CURRICULUM VITAE

January 2021

Name:	Michael Galperin
Born:	May 1969, Ekaterinburg, Russia
Marital status:	Married (+1)
Citizenship:	USA, Israel, Russia
Office Address:	Dept. of Chemistry & Biochemistry Urey Hall, Room 3218 UCSD Mail Code 0340 La Jolla, CA 92093-0340
phone:	(858) 246-0511
E-mail:	migalperin@ucsd.edu
URL:	http://galperingroup.ucsd.edu/

Research Interests

- Electron transport in condensed phases
- Dissipation and relaxation processes
- Open quantum systems out of equilibrium
- Molecular electronics

Experience

since 07/2020	Professor	University of California San Diego, La Jolla, CA, USA
07/2014–06/2020	Associate Professor	University of California San Diego, La Jolla, CA, USA
07/2008–06/2014	Assistant Professor	University of California San Diego, La Jolla, CA, USA
08/2007–06/2008	Director's Postdoctoral Fellow	Los Alamos National Laboratory, Los Alamos, NM, USA
08/2007–07/2008	Visiting Scholar	Northwestern University, Evanston, IL, USA
09/2003–08/2007	Senior Research Associate	Northwestern University, Evanston, IL, USA
09/2002–08/2003	Postdoctoral Fellow	Duke University, Durham, NC, USA
1991–1995	Junior Scientific Researcher	Institute of Metal Physics, Russian Academy of Sciences, Ekaterinburg, Russia

Education

03/1996–01/2003	Ph.D. (Chemical Physics) (with distinction)	Tel Aviv University, Tel Aviv, Israel
09/1986–06/1991	M.Sc. (Theoretical Physics) (with distinction)	Ural State University, Ekaterinburg, Russia

Ph.D. Thesis:	"Electron tunneling through molecular layers"
Supervisor:	Prof. Abraham Nitzan
Completion:	January 2003

M.Sc. Thesis:	"Calculation of the spectrum of self-ordering alloy"
Supervisor:	Prof. Mikhail Katsnelson
Completion:	June 1991

Awards and Fellowships

2017-2019	Top Reviewer for the Journal of Chemical Physics
2011-2017	DOE Early Career Award
2011-2012	Hellman Faculty Fellow
2008–2011	User of the Center for Integrated Nanotechnologies
2007–2009	Los Alamos National Laboratory Director's Postdoctoral Fellowship
February 5, 2001	The Israel Chemical Society, J. Jortner prize for outstanding chemistry graduate.
1996–2001	The Tel Aviv University, School of Chemistry, fellowship for Ph.D. students.

Membership in Professional Societies:

American Physical Society	since 11/2002
American Chemical Society	06/2005-06/2018
Sigma XI, The Scientific Research Honor Society	since 03/2021

Review Service to Professional Journals:

- ACS Nano
- ChemPhysChem
- Entropy
- Europhysics Letters
- Europhysics Journal B
- Journal of the American Chemical Society
- The Journal of Applied Physics
- The Journal of Chemical Physics
- Journal of Chemical Theory and Computation
- The Journal of Physical Chemistry
- The Journal of Physical Chemistry Letters
- Journal of Physics: Condensed Matter
- Journal of Physics A: Mathematical and Theoretical
- Journal of Physics D: Applied Physics
- Molecular Simulation
- Nano Letters
- Nanotechnology
- Nature Communications
- Nature Materials
- New Journal of Physics
- PNAS
- Physical Chemistry Chemical Physics

- Physical Review Letters
- Physical Review B
- Physica Status Solidi (b)
- Physics Letters A
- Scientific Reports

Review Service to Grant Agencies:

- Department of Energy (DOE)
- National Science Foundation (NSF)
- Israel Science Foundation (ISF)
- European Research Council (ERC)
- Czech Science Foundation (GAČR)
- Deutsche Forschungsgemeinschaft (DFG)
- German-Israeli Foundation (GIF)
- Swiss National Science Foundation (SNSF)

Participation in Scientific Meetings:

1. "Quantum Transport in Nanoscale Molecular Systems", TSRC Workshop, July 26 - 30, 2021, Telluride, CO (invited talk).
2. "Nonequilibrium Phenomena, Nonadiabatic Dynamics and Spectroscopy", TSRC Workshop, July 19 - 23, 2021, Telluride, CO (invited talk).
3. Frontiers of Quantum and Mesoscopic Thermodynamics, July 18-24, 2021, Prague, Czech Republic (invited talk).
4. Symposium "Chemistry of Molecular Electronics", ACS Spring 2021 Meeting, April 5-12, 2021, online (invited talk).
5. Symposium on Chemistry in Real Space and Time, ACS National Meeting & Exposition, August 25-29, 2019, San Diego, CA (invited talk).
6. Frontiers of Quantum and Mesoscopic Thermodynamics, July 14-20, 2019, Prague, Czech Republic (invited talk).
7. International Symposium on Electromagnetic Theory (EMTS 2019), May 27-31, 2019, San Diego, CA USA (invited talk).
8. 4^{th} Annual SoCal Theoretical Chemistry Conference, May 18, 2019, University of Southern California, Los Angeles, CA (invited talk).
9. School and Workshop on Quantum and Nano Thermodynamics, September 27-29, 2018, Uppsala, Sweden (invited talk).
10. Progress in Nonequilibrium Green's Functions VII, August 28-31, 2018, Frascati, Italy (invited talk).
11. "Quantum Conductance and Forces across Molecular Junctions", Graduate Center, CUNY, November 2, 2017, New York (invited talk).
12. "Quantum Transport in Nanoscale Molecular Systems", TSRC Workshop, July 31 - August 4, 2017, Telluride, CO (invited talk).
13. Frontiers of Quantum and Mesoscopic Thermodynamics, July 9-15, 2017, Prague, Czech Republic (invited talk).
14. "Bridging the Worlds of Electromagnetic and Quantum Simulations", CECAM Workshop, June 20-23, 2017, Tel Aviv, Israel (invited talk).

