

Ned S. Wingreen

Howard A. Prior Professor of the Life Sciences
Department of Molecular Biology & Lewis-Sigler Institute for Integrative Genomics
PRINCETON UNIVERSITY
Princeton, NJ 08544-1014
PHONE: 609-258-8476 FAX: 609-258-7599 EMAIL: wingreen@princeton.edu

EDUCATION

California Institute of Technology	Physics	B.S.	1984
Cornell University	Physics	M.S.	1988
Cornell University	Physics	Ph.D.	1989

Dissertation: Resonant Tunneling with Electron-Phonon Interaction.
Thesis adviser: Professor John W. Wilkins.

PROFESSIONAL EMPLOYMENT

9/84 – 5/89 Fannie and John Hertz Foundation Fellow, Lab of Atomic and Solid State Physics, Cornell University
5/89 – 9/89 Visiting Scientist, Weizmann Institute of Science, Israel
9/89 – 9/91 Postdoctoral Associate, Physics Department, MIT, Supervisor: Patrick A. Lee
9/91 – 3/99 Research Scientist, Physical Sciences Division, NEC Research Institute
4/99 – 10/02 Senior Research Scientist, Physical Sciences Division, NEC Research Institute
8/99 – 5/00 Sabbatical Visitor, University of California, Berkeley
11/02 – 1/04 Senior Research Staff Member, NEC Laboratories America, Inc.
2/04 – Present Professor, Department of Molecular Biology, Princeton University
10/06 – Present Associated Faculty, Department of Physics, Princeton University
8/07 – 8/17 General Member, Aspen Center for Physics
5/08 – Present Member, Lewis-Sigler Institute, Princeton University
7/11 – 6/18 Associate Director, Lewis-Sigler Institute, Princeton University
1/13 – 7/15 Acting Director, Lewis-Sigler Institute, Princeton University
7/16 – Present Faculty Fellow, Princeton Center for Theoretical Science
2/17 – Present Member, KITP Advisory Board

HONORS

Academic:

California Institute of Technology (1980-1984)
Presidential Scholar (1980)
Carnation Merit Scholarship (1982-1983)
Caltech Merit Scholarship (1983-1984)
Jack E. Froehlich Memorial Award (1983)
McKinney Prize in Literature (1984)

Cornell University (1984-1989)

Fannie and John Hertz Foundation Fellowship (1984-1989)

Professional:

Fellow of the American Physical Society
Fellow of the American Association for the Advancement of Science (AAAS)

PATENTS

U.S. Patent No. 5,963,571, October 5, 1999, "Quantum-Dot Cascade Laser, Ned S. Wingreen
U.S. Patent No. 5,699,215, December 16, 1997, "Non-Magnetic Magnetoresistive Reading Head Using Corbino Structure," Stuart A. Solin, Ned S. Wingreen
U.S. Patent No. 5,692,003, November 25, 1997, "Quantum-Dot Cascade Laser," Ned S. Wingreen, Charles A. Stafford
U.S. Patent No. 7,405,050, July 29, 2008, "Small RNAs and Bacterial Strains Involved in Quorum Sensing," Derrick H. Lenz, Kenny C. Mok, Ned S. Wingreen, Bonnie L. Bassler

PUBLICATIONS (> 175)

- Freeman Rosenzweig ES, Xu B, Kuhn Cuellar L, Martinez-Sanchez A, Schaffer M, Strauss M, Cartwright HN, Ronceray P, Plitzko JM, Förster F, Wingreen NS, Engel BD, Mackinder LCM, Jonikas MC,
The eukaryotic CO₂-concentrating organelle is liquid-like and exhibits dynamic reorganization.
Cell. 2017 Sep 21;171(1):148-162
- Yan J, Nadell CD, Stone HA, Wingreen NS, Bassler BL,
Extracellular-matrix-mediated osmotic pressure drives *Vibrio cholerae* biofilm expansion and cheater exclusion,
Nature Communications. 2017 Aug 23;8(1):327. doi: 10.1038/s41467-017-00401-1.
- Paulick A, Jakovljevic V, Zhang S, Erickstad M, Groisman A, Meir Y, Ryu WS, Wingreen NS, Sourjik V,
Mechanism of bidirectional thermotaxis in *Escherichia coli*,
Elife. 2017 Aug 3;6. pii: e26607. doi: 10.7554/eLife.26607
- Beroz F, Jawerth LM, Munster S, Weitz DA, Broedersz CP, Wingreen NS,
Physical limits to biomechanical sensing in disordered fibre networks,
Nature Communications. 2017 Jul 18;8:16096. doi: 10.1038/ncomms16096. PMID: 28719577
- Taillefumier T, Posfai A, Meir Y, Wingreen NS,
Microbial consortia at steady supply,
Elife. 2017 May 5;6 pii: e22644. doi: 10.7554/eLife.22644. PMID: 28473032
- Posfai A, Taillefumier T, Wingreen NS,
Metabolic trade-offs promote diversity in a model ecosystem,
Physical Review Letters. 2017 Jan 13;118(2):028103. Doi: 10.1103/PhysRevLett.118.028103. Epub 2017 Jan 12. PMID: 28128613.
- Bitbol A-F, Dwyer RS, Colwell LJ, Wingreen NS,
Inferring interaction partners from protein sequences,
Proceedings of the National Academy of Science. 2016 Oct. 25; 113(43):12180.

