S. Department of Energy, June 2009
144. Physics Colloquium, Rutgers University, April 2009
145. Invited talk at MRS Symposium B, April 2009
146. Invited talk at MRS Symposium Z, April 2009
147. Colloquium, Physical Review, March 2009
148. IWEPNM2009, Kirchberg/Tirol, Austria, March 2009 (declined)
149. Physics@FOM, Veldhoven, Netherlands, January 2009
150. Emergent Nanoscience Workshop, Columbia University, December 2008
151. University of Massachusetts, Amherst, November 2008

152. Department of Applied Physics, Columbia University, October 2008
153. Yeshiva University Physics Colloquium, September 2008
154. Gordon Conference, Electron Donor-Acceptor Interactions, August 2008
155. French – American Young Engineering Scientists Symposium, July 2008
156. IMEC, Belgium, July 2008
157. ESPMI IV Workshop, Princeton University, June 2008
158. Fundamentals of Electronic Nanosystems, St. Petersburg, June 2008 (declined)
159. HOT NANO TOPICS 2008, Slovenia, May 2008 (declined)
160. NSLS-CFN Workshop, Brookhaven National Labs, May 2008
161. VSLI-TSA Conference, Taiwan, April 2008
162. Chemistry Department, City College of New York, March 2008.
163. Chemistry Department, University of Maryland, November 2007.
164. Molecular Foundry, Lawrence Berkeley National Labs, October 2007.
165. Applied Physics, Columbia University, September 2007.
166. ELETTRA Synchrotron Light Laboratory, Trieste, Italy, July 2007.
167. Brookhaven National Labs, Undergraduate Outreach, June 2007
168. Building Electronic Function into Nanoscale Molecular Architectures, NSF-sponsored Workshop, June 2007
169. New York Academy of Sciences, May 2007
170. Chemistry Department, Princeton University, March 2007
171. American Physical Society March Meeting, March 2007
172. Barnard College Chemistry Department, February 2007
173. Physics Department Colloquium, University of Toronto, February 2007
174. Condensed Matter Seminar, New York University Department of Physics, February 2007
175. Mesilla Chemistry Workshop ‘Electron Transfer and Molecular Devices’, February 2007
176. Department of Applied Physics, Columbia University, February 2007
177. Department of Applied and Engineering Physics, Cornell University, January 2007
178. Brookhaven National Laboratories, January 2007
179. Canadian Institute of Advanced Research meeting, November 2006
180. Nanoscale Functional Materials, Cornell University, October 2006
181. Duke University, October 2006
182. 4th Annual Molecular Conduction and Sensor Workshop, July 2006
183. Chemistry and Physics of Nanostructure Fabrication Gordon Research Conference, July 2006
184. NNIN Synergy conference, Harvard University, May 2006