15. "Recent Progress in Numerical Green's Functions Methods in Physics and Chemistry", TSRC Workshop, August 1-5, 2016, Telluride, CO (invited talk).

16. "2nd Computational and Theoretical Chemistry Research PI Meeting", Sponsored by the U.S. Department of Energy Office of Science, Office of Basic Energy Sciences (BES), Gaithersburg Marriott Washingtonian Center, Gaithersburg, MD 20878-5359, May 15-18, 2016 (invited talk).

17. 251st ACS National Meeting & Exposition, March 13-17, 2016, San Diego, CA (talk).

18. "Open Quantum Systems: Computational Methods", CECAM workshop, November 30 - December 4, 2015, Hong Kong, China (invited talk).

19. Progress in Nonequilibrium Green's Functions VI, August 17-21, 2015, Lund, Sweden (invited talk).

20. Frontiers of Quantum and Mesoscopic Thermodynamics, July 27-August 1, 2015, Prague, Czech Republic (invited talk).

21. "Quantum Transport in Nanoscale Molecular Systems", TSRC Workshop, July 20-24, 2015, Telluride, CO (invited talk).

22. "40 Years Later: Molecular Electronics 2015", June 7-12, 2015, Maa'le Hachamisha, Israel (invited talk).
    The meeting honors Mark Ratner and his scientific contributions.

23. "Computational and Theoretical Chemistry Research PI Meeting", Sponsored by the U.S. Department of Energy Office of Science, Office of Basic Energy Sciences (BES), Westin Annapolis, 100 Westgate Circle, Annapolis, Maryland, 21401, April 26-29, 2015 (invited talk).

24. "Controlled Charge and Heat Transport at the Molecular Scale", CECAM workshop, September 29 - October 1, 2014, Konstanz, Germany (invited talk).

25. XXIV International Conference on Raman Spectroscopy, August 10-15, 2014, Jena, Germany (invited talk).

26. "Nano and Giga Challenges in Electronics, Photonics and Renewable Energy", March 10-14, 2014, Phoenix, AZ (invited talk).

27. "Quantum Dynamics in Molecular and Nano-Materials: Mechanisms and Functionality", CECAM workshop, November 28 - December 1, 2013, Tel Aviv, Israel (invited talk).

28. "Modeling Single-Molecule Junctions: Novel Spectroscopies and Control", October 14-16, 2013, Berlin, Germany (invited talk).

29. Frontiers of Quantum and Mesoscopic Thermodynamics, July 29-August 3, 2013, Prague, Czech Republic (invited talk).

30. "Quantum transport in nanoscale molecular systems", TSRC Workshop, July 8-12, 2013, Telluride, CO (invited talk).

31. "Controlled atomic dynamics on solid surfaces: atom and molecular manipulation", May 13-16, 2013, Donostia International Physics Center (DIPC), San Sebastián, Spain (invited talk).
The workshop is dedicated to Prof. Hiromu Ueba.

32. "Molecular Junctions", Kavli Institute for Theoretical Physics China (KITPC), December 3-28, 2012, Beijing, China (invited talk).

33. Seminar, School of Chemistry, Tel Aviv University, November 1, 2012, Tel Aviv, Israel (invited talk).

34. 14^{th} International Conference on Vibrations at Surfaces, September 24-28, 2012, Kobe, Japan (invited talk).

35. Workshop of the NSF Center for Chemical Innovation: Chemistry at the Space Time Limit (CaSTL), September 13-14, 2012, UC Irvine, CA (invited talk).

36. 244th ACS National Meeting & Exposition, Young Investigator Awardee Forum: Views on Hot Topics In Research, August 19-23, 2012, Philadelphia, PA (invited talk).

37. Workshop "Small Matters", UCSD, July 23, 2012; La Jolla, CA (invited talk).

38. "Nanomaterials: Theory and Computation", TSRC Workshop, July 16-20, 2012, Telluride, CO (invited talk).

39. R. G. Herb Condensed Matter Seminar, Department of Physics, University of Wisconsin-Madison, March 8, 2012, Madison, WI (invited talk).