- Yan J, Sharo AG, Stone H, Wingreen NS, Bassler BL,
Vibrio cholerae biofilm growth program and architecture revealed by single-cell live imaging,
Proceedings of the National Academy of Science. 2016 Sep 6;113(36):E5337-43. doi: 10.1073/pnas.1611494113 Epub 2016 Aug 23. PMID: 27555592
- Castellana M, Li H-J, Wingreen NS,
Spatial structure of bacterial transcription and translation,
Proceedings of the National Academy of Science. 2016 Aug 16;113(33):9286-91. doi: 10.1073/pnas.1604995113. Epub 2016 Aug 2. PMID: 27486246
- Aquino G, Wingreen NS, Endres RG,
Know the single-receptor sensing limit? Think again,
Journal of Statistical Physics. 2016;162:1353-1364. Epub 2015 Nov 23. PMID: 26941467
- Drescher K, Dunkel J, Nadell CD, van Teeffelen S, Grnja I, Wingreen NS, Stone HA, Bassler BL,
Architectural transitions in Vibrio cholerae biofilms at single-cell resolution,
Proceedings of the National Academy of Science. 2016 Apr 5;113(14):E2066-72. doi: 10.1073/pnas.1601702113. Epub 2016 Mar 1. PMID: 26933214
- Sonnenburg ED, Smits SA, Tikhonov M, Higginbottom SK, Wingreen NS, Sonnenburg JL,
Diet-induced extinctions in the gut microbiota compound over generations,
Nature. 2016 Jan 14;529(7585):212-5. doi: 10.1038/nature16504.
- Ned S. Wingreen, KC Huang,
Physics of intracellular organization in bacteria,
Annual Review of Microbiology. 2015 Oct 15;69:361-79. doi: 10.1146/annurev-micro-091014-104313. PMID: 26488278
- David B. Borenstein, Peter Ringel, Marek Basler, Ned S. Wingreen,
Established microbial colonies can survive Type VI secretion assault,
PLoS Computational Biology. 2015 Oct 20;11(10):e1004520. doi: 10.1371/journal.pcbi.1004520. eCollection 2015 Oct. PMID: 26485125
- Steven T. Rutherford, Julie S. Valastyan, Thibaud Taillefumier, Ned S. Wingreen, Bonnie Bassler,
Comprehensive analysis reveals how single nucleotides contribute to noncoding RNA function in bacterial quorum sensing,
Proceedings of the National Academy of Sciences. 2015 Nov 3;112(44):E6038-47. doi: 10.1073/pnas.1518958112. Epub 2015 Oct 19. PMID: 26483489
- Thibaud Taillefumier, Ned S. Wingreen,
Optimal census by quorum sensing,

PLoS Computational Biology. 2015 May 12;11(5):e1004238. doi: 10.1371/journal.pcbi.1004238. eCollection 2015 May. PMID: 25965377

- A Persat, CD Nadell, MK Kim, F Ingremeau, A Siryaporn, K Drescher, NS Wingreen, BL Bassler, Z Gitai, HA Stone,
The mechanical world of bacteria,
Cell. 2015 May 21;161(5):988-97. doi: 10.1016/j.cell.2015.05.005. Review.
PMID: 26000479
- Anne Florence Bitbol, Ned S. Wingreen,
Fundamental constraints on the abundances of chemotaxis proteins,
Biophysical Journal. 2015 Mar 10;108(5):1293-305. doi: 10.1016/j.bpj.2015.01.024.
PMID: 25762341 [PubMed - in process]
- V. Wasnik, Ned S. Wingreen, R. Mukhopadhyay,
Modeling Curvature-Dependent Subcellular Localization of the Small Sporulation Protein SpoVM in Bacillus subtilis,
PLOS ONE. 2015 Jan 27;10(1):e0111971. doi: 10.1371/journal.pone.0111971.
eCollection 2015. PMID: 25625300 [PubMed - in process]
- C.D. Nadell, Knut Drescher, Ned S. Wingreen, Bonnie L. Bassler.
Extracellular matrix structure governs invasion resistance in bacterial biofilms.
ISME Journal. 2015 Jan 20. doi: 10.1038/ismej.2014.246. [Epub ahead of print]
PMID: 25603396 [PubMed - as supplied by publisher]
- L Feng, ST Rutherford, K Papenfort, JD Bagert, JC van Kessel, DA Tirrell, Ned S. Wingreen, Bonnie L. Bassler
A qrr noncoding RNA deploys four different regulatory mechanisms to optimize quorum-sensing dynamics.
Cell. 2015 Jan 15;160(1-2):228-40. doi: 10.1016/j.cell.2014.11.051. Epub 2015 Jan 8.
PMID: 25579683 [PubMed - in process]
- Christoph A. Haselwandter, Ned S. Wingreen **The**
role of membrane-mediated interactions in the assembly and architecture of chemoreceptor lattices.
PLoS Computational Biology. 2014 Dec 11;10(12):e1003932. doi: 10.1371/journal.pcbi.1003932. eCollection 2014 Dec. PMID: 25503274 [PubMed - in process]
- Bonnie L. Bassler, Ned S. Wingreen
Working together at the interface of physics and biology.
Physical Biology 2014 Oct 8;11(5):053010. doi: 10.1088/1478-3975/11/5/053010.
PMID: 25294092 [PubMed - in process]

- Michele Castellana, Maxwell Z. Wilson, Yifan Xu, Preeti Joshi, Ileana M Cristea, Joshua D. Rabinowitz, Zemer Gitai, Ned S. Wingreen
Enzyme clustering accelerates processing of intermediates through metabolic channeling.
Nature Biotechnology. 2014 Oct; 32(10):1011-82014. PMID: 25262299 [PubMed - as supplied by publisher]
- Rachael M. Barry, Anne-Florence Bitbol, Alexander Lorestani, Emeric J. Charles, Chris H. Habrian, Jesse M. Hansen, Hsin-Jung Li, Enoch P. Baldwin, Ned S. Wingreen, Justin M. Kollman, Zemer Gitai,
Large-scale filament formation inhibits the activity of CTP synthetase,
Elife. 2014 Jul 16;3:e03638. PMCID: PMC4126345
- Mikhail Tikhonov, Robert W Leach, Ned S, Wingreen,
Interpreting 16S metagenomic data without clustering to achieve sub-OTU resolution,
ISME Journal. 2014 Jul 11. doi: 10.1038/ismej.2014.117. [Epub ahead of print]
PMID: 25012900
- Chase P. Broedersz, Xindan Wang, Yigal Meir, Joseph J. Loparo, David Z. Rudner, Ned S. Wingreen,
Condensation and localization of the partitioning protein ParB on the bacterial chromosome,
Proceedings of the National Academy of Sciences. 2014 Jun 17;111(24):8809-14 .
- Knut Drescher, Carey D. Nadell, Howard A. Stone, Ned S. Wingreen, Bonnie L. Bassler,
Solutions to the public goods dilemma in bacterial biofilms,
Current Biology. 2014 Jan 6;24(1): PMCID: PMC3935403
- Silke Neumann, Nikita Vladimirov, Anna K. Krembel, Ned S. Wingreen, Victor Sourjik,
Imprecision of adaptation in Escherichia coli chemotaxis,
PLOS ONE. 2014 Jan 8;9(1):e84904, PMCID: PMC3885661
- Robert S. Dwyer, Dante P. Ricci, Lucy J. Colwell, Thomas J. Silhavy, Ned S. Wingreen.
Predicting functionally informative mutations in Escherichia coli BamA using evolutionary covariance analysis.
Genetics 195: 443-55 (2013). PMID:23934888
- Monica Skoge, Sahin Naqvi, Yigal Meir, Ned S. Wingreen,
Chemical sensing by nonequilibrium cooperative receptors,
Physical Review Letters 110: 248102 (2013).
- David B. Borenstein, Yigal Meir, Joshua W. Shaevitz, Ned S. Wingreen,
Non-local interaction via diffusible resource prevents coexistence of cooperators and cheaters in a lattice model,
PLoS One 8(5):e63304. (2013) PMCID:PMC3656920
- Siyuan Wang, Ned S. Wingreen.
Cell shape can mediate the spatial organization of the bacterial cytoskeleton.
Biophysical Journal 104(3):541-52. (2013) PMCID:PMC3566457
- Victor Sourjik, Ned S. Wingreen.

Responding to chemical gradients: bacterial chemotaxis.

Current Opinion in Cell Biology 2012 Apr;24(2):262-8. Epub 2011 Dec 9.
PMCID:PMC3320702

- Robert M. Cooper, Ned S. Wingreen, Edward C. Cox.
An excitable cortex and memory model successfully predicts new pseudopod dynamics.
PLoS One. 2012;7(3):e33528. Epub 2012 Mar 22. PMCID:PMC3310873
- Douglas Swanson, Ned S. Wingreen.
Active biopolymers confer fast reorganization kinetics.
Physical Review Letters 107, 218103 (2011). PMID: 22181930
- Monica L. Skoge, Yigal Meir, Ned S. Wingreen.
Dynamics of cooperativity in chemical sensing among cell-surface receptors.
Physical Review Letters 2011 Oct 21;107(17):178101. Epub 2011 Oct 18
PMID:22107586
- Christopher D. Doucette, David J. Schwab, Ned S. Wingreen, Joshua D. Rabinowitz.
 α -ketoglutarate coordinates carbon and nitrogen utilization via enzyme I inhibition.
Nature Chemical Biology. 2011 Oct 16. doi: 10.1038/nchembio.685. PMCID:
PMC3218208
- Edward J. Banigan, Michael A. Gelbart, Zemer Gitai, Ned S. Wingreen, Andrea J. Liu.
Filament depolymerization can explain chromosome pulling during bacterial mitosis.
PLoS Computational Biology. 2011 Sep; 7 (9):e1002145. PMCID: PMC3178632
- Sven van Teeffelen, Siyuan Wang, Leon Furchtgott, Kerwyn Casey Huang, Ned S. Wingreen, Joshua W. Shaevitz, Zemer Gitai,
The bacterial actin MreB rotates, and rotation depends on cell-wall assembly.
Proceedings of the National Academy of Sciences. 2011 Sep 20;108 (38):15822-7
PMCID: PMC3179079
- R. Scott McIsaac, Kerwyn Casey Huang, Anirvan Sengupta, Ned S. Wingreen
Does the potential for chaos constrain the embryonic cell-cycle oscillator?
PLoS Computational Biology. 2011 Jul;7(7):e1002109. Epub 2011 Jul 14. PMCID:
PMC3136431
- Yufang Wang, Kimberly C. Tu, Nai Phuan Ong, Bonnie L. Bassler, Ned S. Wingreen.
Protein-level fluctuation correlation at the microcolony level and its application to the *Vibrio harveyi* quorum-sensing circuit.
Biophysics Journal 2011; 100(12):3045-53. PMCID: PMC3123921
- Shu-Wen Teng, Jessica N Schaffer, Kimberley C. Tu, Pankaj Mehta, Wenyun Lu, Nai Phuan Ong, Bonnie L. Bassler, Ned S. Wingreen.
Active regulation of receptor ratios controls integration of quorum-sensing signals in *Vibrio harveyi*.
Molecular Systems Biology 2011;7:491. PMCID: PMC3130561
- Kristopher E. Daly, Kerwyn C. Huang, Ned S. Wingreen, Ranjan Mukhopadhyay.

Mechanics of membrane bulging during cell-wall disruption in Gram-negative bacteria.

Physical Review E 2011;83(4-1):041922. Epub 2011 Apr 25. PMID:PMC3134142

- Leon Furchtgott, Ned S. Wingreen, Kerwyn C. Huang.
Mechanisms for maintaining cell shape in rod-shaped Gram-negative bacteria.
Molecular Microbiology. 2011.1365-2958.2011.07616.x. PMID: PMC3134142
- Olga Oleksiuk, Vladimir Jakovljevic, Nikita Vladimirov, Ricardo Carvalho, Eli Paster, William S. Ryu, Yigal Meir, Ned S. Wingreen, Markus Kollmann, Victor Sourjik.
Thermal robustness of signaling in bacterial chemotaxis
Cell. 2011;145(2):312-21. PMID: PMC3098529
- Thierry Mora, Fan Bai, Yong-Suk Che, Tohru Minamino, Keiichi Namba, Ned S Wingreen.
Non-genetic individuality in Escherichia coli motor switching.
Physical Biology. 2011 Apr;8(2):024001. PMID: PMC3140400
- Peter L. Nara, Gregory J. Tobin, A. Ray Chaudhuri, Jessie D. Trujillo, George Lin, Michael W. Cho, Simon A. Levin, Wilfred Ndifon, and Ned S. Wingreen.
How can vaccines against influenza and other viral diseases be made more effective?
PLoS Biology. 2010 ;8(12):e1000571. PMID: PMC3006352.
- Matthieu Wyart, David Botstein, Ned S. Wingreen.
Evaluating gene expression dynamics using pairwise RNA FISH data.
PLoS Computational Biology. 2010 ;6(11):e1000979. PMID: PMC2973809
- Yigal Meir, Vladimir Jakovljevic, Olga Oleksiuk, Victor Sourjik, Ned S. Wingreen,
Precision and kinetics of adaptation in bacterial chemotaxis,
Biophysical Journal 99(9):2766-74 (2010). PMID: PMC2965943
- Thierry Mora, Ned S. Wingreen,
Limits of sensing temporal concentration changes by single cells,
Physical Review Letters 104(24):248101 (2010).
- Clinton H. Hansen, Victor Sourjik, Ned S. Wingreen,
A dynamic-signaling-team model for chemotaxis receptors in Escherichia coli,
Proceedings of the National Academy of Sciences 107(40):17170-5 (2010). PMID: PMC2951395
- Silke Neumann, Clinton H. Hansen, Ned S. Wingreen, Victor Sourjik,
Differences in signalling by directly and indirectly binding ligands in bacterial chemotaxis,
EMBO Journal 29(20):3484-95 (2010). PMID: PMC2964171
- Sidhartha Goyal, Jie Yuan, Thomas Chen, Joshua D. Rabinowitz, Ned S. Wingreen,
Achieving Optimal Growth through Product Feedback Inhibition in Metabolism,
PLoS Computational Biology 6(6):e1000802 (2010). PMID: PMC2880561
- Barry M. Zee, Rebecca S. Levin, Bo Xu, Gary LeRoy, Ned S. Wingreen, Benjamin A. Garcia,
In vivo residue-specific histone methylation dynamics,
Journal of Biological Chemistry 285(5):3341-5 (2010). PMID: PMC2823435