40. Seminar, Holon Institute of Technology, December 19, 2011, Holon, Israel (invited talk).

41. Quantum Transport in Nanoscale Molecular Systems, TSRC Workshop, August 1-5, 2011, Telluride, CO (invited talk).

42. Frontiers of Quantum and Mesoscopic Thermodynamics, July 25-30, 2011, Prague, Czech Republic (invited talk).

43. 94th Canadian Chemistry Conference and Exhibition, June 5-9, 2011, Montréal, Canada (invited talk).

44. Workshop: "Thermodynamics: Can macro learn from nano?" May 22-25, 2011, Snogeholm Castle, Sweden (invited talk).

45. Spring 2011 ACS National Meeting & Exposition, March 27-31, 2011, Anaheim, CA (invited talk).

46. Seminar, Liquid Crystal Institute, Kent State University, January 19, 2011, Kent, OH (invited talk).

47. Seminar, Chaim Weizmann Institute of Chemistry, The Hebrew University of Jerusalem, December 28, 2010, Jerusalem, Israel (invited talk).

48. Seminar, School of Chemistry, Tel Aviv University, December 16, 2010, Tel Aviv, Israel (invited talk).

49. Nonequilibrium quantum many-particle correlated systems, Workshop, National Institute for Theoretical Physics, Stellenbosch Institute of Advanced Study, October 4-8, 2010, Stellenbosch, South Africa (invited talk).

50. Seminar, Chaim Weizmann Institute of Chemistry, The Hebrew University of Jerusalem, July 5, 2010, Jerusalem, Israel (invited talk).

51. Quantum transport and dynamics in materials and biosystems: From molecular mechanisms to mesoscopic functionality, CECAM Workshop, May 12-15, 2010, CECAM/ACAM node at Dublin, Ireland (invited talk).

52. Seminar, Center for Nonlinear Phenomena and Complex Systems, Université Libre de Bruxelles, May 11, 2010, Brussels, Belgium (invited talk).

53. 239th ACS National Meeting & Exposition, March 21-25, 2010, San Francisco, CA (talk).

54. Quantum Transport in Nanoscale Molecular Systems, TSRC Workshop, July 27-31, 2009, Telluride, CO (invited talk).

55. Optimization At a Small Scale, UCSD, July 20-21, 2009; La Jolla, CA (invited talk).

56. Theoretical modelling of transport in nanostructures, CECAM Workshop, June 2-5, 2009, CECAM-HQ-EPFL, Lausanne, Switzerland (invited talk).

57. Annual APS March Meeting 2009, March 16-20, 2009, David L. Lawrence Convention Center; Pittsburgh, PA (talk).

58. Seminar, Department of Physics and Materials Science, December 1-5, 2008, Uppsala University, Uppsala, Sweden (invited talk).

59. Workshop on Nonlinear Electron Transport in Nano-junctions, July 7-11, 2008, Niels Bohr Institute, Copenhagen, Denmark (invited talk).

60. Annual APS March Meeting 2008, March 10-14, 2008, New Orleans Convention Center; New Orleans, LA (talk).

61. Seminar, October 19, 2007, Center of Nanoscale Materials (CNM), Argonne National Laboratory, Chicago, IL (invited talk).

62. Molecular Conduction Workshop 2007, July 18-20, 2007, Purdue University, West Lafayette, IN (invited talk).

63. 233^{rd} ACS National Meeting & Exposition, March 25-29, 2007, Chicago, IL (talk).

64. Annual APS March Meeting 2007, March 5-9, 2007, Colorado Convention Center; Denver, CO (talk).

65. Inelastic effects in transport at the atomic scale: from realistic current simulations to chemical detection at the atomic scale via IET spectroscopy, CECAM Workshop, December 18-20, 2006, 46 allée d'Italie, 69007 Lyon, France (invited talk).

66. International Argonne Fall Workshop on Nanophysics VI: Nanoscale Superconductivity and Magnetism, November 13-16, 2006, Argonne National Laboratory, USA. (invited talk).

67. Annual APS March Meeting 2006, March 13-17, 2006, Baltimore Convention Center; Baltimore, MD (talk).

68. Workshop on Computational Materials and Molecular Electronics, October 20-22, 2005, Institute for Computational Engineering and Sciences, Avaya Auditorium, University of Texas at Austin, 201 East 24th Street, Austin, Texas (invited talk).

69. Molecular Conduction and Sensors Workshop, July 27-29, 2005, Purdue University, West Lafayette, IN (talk).

70. 2^{nd} Conference on Nanoscale Devices and System Integration, April 4-6, 2005, Warwick Hotel, Houston, Texas (invited talk).

71. Annual APS March Meeting 2005, March 21-25, 2005, Los Angeles Convention Center; Los Angeles, CA (invited talk).

72. "Molecular-Scale Electronics VII", Bahia Resort Hotel, 998 West Mission Bay Drive, San Diego, California 92109, January 23-26, 2005 (talk).

73. 2003 Summer Institute. Workshop on Molecular Conduction. July 9-11, 2003, Purdue University, West Lafayette, Indiana, Stewart Conference Center (talk).

74. Annual APS March Meeting 2003, March 3-7, 2003, Austin Convention Center; Austin, TX (talk).

75. Theoretical Chemistry group seminar, Department of Chemistry, Technion — Israel Institute of Technology, Haifa, Israel, June 18, 2002 (invited talk).