- Kimberly C. Tu, Tao Long, Sine L. Svenningsen, Ned S. Wingreen, Bonnie L. Bassler, **Negative feedback loops involving small regulatory RNAs precisely control the *Vibrio harveyi* quorum-sensing response**, *Molecular Cell* 37(4):567-79 (2010). PMID: PMC2844700
- Shu-Wen Teng, Yufang Wang, Kimberly C. Tu, Tao Long, Pankaj Mehta, Ned S. Wingreen, Bonnie L. Bassler, N.P. Ong, **Measurement of the Copy Number of the Master Quorum-Sensing Regulator of a Bacterial Cell**, *Biophysical Journal* 98(9):2024-31 (2010). PMID: PMC2862190
- Wai-Leung Ng, Yunzhou Wei, Lark J. Perez, Jianping Cong, Tao Long, Matthew Koch, Martin F. Semmelhack, Ned S. Wingreen, Bonnie L. Bassler, **Probing bacterial transmembrane histidine kinase receptor-ligand interactions with natural and synthetic molecules**, *Proceedings of the National Academy of Sciences* 107(12):5575-80 (2010). PMID: PMC2851778
- Phillip B. Kidd, Ned S. Wingreen, **Modeling the role of covalent enzyme modification in *Escherichia coli* nitrogen metabolism**, *Physical Biology* 7:16006 (2010). PubMed - as supplied by publisher
- Ranjan Mukhopadhyay, Ned S. Wingreen, **Curvature and shape determination of growing bacteria**, *Physical Review E* 80:06290 (2009). PMID: PMC2873841
- Thierry Mora, Howard Yu, Ned S. Wingreen **Modeling Torque Versus Speed, Shot Noise, and Rotational Diffusion of the Bacterial Flagellar Motor**. *Physical Review Letters* 103, 248102:1-4 (2009). PMID: PMC2874687
- Pankaj Mehta, Sidhartha Goyal, Bonnie L. Bassler, Ned S. Wingreen **Information processing and signal integration in bacteria quorum sensing**, *Molecular System Biology* 5:325 (2009). PMID: PMC2795473
- Thierry Mora, Howard Yu, Yoshiyuki Sowa, Ned S. Wingreen, **Steps in bacterial flagellar motor**, *PLoS Computational Biology* 5(10):e1000540 (2009). PMID: PMC2759076
- Jie Yuan, Christopher D Doucette, William U Fowler, Xiao-Jiang Feng, Matthew Piazza, Herschel A Rabitz, Ned S Wingreen, Joshua D Rabinowitz, **Metabolomics-driven quantitative analysis of ammonia assimilation in *E. coli***, *Molecular System Biology* 5:302 (2009). PMID: PMC2736657
- Robert G. Endres, Ned S. Wingreen, **Maximum Likelihood and the Single Receptor**, *Physical Review Letters* 103, 158101 (2009). PubMed - indexed for MEDLINE
- Derek Greenfield, Ann L. McEvoy, Hari Shroff, Gavin E. Crooks, Ned S. Wingreen, Eric Betzig, Jan Liphardt, **Self-organization of the *Escherichia coli* chemotaxis network imaged with super-resolution light microscopy**,

PLoS Biology 7(6):e1000137 (2009). PMID: PMC2691949

- Robert G. Endres, Ned S. Wingreen,
Accuracy of direct gradient sensing by cell-surface receptors,
Progress in Biophysics and Molecular Biology 100:33-39 (2009). PubMed - indexed for MEDLINE
- Wilfred Ndifon, Ned S. Wingreen, Simon A. Levin.
Differential neutralization efficiency of hemagglutinin epitopes, antibody interference, and the design of influenza vaccines,
Proceedings of the National Academy of Sciences 106(21):8701-6 (2009). PMID: PMC2688967
- Tao Long, Kimberly C. Tu, Yufang Wang, Pankaj Mehta, Nai Phuan Ong, Bonnie L. Bassler, Ned S. Wingreen,
Quantifying the Integration of Quorum-Sensing Signals with Single-Cell Resolution,
PLoS Biology 7(3):e68, 0640-0649 (2009). PMID: PMC2661960
- Kerwyn C. Huang, Ranjan Mukhopadhyay, Bingni Wen, Zemer Gitai, Ned S. Wingreen,
Cell shape and cell-wall organization in Gram-negative bacteria,
Proceedings of the National Academy of Sciences 105(49):19282-7 (2008). PMID: PMC2592989
- Jonathan M. Guberman, Allison Fay, Jonathan Dworkin, Ned S. Wingreen, Zemer Gitai,
PSICIC: Noise and Asymmetry in Bacterial Division Revealed by Computational Image Analysis at Sub-Pixel Resolution,
PLoS Computational Biology 4: e1000233 (2008). PMID: PMC2581597
- Hui Wang, Ned S. Wingreen, Ranjan Mukhopadhyay,
Self-Organized Periodicity of Protein Clusters in Growing Bacteria,
Physical Review Letters 101: 21 (2008). PMID:19113453 [PubMed - indexed for MEDLINE
- Pankaj Mehta, Sidhartha Goyal, Ned S. Wingreen,
A quantitative comparison of sRNA-based and protein-based gene regulation.
Molecular System Biology. 4: 221 (2008). PMID: PMC2583084
- Robert G. Endres, Ned S. Wingreen,
Accuracy of direct gradient sensing by single cells.
Proceedings of the National Academy of Sciences 105 (41): pp. 15749-54 (2008). PMID: PMC2572938
- Lee R. Swem, Danielle L. Swem, Ned S. Wingreen, Bonnie L. Bassler,
Deducing receptor signaling parameters from in vivo analysis: LuxN/AI-1 quorum sensing in *Vibrio harveyi*.
Cell 134 (3): pp. 461-73. (2008). PMID: PMC2585989
- Robert G. Endres, Olga Oleksiuk, Clinton H. Hansen, Yigal Meir, Victor Sourjik, Ned S. Wingreen,
Variable sizes of *Escherichia coli* chemoreceptor signaling teams,
Molecular System Biology 4: 211 (2008). PMID: PMC2538909