76. "Transport phenomena from quantum to classical regimes", 25 September 2000, Ustron, Poland (poster).

77. "Driven Quantum Systems", 240. WE–Heraeus–Seminar, 17-21 September 2000 at Evangelische Akademie Tutzing, Tutzing, Germany (poster).

78. Winter–School and Workshop on Resonance Phenomena in Chemical Physics, Technion City, Haifa, Israel, February 14-19, 1999 (poster).

79. “Electron Transfer”, Research workshop of the Israel Science Foundation, Maagan, Sea of Galilee, Israel, December 13-17, 1998 (poster).

Publications:

1. Nikhil Seshadri and Michael Galperin,
"Entropy and information flow in quantum systems strongly coupled to baths",
Phys. Rev. B **103**, 085415 (2021).

2. Nicolas Bergmann and Michael Galperin,
"Green's functions perspective on nonequilibrium thermodynamics of open quantum systems strongly coupled to baths",
Eur. Phys. J. - Spec. Top. (2021) https://doi.org/10.1140/epjs/s11734-021-00067-3 [**Part of a collection: Non-equilibrium Systems and Foundations of Quantum Physics**].

3. Feng Chen, Mikhail I. Katsnelson, and Michael Galperin,
"Nonequilibrium dual-boson technique",
Phys. Rev. B **101**, 235439 (2020).

4. Guy Cohen and Michael Galperin,
"Green's function methods for single molecule junctions",
J. Chem. Phys. **152** (9), 090901 (2020) [**Perspective**].

5. Gabriel Cabra, Ignacio Franco, and Michael Galperin,
"Optical properties of periodically-driven open nonequilibrium quantum systems",
J. Chem. Phys. **152** (9), 094101 (2020).

6. Feng Chen, Enrico Arrigoni, and Michael Galperin,
"Markovian treatment of non-Markovian dynamics of open Fermionic systems",
New J. Phys. **21**, 123035 (2019).

7. Shaul Mukamel and Michael Galperin,
"Flux-Conserving Diagrammatic Formulation of Optical Spectroscopy of Open Quantum Systems",
J. Phys. Chem. C **123** (47), 29015-29023 (2019) [**Virtual Special Issue: Towards Chemistry in Real Space and Real Time**].

8. Michael Ridley, Michael Galperin, Emmanuel Gull, and Guy Cohen,
"Numerically exact counting statistics of energy current in the Kondo regime",
Phys. Rev. B **100**, 165127 (2019).

9. Nicolas Bergmann and Michael Galperin.
"Electron transfer methods in open systems",
J. Phys. Chem. B **123** (33), 7225-7232 (2019) [**David N. Beratan Festschrift**].

10. Feng Chen, Guy Cohen, and Michael Galperin.
"Auxiliary master equation for nonequilibrium dual-fermion approach",
Phys. Rev. Lett. **122**, 186803 (2019)
(cited 1 time).

11. Feng Chen, Kuniyuki Miwa, and Michael Galperin.
"Electronic friction in interacting systems",
J. Chem. Phys. **150**, 174101 (2019) [**Special Topic: Dynamics of Open Quantum Systems**].

12. Kensuke Kimura, Kuniyuki Miwa, Hiroshi Imada, Miyabi Imai-Imada, Shota Kawahara, Jun Takeya, Michael Galperin, and Yousoo Kim.
"Selective triplet excitation formation in a single molecule",
Nature **570**, 210-213 (2019).

13. Kuniyuki Miwa, Amin Morteza Najarian, Richard McCreery, and Michael Galperin.
"Hubbard Nonequilibrium Green's Function Analysis of Photocurrent in Nitroazobenzene Molecular Junction",
J. Phys. Chem. Lett. **10**, 1550-1557 (2019).

14. Kuniyuki Miwa, Hiroshi Imada, Miyabi Imai-Imada, Kensuke Kimura, Michael Galperin, and Yousoo Kim.
"Many-body States Description of Single-molecule Electroluminescence Driven by Scanning Tunneling Microscope",
Nano Lett. **19** (5), 2803-2811 (2019).

15. Feng Chen, Kuniyuki Miwa, and Michael Galperin.
"Current-induced forces for nonadiabatic molecular dynamics",
J. Phys. Chem. A **123** (3), 693-701 (2019) [**Abraham Nitzan Festschrift**]
(cited 3 times).

16. Gabriel Cabra, Massimiliano Di Ventra, and Michael Galperin.
"Local-noise spectroscopy for nonequilibrium systems", Phys. Rev. B **98**, 235432 (2018).

17. Abraham Nitzan and Michael Galperin.
"Kinetic schemes in open interacting systems",
J. Phys. Chem. Lett. **9**, 4886-4892 (2018)
(cited 1 time).

18. Gabriel Cabra, Anders Jensen, and Michael Galperin.
"On simulation of local fluxes in molecular junctions",
J. Chem. Phys. **148** (20), 204103 (2018)
(cited 4 times).

19. Feng Chen, Yi Gao, and Michael Galperin.
"Molecular Heat Engines: Quantum Coherence Effects",
Entropy **19** (9), 472 (2017)
(cited 7 times).