- Audra J. Pompeani, Joseph J. Irgon, Michael F. Berger, Martha L. Bulyk, Ned S. Wingreen Bonnie L. Bassler,
The *Vibrio harveyi* master quorum-sensing regulator, LuxR, a TetR-type protein is both an activator and a repressor: DNA recognition and binding specificity at target promoters,
Molecular Microbiology **70** (1): pp. 76-88 (2008). PMID: PMC2628434
- Pankaj Mehta, Ranjan Mukhopadhyay, Ned S. Wingreen,
Exponential sensitivity of noise-driven switching in genetic networks,
Physical Biology **5** (2): 26005 (2008). PMID:18560045
- Ranjan Mukhopadhyay, Kerwyn C. Huang, Ned S. Wingreen,
Lipid localization in bacterial cells through curvature-mediated microphase separation,
Biophysical Journal **95** (3): pp.1034-49 (2008). PMID: PMC2479595
- Clinton H. Hansen, Robert G. Endres, Ned S. Wingreen,
Chemotaxis in Escherichia coli: a Molecular Model for Robust Precise Adaptation,
PLoS Computational Biology **4**: pp. 14-27 (2008). PMID: PMC2174977
- Christina L. Vizcarra, Naigong Zhang, Shannon A. Marshall, Ned S. Wingreen, Chen Zeng, Stephen L. Mayo,
An Improved Pairwise Decomposable Finite-difference Poisson-Boltzmann Method for Computational Protein Design,
Journal of Computational Chemistry **29**: pp. 1153-62 (2008). PMID:18074340
- Victor Sourjik, Ned S. Wingreen,
Turning to the Cold,
Nature Cell Biology **9**: pp. 1029-31 (2007). PMID: 17762896
- Robert G. Endres, Joseph J. Falke, Ned S. Wingreen,
Chemotaxis Receptor Complexes: From Signaling to Assembly,
PLoS Computational Biology **3**: pp. 1385-93 (2007). PMID: PMC1933480
- Sidhartha Goyal, Ned S. Wingreen,
Growth-Induced Instability in Metabolic Networks,
Physical Review Letters **98**: 138105(pp. 1-4) (2007). PMID: PMC1995071
- Je-Luen Li, Roberto Car, Chao Tang, Ned S. Wingreen,
Hydrophobic Interaction and Hydrogen-bond Network for a Methane Pair in Liquid Water,
Proceedings of the National Academy of Sciences **104**: pp. 2626-30 (2007). PMID: PMC1815233
- Joshua S. Weitz, Philip N. Benfey, Ned S. Wingreen,
Evolution, Interactions, and Biological Networks,
PLoS Biology **5**: pp. 10-12 (2007). PMID: PMC1769436
- Alejandro R. Ureta, Robert G. Endres, Ned S. Wingreen, Thomas J. Silhavy,
Kinetic Analysis of the Assembly of the Outer Membrane Protein LamB in Escherichia coli Mutants Each Lacking a Secretion or Targeting Factor in a Different Cellular Compartment,
Journal of Bacteriology **189**: pp. 446-54 (2007). PMID: PMC1797403

- Ned S. Wingreen, Simon A. Levin,
Cooperation among Microorganisms,
PLoS Biology **4**: pp. 1486-88 (2006). PMID: PMC1569662
- Kerwyn C. Huang, Ranjan Mukhopadhyay, Ned S. Wingreen,
A Curvature-Mediated Mechanism for Localization of Lipids to Bacterial Poles,
PLoS Computational Biology **2**: pp. 1357-64 (2006). PMID: PMC1635540
- Robert G. Endres, Ned S. Wingreen,
Weight Matrices for Protein-DNA Binding Sites from a Single Co-crystal Structure,
Physical Review E **73**: 061921(pp. 1-5) (2006). PMID: 16906878
- Ned S. Wingreen, David Botstein,
Back to the Future: Education for Systems-level Biologists,
Nature Reviews Molecular Cell Biology **7**: pp. 829-32 (2006).
- Robert G. Endres, Ned S. Wingreen,
Precise Adaptation in Chemotaxis through “Assistance Neighborhoods”,
Proceedings of the National Academy of Sciences **103**: pp. 13040-4 (2006). PMID: PMC1559749
- Monica L. Skoge, Robert G. Endres, Ned S. Wingreen,
Receptor-Receptor Coupling in Bacterial Chemotaxis: Evidence for Strongly Coupled Clusters,
Biophysical Journal **90**: pp. 4317-26 (2006). PMID: PMC1471836
- Juan E. Keymer, Robert G. Endres, Monica Skoge, Ned S. Wingreen,
Chemosensing in Escherichia coli: Two Regimes of Two-state Receptors,
Proceedings of the National Academy of Sciences **103**: pp. 1786-91 (2006). PMID: PMC1413630
- Eldon Emberly, Ned S. Wingreen,
Hourglass Model for a Protein-based Circadian Oscillator,
Physical Review Letters **96**: 038303(pp. 1-4) (2006). PMID: PMC1995810
- Je-Luen Li, Jaehun Chun, Ned S. Wingreen, Roberto Car, Ilhan A. Aksay, Dudley A. Saville,
Use of Dielectric Functions in the Theory of Dispersion Forces,
Physical Review B **71**: 235412(pp. 1-6) (2005).
- Erik Kruus, Peter Thumfort, Chao Tang, Ned S. Wingreen,
Gibbs Sampling and Helix-Cap Motifs,
Nucleic Acids Research. **33**: pp. 5343-53 (2005). PMID: PMC1234247
- Morten Kloster, Chao Tang, Ned S. Wingreen,
Finding Regulatory Modules through Large-Scale Gene-Expression Data Analysis,
Bioinformatics **21**: pp. 1172-9 (2005). PMID: 15513996
- Kerwyn C. Huang, Ned S. Wingreen,
Min-protein Oscillations in Round Bacteria,
Physical Biology **1**: pp. 229-235 (2004). PMID: 16204843
- Rahul V. Kulkarni, Kerwyn C. Huang, Morten Kloster, Ned S. Wingreen,

Pattern Formation within Escherichia coli: Diffusion, Membrane Attachment, and Self-interaction of MinD Molecules,

Physical Review Letters **93**: 228103(pp. 1-4) (2004). PMID: 15601121

- Naigong Zhang, Chen Zeng, Ned S. Wingreen,
Fast Accurate Evaluation of Protein Solvent Exposure,
Proteins **57**: pp. 565-76 (2004). PMID: 15382246
- Robert G. Endres, Thomas C. Schulthess, Ned S. Wingreen,
Toward an Atomistic Model for Predicting Transcription-Factor Binding Sites,
Proteins **57**: pp. 262-8 (2004). PMID: 15340913
- Ned S. Wingreen,
Quantum Many-Body Effects in a Single-Electron Transistor,
Science **304**: pp. 1258-9 (2004). PMID: 15166353
- Kenji Hirose, Yigal Meir, Ned S. Wingreen,
Time-Dependent Density Functional Theory of Excitation Energies of Closed-Shell Quantum Dots,
Physica E **22**: pp. 486-489 (2004).
- Derrick H. Lenz, Kenny C. Mok, Brendan N. Lilley, Rahul V. Kulkarni, Ned S. Wingreen, Bonnie L. Bassler,
The Small RNA Chaperone Hfq and Multiple Small RNAs Control Quorum Sensing in Vibrio harveyi and Vibrio cholerae,
Cell **118**: pp. 69-82 (2004). PMID: 15242645
- Eldon G. Emberly, Ranjan Mukhopadhyay, Chao Tang, Ned S. Wingreen,
Flexibility of Beta-Sheets: Principal Component Analysis of Database Protein Structures,
Proteins: Structure, Function, and Genetics **55**: pp. 91-98 (2004). PMID:14997543
- Kerwyn Casey Huang, Yigal Meir, Ned S. Wingreen,
Dynamic Structures in Escherichia coli: Spontaneous Formation of MinE Rings and MinD Polar Zones,
Proceedings of the National Academy of Sciences **100**: (22), pp. 12724-12728 (2003).
PMCID: PMC240685
- Ned S. Wingreen, Hao Li, Chao Tang,
Designability and Thermal Stability of Protein Structures,
Polymer **45**: (2), pp. 699-705 (2004)
- Ranjan Mukhopadhyay, Eldon Emberly, Chao Tang, and Ned S. Wingreen,
Statistical Mechanics of RNA Folding: Importance of Alphabet Size,
Physical Review E **68**: 041904(pp. 1-4) (2003). PMID: 14682970
- Ned S. Wingreen, Jonathan Miller, Edward C. Cox,
Scaling of Mutational Effects in Models for Pleiotropy,
Genetics **164**: pp. 1221-28 (2003). PMCID: PMC1462609
- Kenji Hirose, Ned S. Wingreen,
Stabilization of Ground-State of Minimal Spin in Disordered Quantum Dots,
Physica E **18**:(1-3), pp. 79-80 (2003).

- Eldon Emberly, Ranjan Mukhopadhyay, Ned S. Wingreen, Chao Tang,
Flexibility of Alpha-Helices: Results of a Statistical Analysis of Database Protein Structures,
Journal of Molecular Biology **327**: pp. 229-37 (2003). PMID: 12614621
- Kenny C. Mok, Ned S. Wingreen, Bonnie L. Bassler,
Vibrio harveyi Quorum Sensing: A Coincidence Detector for Two Autoinducers Controls Gene Expression,
EMBO Journal **22**: pp. 870-881 (2003). PMID: PMC145445
- Kenji Hirose, Yigal Meir, Ned S. Wingreen,
Local Moment Formation in Quantum Point Contacts,
Physical Review Letters **90**: (2), 026804(pp. 1-4) (2003). PMID: 12570569
- Eldon Emberly, Ned S. Wingreen, Chao Tang,
Designability of Alpha-Helical Proteins,
Proceedings of the National Academy of Sciences **99**: pp. 11163-8 (2002). PMID: PMC123227
- Hao Li, Chao Tang, Ned S. Wingreen,
Designability of Protein Structures: A Lattice-Model Study using the Miyazawa-Jernigan Matrix,
Proteins: Structure, Function, and Genetics **49**: pp. 403-412 (2002). PMID: 12360530
- Jonathan Miller, Chen Zeng, Ned S. Wingreen, Chao Tang,
Emergence of Highly Designable Protein-Backbone Conformations in an Off-Lattice Model,
Proteins: Structure, Function, and Genetics **47**: pp. 506-512 (2002). PMID: 12001229
- Eldon Emberly, Jonathan Miller, Chen Zeng, Ned S. Wingreen, Chao Tang,
Identifying Proteins of High Designability Via Surface Exposure Patterns,
Proteins: Structure, Function, and Genetics **47**: (3), pp. 295-304 (2002). PMID: 11948783
- Yigal Meir, Kenji Hirose, Ned S. Wingreen,
Kondo Model for the 0.7 Anomaly in Transport through a Quantum Point Contact,
Physical Review Letters **89**: (19), pp. 196802(1-4) (2002). PMID: 12443139
- S. M. Cronenwett, H. J. Lynch, D. Goldhaber-Gordon, L. P. Kouwenhoven, C. M. Marcus, Kenji Hirose, Ned S. Wingreen, V. Umansky,
Low-Temperature Fate of the 0.7 Structure in a Point Contact: a Kondo-Like Correlated State in an Open System,
Physical Review Letters **88**: (22), 226805(pp. 1-4) (2002). PMID: 12059445
- Kenji Hirose, Ned S. Wingreen,
Ground-State Energy and Spin in Disordered Quantum Dots,
Physical Review B **65**: (19), 193305(pp. 1-4) (2002).
- Henry Cejtin, Jan Elder, Allan Gottlieb, Robert Helling, Hao Li, James Philbin, Chao Tang, Ned Wingreen,
Fast Tree Search For Enumeration of a Lattice Model of Protein Folding,
Journal of Chemical Physics **116**: (1), pp. 352-359, (2002).