20. Kuniyuki Miwa, Feng Chen, and Michael Galperin.
"Towards Noise Simulation in Interacting Nonequilibrium Systems Strongly Coupled to Baths",
Sci. Rep. **7** (1), 9735 (2017)
(cited 10 times).

21. Michael Galperin.
"Photonics and spectroscopy in nanojunctions: A theoretical insight",
Chem. Soc. Rev. **46** (13), 4000-4019 (2017) [**Review**]
(cited 20 times).

22. Feng Chen, Maicol A. Ochoa, and Michael Galperin.
"Nonequilibrium diagrammatic technique for Hubbard Green functions",
J. Chem. Phys. **146**, 092301 (2017)
(cited 14 times)

23. Yi Gao, Michael Galperin, and Abraham Nitzan.
"On the widths of Stokes lines in Raman scattering from molecules adsorbed at metal surfaces and in molecular conduction junctions",
J. Chem. Phys. **144**, 244114 (2016)
(cited 4 times)

24. Yi Gao and Michael Galperin.
"Simulation of optical response functions in molecular junctions",

J. Chem. Phys. **144**, 244106 (2016)
(cited 9 times).

25. Yi Gao and Michael Galperin.
"Optical spectroscopy of molecular junctions: Nonequilibrium Green's functions perspective",
J. Chem. Phys. **144**, 174113 (2016)
(cited 10 times).

26. S. Dey, M. Banik, E. Hulkko, K. Rodriguz, V. A. Apkarian, M. Galperin, and A. Nitzan.
"Observation and analysis of Fano-like lineshapes in the Raman spectra of molecules adsorbed at metal interfaces",
Phys. Rev. B **93**, 035411 (2016)
(cited 25 times).

27. Massimiliano Esposito, Maicol A. Ochoa, and Michael Galperin.
"Nature of heat in strongly coupled open quantum systems",
Phys. Rev. B **92**, 235440 (2015)
(cited 68 times).

28. Michael Galperin and Abraham Nitzan.
"Nuclear dynamics at molecule-metal interfaces: A pseudoparticle perspective",
J. Phys. Chem. Lett. **6**, 4898-4903 (2015)
(cited 19 times).

29. Michael Galperin, Mark A. Ratner, and Abraham Nitzan.
"Comment on "Frequency-domain stimulated and spontaneous light emission signals at molecular junctions" [J. Chem. Phys. 141, 074107 (2014)]",
J. Chem. Phys. **142** (13), 137101 (2015)
(cited 6+2 times).

30. Massimiliano Esposito, Maicol A. Ochoa, and Michael Galperin.
"Efficiency fluctuations in quantum thermoelectric devices",
Phys. Rev. B **91**, 115417 (2015)
(cited 38 times).

31. Massimiliano Esposito, Maicol A. Ochoa, and Michael Galperin.
"Quantum thermodynamics: A nonequilibrium Green's function approach",

Phys. Rev. Lett. **114**, 080602 (2015) [**Editors' Suggestion**]
(cited 98 times).

32. Maicol A. Ochoa, Yotam Selzer, Uri Peskin, and Michael Galperin.
"Pump-probe noise spectroscopy of molecular junctions",
J. Phys. Chem. Lett. **6**, 470-476 (2015)
(cited 21 times).

33. Adva Baratz, Alexander J. White, Michael Galperin, and Roi Baer.
"Effects of electromagnetic coupling on conductance switching of a gated tunnel junction",
J. Phys. Chem. Lett. **5**, 3545-3550 (2014)
(cited 6 times).

34. Maicol A. Ochoa, Michael Galperin, and Mark A. Ratner.
"A non-equilibrium equation-of-motion approach to quantum transport utilizing projection operators",
J. Phys.: Condens. Matter **26** (45), 455301 (2014)
(cited 6 times).

35. Alexander J. White, Maicol A. Ochoa, and Michael Galperin.
"Nonequilibrium Atomic Limit for Transport and Optical Response of Molecular Junctions",
J. Phys. Chem. C **118** (21), 11159-11173 (2014) [**Feature Article**]
(cited 19 times).

36. Alexander J. White, Sergei Tretiak, and Michael Galperin.
"Raman Scattering in Molecular Junctions: A Pseudoparticle Formulation",
Nano Lett. **14** (2), 699-703 (2014)
(cited 24 times).

37. Alexander J. White, Uri Peskin, and Michael Galperin.
"Coherence in charge and energy transfer in molecular junctions",
Phys. Rev. B **88**, 205424 (2013)
(cited 19 times).

38. Alexander J. White, Michael Galperin, Boris Apter, and Boris D. Fainberg.
"Non-Markovian theory of collective plasmon-molecule excitations in nanojunctions combined with classical electrodynamic simulations",
Proc. SPIE **8827**, 88270C (2013).

39. Dhurba Rai and Michael Galperin.
"Electrically driven spin currents in DNA",
J. Phys. Chem. C **117** (26), 13730-13737 (2013)
(cited 31 times).

40. Adva Baratz, Michael Galperin, and Roi Baer.
"Gate-Induced Intramolecular Charge Transfer: A Nonequilibrium Analysis",
J. Phys. Chem. C **117** (20), 10257-10263 (2013);
"Correction to Gate-Induced Intramolecular Charge Transfer: A Nonequilibrium Analysis",
J. Phys. Chem. C **117** (35), 18279 (2013)
(cited 15+1 times).