- Robert Helling, Hao Li, Regis Melin, Jonathan Miller, Ned S. Wingreen, Chen Zeng, Chao Tang,
The Designability of Protein Structures,
Journal of Molecular Graphics and Modelling **19**:(1), pp. 157-167 (2001).
- Hao Li, Chao Tang, Ned S. Wingreen,
Designing Protein Structures,
Phase Transition and Self-Organization in Electronic and Molecular Networks, Phillips, J.C. (ed.) Kluwer pp. 441-445 (2001).
- Kenji Hirose, Shu-Shen Li, Ned S. Wingreen,
Mechanisms for Extra Conductance Plateaus in Quantum Wires,
Physical Review B **63**:(3), 033315(pp. 1-4) (2001).
- Kenji Hirose, Fei Zhou, Ned S. Wingreen,
Density-Functional Theory of Spin-Polarized Disordered Quantum Dots,
Physical Review B **63**:(7), 075301(pp. 1-5) (2001).
- Kenji Hirose, Fei Zhou, Ned S. Wingreen,
Spin-Density-Functional Theory of Clean and Disordered Quantum Dots,
Proceedings of the 25th International Conference on the Physics of Semiconductors-ICPS, Miura, N.(ed.), Springer, pp. 1349-1350 (2001).
- Kenji Hirose, Ned S. Wingreen,
Temperature-Dependent Suppression of Conductance in Quantum Wires: Anomalous Activation Energy from Pinning of the Band Edge,
Physical Review B **64**:(7), 073305(pp. 1-4) (2001).
- Ned S. Wingreen,
The Kondo Effect in Novel Systems,
Materials Science and Engineering B **84**:, pp. 22-25 (2001).
- V. Madhavan, W. Chen, T. Jamneala, M.F. Crommie, Ned S. Wingreen,
Local Spectroscopy of a Kondo Impurity: Co on Au(111),
Physical Review B **64**:(16), 165412(pp. 1-11) (2001).
- D.E. Grupp, T. Zhang, G.J. Dolan, Ned S. Wingreen,
Dynamical Offset Charges in Single-Electron Transistors,
Physical Review Letters **87**:(18), 186805(pp. 1-4) (2001).
- Tairan Wang, Jonathan Miller, Chao Tang, Ned S. Wingreen, Ken A. Dill,
Symmetry and Designability for Lattice Protein Models,
Journal of Chemical Physics **113**:(18), pp. 8329-8336 (2000).
- Peter Nordlander, Ned S. Wingreen, Yigal Meir, David C. Langreth,
Kondo Physics in the Single Electron Transistor with ac Driving,
Physical Review B **61**:(3), pp. 2146-2150 (2000).
- Regis Melin, Hao Li, Ned S. Wingreen, Chao Tang,
Designability, Thermodynamic Stability, and Dynamics in Protein Folding: A Lattice Model Study,
Journal of Chemical Physics **110**: pp. 1252-1262 (1999).

- Kenji Hirose, Ned S. Wingreen,
Spin-Density-Functional Theory of Circular and Elliptical Quantum Dots,
Physical Review B **59**:(7), pp. 4604-4607 (1999).
- Peter Nordlander, Michael Pustilnik, Yigal Meir, Ned S. Wingreen, David C. Langreth,
How Long Does it Take for the Kondo Effect to Develop? ,
Physical Review Letters **83**:(4), pp. 808-811 (1999).
- Igor E. Smolyarenko, Ned S. Wingreen,
Kondo Effect in Systems With Spin Disorder,
Physical Review B **60**:(13), pp. 9675-9689 (1999).
- K. Hirose, N. S. Wingreen,
Electronic Structure Calculations of Quantum Dots,
NEC Research and Development **40**:(4), pp. 419-423 (1999).

- C. Heide, R. J. Elliott, Ned S. Wingreen,
Spin-Polarized Tunnel Current in Magnetic-Layer Systems and its Relation to the Interlayer Exchange Interaction,
Physical Review B **59**:(6), pp. 4287-4304 (1999).
- P. Jauho, Ned S. Wingreen,
Theory of Phase-Sensitive Measurement of Photon-Assisted Tunneling Through a Quantum Dot,
Physical Review B **58**:(15), pp. 9619-9622 (1998).
- N. S. Wingreen, B. L. Altshuler, Y. Meir,
Erratum: Comment on "2-Channel Kondo Scaling in Conductance Signals from 2-Level Tunneling Systems",
Physical Review Letters **81**:(19), pp. 4280 (1998).
- Naama Barkai, Mark D. Rose, Ned S. Wingreen,
Protease Helps Yeast Find Mating Partners,
Nature **396**:(6710), pp. 422-423 (1998).
- V. Madhavan, W. Chen, T. Jamneala, M.F. Crommie, Ned S. Wingreen,
Tunneling into a Single Magnetic Atom: Spectroscopic Evidence of the Kondo Resonance,
Science **280**: pp. 567-569 (1998).
- Hao Li, Chao Tang, Ned S. Wingreen,
Are Protein Folds Atypical?
Proceedings of the National Academy of Sciences **95**: pp. 4987-4990 (1998). PMID: PMC20200
- L. P. Kouwenhoven, C. M. Marcus, P. L. McEuen, S. Tarucha, R. M. Westervelt, N. S. Wingreen,
Electron Transport in Quantum Dots,
Proceedings of the NATO Advanced Study Institute on Mesoscopic Electron Transport

edited by L.L. Sohn, L.P. Kouwenhoven, and G. Schon (Kluwer Series E345) pp. 105-204 (1997).