41. Alexander J. White, Agostino Migliore, Michael Galperin, and Abraham Nitzan.
"Quantum transport with two interacting conduction channels",
J. Chem. Phys. **138** (17), 174111 (2013)
(cited 11 times).

42. Burkhard O. Jahn, Henrik Ottosson, Michael Galperin, and Jonas Fransson.
"Organic Single Molecular Structures for Light Induced Spin-Pump Devices",
ACS Nano **7** (2), 1064-1071 (2013)
(cited 23 times).

43. Mayukh Banik, Vartkess A. Apkarian, Tae-Ho Park, and Michael Galperin.
"Raman Staircase in Charge Transfer SERS at the Junction of Fusing Nanospheres",
J. Phys. Chem. Lett. **4**, 88-92 (2013)
(cited 28 times).

44. Michael Galperin and Abraham Nitzan.
"Cooperative effects in inelastic tunneling",
J. Phys. Chem. B **117** (16), 4449-4453 (2013)
(cited 9 times).

45. Alexander J. White, Maxim Sukharev, and Michael Galperin.
"Molecular nanoplasmonics: Self-consistent electrodynamics in current-carrying junctions",

Phys. Rev. B **86**, 205324 (2012)
(cited 18 times).

46. Alexander J. White, Boris D. Fainberg, and Michael Galperin.
"Collective Plasmon-Molecule Excitations in Nanojunctions: Quantum Consideration", J. Phys. Chem. Lett. **3**, 2738-2743 (2012)
(cited 50 times).

47. Tae-Ho Park and Michael Galperin.
"A time-dependent response to optical excitation in molecular junctions", Phys. Scr. T **151**, 014038 (2012)
(cited 7 times).

48. Dhurba Rai and Michael Galperin.
"Spin inelastic currents in molecular ring junctions", Phys. Rev. B **86**, 045420 (2012)
(cited 15 times).

49. Alexander J. White and Michael Galperin.
"Inelastic transport: a pseudoparticle approach",
Phys. Chem. Chem. Phys. **14** (40), 13809-13819 (2012)
(cited 40 times).

50. Michael Galperin and Abraham Nitzan.
"Molecular optoelectronics: The interaction of molecular conduction junctions with light",
Phys. Chem. Chem. Phys. **14** (26), 9421-9438 (2012)
(cited 130 times).

51. Michal Oren, Michael Galperin, and Abraham Nitzan.
"Raman scattering from molecular conduction junctions: Charge transfer mechanism",
Phys. Rev. B **85** (11), 115435 (2012)
(cited 20 times).

52. Uri Peskin and Michael Galperin.
"Coherently controlled molecular junctions",
J. Chem. Phys. **136** (4), 044107 (2012)
also published in VJ Nanoscale Science & Technology **25** (7) (2012)
(cited 32 times).

53. Tae-Ho Park and Michael Galperin.
"Self-consistent full counting statistics of inelastic transport",
Phys. Rev. B **84** (20), 205450 (2011)
(cited 35 times).

54. Michael Galperin and Abraham Nitzan.
"Raman scattering from biased molecular conduction junctions: The electronic background and its temperature",
Phys. Rev. B **84** (19), 195325 (2011)
(cited 27 times).

55. Tae-Ho Park and Michael Galperin.
"Charge transfer contribution to surface-enhanced Raman scattering in a molecular junction: Time-dependent correlations",
Phys. Rev. B **84** (7), 075447 (2011)
(cited 28 times).

56. Michael Galperin and Abraham Nitzan.
"Raman Scattering and Electronic Heating in Molecular Conduction Junctions",
J. Phys. Chem. Lett. **2**, 2110-2113 (2011)
(cited 30 times).

57. Jonas Fransson and Michael Galperin.
"Spin Seebeck coefficient of a molecular spin pump",
Phys. Chem. Chem. Phys. **13** (32), 14350-14357 (2011)
(cited 18 times).

58. Tae-Ho Park and Michael Galperin.
"Correlation between Raman scattering and conductance in a molecular junction",
Europhys. Lett. **95**, 27001 (2011)
(cited 22 times).

59. Boris D. Fainberg, Maxim Sukharev, Tae-Ho Park, and Michael Galperin.
"Light-induced current in molecular junctions: Local field and non-Markov effects",
Phys. Rev. B **83** (20), 205425 (2011)
(cited 48 times).

60. Massimiliano Esposito and Michael Galperin.
"Self-consistent quantum master equation approach to molecular transport",
J. Phys. Chem. C **114** (48), 20362-20369 (2010)
(cited 56 times).

61. Maxim Sukharev and Michael Galpeirn.
"Transport and optical response of molecular junctions driven by surface plasmon polaritons",
Phys. Rev. B **81**, 165307 (2010)
(cited 53 times).

62. Jonas Fransson and Michael Galperin.
"Inelastic scattering and heating in a molecular spin pump",
Phys. Rev. B **81**, 075311 (2010) [**Editors' Suggestion**]
also published in VJ Nanoscale Science & Technology **21** (9) (2010)
(cited 33 times).

63. Michael Galperin, Keiji Saito, Alexander V. Balatsky, and Abraham Nitzan,
"Cooling mechanisms in molecular conduction junctions",
Phys. Rev. B **80**, 115427 (2009)
also published in VJ Nanoscale Science & Technology **20** (14) (2009)
(cited 89 times).

64. Massimiliano Esposito and Michael Galperin,
"Transport in molecular states language: Generalized quantum master equation approach",
Phys. Rev. B **79**, 205303 (2009)
also published in VJ Nanoscale Science & Technology **19** (20) (2009)
(cited 79 times).

65. Michael Galperin, Mark A. Ratner, and Abraham Nitzan,
"Raman scattering in current carrying molecular junctions",
J. Chem. Phys. **130**, 144109 (2009)
also published in VJ Nanoscale Science & Technology **19** (16) (2009)
(cited 59 times).

66. Sina Yeganeh, Mark Ratner, Michael Galperin, and Abraham Nitzan,
"Transport in State Space: Voltage-Dependent Conductance Calculations of Benzene-1,4-dithiol",

Nano Letters **9** (5), 1770-1774 (2009)
(cited 53 times).

67. Michael Galperin, Mark A. Ratner, and Abraham Nitzan,
"Raman scattering from nonequilibrium molecular conduction junctions",
Nano Letters **9** (2), 758–762 (2009)
(cited 48 times).

68. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"Inelastic transport in the Coulomb blockade regime within a nonequilibrium atomic limit",
Phys. Rev. B **78**, 125320 (2008)
also published in VJ Nanoscale Science & Technology **18** (13) (2008)
(cited 64 times).

69. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"The non-linear response of molecular junctions: the polaron model revisited",
J. Phys.: Condens. Matter **20**, 374107 (2008)
(cited 47 times).

70. Michael Galperin and Sergei Tretiak,
"Linear optical response of current-carrying molecular junction: A NEGF-TDDFT approach",
J. Chem. Phys. **128**, 124705 (2008)
also published in VJ Nanoscale Science & Technology **17** (14) (2008)
(cited 47 times).

71. Michael Galperin, Mark A. Ratner, Abraham Nitzan, Alessandro Troisi,
"Nuclear coupling and polarization in molecular transport junctions: Beyond tunneling to function",
Science **319**, no. 5866, 1056–1060 (2008) [**Review**]
(cited 290 times).

72. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"Inelastic effects in molecular junction transport: Scattering and self-consistent calculations for the Seebeck coefficient",
Molecular Physics **106** (2-4), 397–404 (2008)
(cited 67 times).

73. Sina Yeganeh, Michael Galperin, and Mark A. Ratner,
"Switching in molecular transport junctions: Polarization response",
J. Am. Chem. Soc. **129** (43), 13313–13320 (2007)
(cited 81 times).

74. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"Inelastic effects in molecular junctions in the Coulomb and Kondo regimes: Nonequilibrium equation-of-motion approach",
Phys. Rev. B **76**, 035301 (2007).
also published in VJ Nanoscale Science & Technology **16** (3) (2007)
(cited 913times).

75. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"Heat conduction in molecular transport junctions",
Phys. Rev. B **75**, 155312 (2007)
also published in VJ Nanoscale Science & Technology **15** (16) (2007)
(cited 189 times).

76. Michael Galperin, Mark A. Ratner, and Abraham Nitzan,
"Molecular transport junctions: Vibrational effects",
J. Phys.: Condens. Matter **19**, 103201 (2007) [**Review**]
included in "Top Papers 2007 Showcase" of J. Phys.: Condens. Matter
(cited 739 times).

77. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"Inelastic tunneling effects on noise properties of molecular junctions",
Phys. Rev. B **74**, 075326 (2006)
also published in VJ Nanoscale Science & Technology **14** (10) (2006)
(cited 89 times).

78. Michael Galperin and Abraham Nitzan,
"Optical properties of current carrying molecular wires",
J. Chem. Phys. **124**, 234709 (2006)
(cited 81 times).

79. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"Molecular transport junctions: Current from electronic excitations in the leads",
Phys. Rev. Lett. **96**, 166803 (2006)

also published in VJ Nanoscale Science & Technology **13** (18) (2006)
(cited 56 times).

80. Michael Galperin, Abraham Nitzan, and Mark A. Ratner,
"Resonant inelastic tunneling in molecular junctions",
Phys. Rev. B **73**, 045314 (2006)
also published in VJ Nanoscale Science & Technology **13** (4) (2006)
(cited 218 times).

81. Michael Galperin and Abraham Nitzan,
"Current induced light emission and light induced current in molecular tunneling junctions",
Phys. Rev. Lett. **95**, 206802 (2005)
also published in VJ Nanoscale Science & Technology **12** (21) (2005)
(cited 131 times).

82. Michael Galperin, Abraham Nitzan, Mark A. Ratner, and Duncan Stewart,
"Molecular transport junctions: Asymmetry in inelastic tunneling processes",
J. Phys. Chem. B **109** (17), 8519–8522 (2005)
(cited 56 times).

83. Michael Galperin and David N. Beratan,
"Simulation of scanning tunneling microscope images of 1,3-cyclohexadiene bound to a silicon surface",
J. Phys. Chem. B **109** (4), 1473–1480 (2005)
(cited 6 times)

84. Michael Galperin, Mark A. Ratner, and Abraham Nitzan,
"Hysteresis, switching, and negative differential resistance in molecular junctions: A polaron model",
Nano Letters **5** (1), 125–130 (2005)
see also:

    - "Reply to Comment by Alexandrov and Bratkovsky", cond-mat/0604112 (2006)
    - "The non-linear response of molecular junctions: the polaron model revisited", J. Phys.: Condens. Matter 20, 374107 (2008)
    - "Born Oppenheimer Dynamics Near Metal Surfaces", arXiv:0909.0915 (2009)

(cited 311+2+2 times).

85. Michael Galperin, Mark A. Ratner, and Abraham Nitzan,
"Inelastic electron tunneling spectroscopy in molecular junctions: Peaks and dips",
J. Chem. Phys. **121** (23), 11965–11979 (2004)
also published in VJ Nanoscale Science & Technology **10** (24) (2004)
(cited 349 times).

86. Michael Galperin, Mark A. Ratner, and Abraham Nitzan,
"On the line widths of vibrational features in inelastic electron tunneling spectroscopy",
Nano Letters **4** (9), 1605–1611 (2004)
(cited 139 times).

87. Michael Galperin and Abraham Nitzan,
"NEGF-HF method in molecular junction property calculations",
Ann. N. Y. Acad. Sci. **1006**, 48–67 (2003)
(Molecular Electronics III. Proceedings of the 6^{th} Engineering Foundation Conference on Molecular-Scale Electronics, December 15-19, 2002)
(cited 40 times).

88. Michael Galperin and Abraham Nitzan, Slawomir Sek and Marcin Majda,
"Asymmetric electron transmission across asymmetric alkanethiol bilayer junctions",
J. Electroanal. Chem. **550-551**, 337–350 (2003)
(cited 60 times).

89. Abraham Nitzan and Michael Galperin,
Gert-Ludwig Ingold, Hermann Grabert,
"On the electrostatic potential profile in biased molecular wires",
J. Chem. Phys. **117**, N23, 10837–10841 (2002)
also published in VJ Nanoscale Science & Technology **6** (24) (2002).
(cited 65 times).

90. Michael Galperin, Sivan Toledo, and Abraham Nitzan,
"Numerical computation of tunneling fluxes",
J. Chem. Phys. **117**, N23, 10817–10826 (2002)
(cited 52 times).

91. Michael Galperin and Abraham Nitzan, Ilan Benjamin,
"Numerical simulations of electron tunneling currents in water",
J. Phys. Chem. A **106**, N45, 10790–10796 (2002)
(cited 25 times).

92. Uri Peskin, Michael Galperin and Abraham Nitzan,
"Traversal times for resonant tunneling",
J. Phys. Chem. B **106**, N33, 8306–8321 (2002)
(cited 7 times).

93. Michael Galperin and Abraham Nitzan,
"Inelastic effects in electron tunneling through water layers",
J. Chem. Phys. **115**, N6, 2681–2694 (2001)
(cited 14 times).

94. Michael Galperin and Abraham Nitzan, and Uri Peskin,
"Traversal time for electron tunneling in water",
J. Chem. Phys. **114**, N21, 9205–9208 (2001)
(cited 16 times).

95. Uri Peskin, Åke Edlund, and Ilan Bar–On,
Misha Galperin and Abraham Nitzan,
"Transient resonance structures in electron tunneling through water",
J. Chem. Phys. **111**, N16, 7558–7566 (1999)
(cited 42 times).

96. M.Galperin, D.Segal, and A.Nitzan,
"Perturbation theory approach to tunneling: Direct and resonance transmission in super–exchange models",
J. Chem. Phys. **111**, N4, 1569–1579 (1999)
(cited 23 times).

97. R.Naaman, A.Haran, A.Nitzan, D.Evans, and M.Galperin,
"Electron transmission through molecular layers",
J. Phys. Chem. B **102**, N19, 3658–3668 (1998)
(cited 59 times).

98. Anokhin A.O., Galperin M.L., Gornostyrev Yu.N., Katsnelson M.I., and Trefilov A.V.,
"The effect of electronic localized states at dislocations on the 'chemical'

impurity–dislocation interaction",
Phil. Mag. B **73**, N6, 845–860 (1996)
(cited 7 times).

99. Anokhin A.O., Galperin M.L., Gornostyrev Yu.N., Katsnelson M.I., and Trefilov A.V.,
"Localized electronic states and their influence on defect interaction in crystals",
The Physics of Metals and Metallography **79**, N3, 242-254 (1995)
(cited 2 times).

100. Anokhin A.O., Galperin M.L., Gornostyrev Yu.N., Katsnelson M.I., and Trefilov A.V.,
"On the possibility of electronic localization at dislocations, disclinations and grain boundaries in metals",
JETP Letters **59**, N5, 369–373 (1994)
(cited 6 times).

Total citations: 5021