- L. Aleiner, Ned S. Wingreen, Yigal Meir,
Dephasing and the Orthogonality Catastrophe in Tunneling Through a Quantum Dot: The "Which Path?" Interferometer,
Physical Review Letters **79**: pp. 3740-3743 (1997).
- Hao Li, Chao Tang, Ned S. Wingreen,
Nature of Driving Force for Protein Folding: A Result from Analyzing the Statistical Potential,
Physical Review Letters **79**: pp. 765-768 (1997).
- Ned S. Wingreen, Charles A. Stafford,
Quantum-Dot Cascade Laser: Proposal for an Ultralow-Threshold Semiconductor Laser,
IEEE Journal of Quantum Electronics **33**: pp. 1170-1173 (1997).
- Oded Agam, Ned S. Wingreen, Boris Altshuler, D. C. Ralph, M. Tinkham,
Chaos, Interactions, and Nonequilibrium Effects in the Tunneling Resonance Spectra of Ultrasmall Metallic Particles,
Physical Review Letters **78**: pp. 1956-1959 (1997).
- Yacoby, H.L. Stormer, Ned S. Wingreen, L. N. Pfeiffer, K. W. Baldwin, K. W. West,
Nonuniversal Conductance Quantization in Quantum Wires,
Physical Review Letters **77**: pp. 4612-4615 (1996).
- N.F. Schwabe, R.J. Elliott, Ned S. Wingreen,
The Ruderman-Kittel-Kasuya-Yosida (RKKY) Interaction Across a Tunneling Junction Out of Equilibrium,
Physical Review B **54**: pp. 12953-12968 (1996).
- Noam Sivan, Ned S. Wingreen,
The Single Impurity Anderson Model Out of Equilibrium,
Physical Review B **54**: pp. 11622-11629 (1996).
- Hao Li, Robert Helling, Chao Tang, Ned S. Wingreen,
Emergence of Preferred Structures in a Simple Model of Protein Folding
Science **273**: pp. 666-669 (1996).
- A. Stafford, Ned S. Wingreen,
Resonant Photon-assisted Tunneling Through a Double Quantum Dot: An Electron Pump from Spatial Rabi Oscillations,
Physical Review Letters **76**: pp. 1916-1919 (1996).
- Ned S. Wingreen, Eugen Schenfeld,
Size-speed Trade-off in Optical Switching Elements,
Applied Optics **34**: pp. 5907-5912 (1995).
- Ned S. Wingreen, Boris Altshuler, Yigal Meir,
Comment on "2-Channel Kondo Scaling in Conductance Signals from 2-Level

Tunneling Systems,"

Physical Review Letters **75**: pp. 769 (1995).

- Yigal Meir, Ned S. Wingreen,
Spin-orbit Scattering and the Kondo Effect,
Physical Review B (Rapid Communications) **50**: pp. 4947-4950 (1994).
- Antti-Pekka Jauho, Ned S. Wingreen, Yigal Meir,
Time-dependent Transport in Interacting and Noninteracting Resonant-tunneling Systems,
Physical Review B **50**: pp. 5528-5544 (1994).
- Antti-Pekka Jauho, Ned S. Wingreen, Yigal Meir,
Time-dependent Transport in Mesoscopic Systems: General Formalism and Applications,
Semiconductor Science and Technology **9**: pp. 926-929 (1994).

- Ned S. Wingreen, Yigal Meir,
Anderson Model out of Equilibrium: Noncrossing-approximation Approach to Transport Through a Quantum Dot,
Physical Review B **49**: pp. 11040-11052 (1994).
- Mark Lee, Ned S. Wingreen, S. A. Solin, P. A. Wolff,
Giant Growth Axis Longitudinal Magnetoresistance from In-plane Conduction in Semiconductor Superlattices,
Solid State Communications **89**: pp. 687-691 (1994).
- Alan Middleton, Ned S. Wingreen,
Collective Transport in Arrays of Quantum Dots,
Physical Review Letters **71**: pp. 3198-3201(1993).
- Jari M. Kinaret, Ned S. Wingreen,
Coulomb Blockade and Partially Transparent Tunneling Barriers in the Quantum Hall Regime,
Physical Review B **48**: pp. 11113-11119 (1993).
- Ned S. Wingreen, Antti-Pekka Jauho, Yigal Meir,
Time-dependent Transport Through a Mesoscopic Structure,
Physical Review B (Rapid Communications) **48**: pp. 8487-8490 (1993).
- P. L. McEuen, Ned S. Wingreen, E. B. Foxman, Jari Kinaret, U. Meirav, M. A. Kastner, Yigal Meir,
Coulomb Interactions and Energy-level Spectrum of a Small Electron Gas,
Physica B **189**: pp. 70-79 (1993).
- E. B. Foxman, P. L. McEuen, U. Meirav, Ned S. Wingreen, Yigal Meir, Paul A. Belk, N. R. Belk, M. A. Kastner, S. J. Wind,
Effects of Quantum Levels on Transport Through a Coulomb Island,
Physical Review B (Rapid Communications) **47**: pp. 10020-10023 (1993).

- Yigal Meir, Ned S. Wingreen, Patrick A. Lee,
Low-temperature Transport Through a Quantum Dot: The Anderson Model out of Equilibrium,
Physical Review Letters **70**: pp. 2601-2604 (1993).
- Jari M. Kinaret, Yigal Meir, Ned S. Wingreen, Patrick Lee, Xiao-Gang Wen,
Conductance Through a Quantum Dot in the Fractional Quantum Hall Regime,
Physical Review B (Rapid Communications) **45**: pp. 9489-9492 (1992).
- Jari M. Kinaret, Yigal Meir, Ned S. Wingreen, Patrick Lee, Xiao-Gang Wen,
Many-body Coherence Effects in Conduction Through a Quantum Dot in the Fractional Quantum Hall Regime,
Physical Review B **46**: pp. 4681-4689 (1992).
- Yigal Meir, Ned S. Wingreen,
Landauer Formula for the Current Through an Interacting Electron Region,
Physical Review Letters **68**: pp. 2512-2515 (1992).
- Jari M. Kinaret, Yigal Meir, Ned S. Wingreen, Patrick Lee, Xiao-Gang Wen,
Conductance Through a Quantum Dot in the Fractional Quantum Hall Regime,
Physical Review B (Rapid Communications) **45**: pp. 9489-9492 (1992).
- P. L. McEuen, E. B. Foxman, Jari Kinaret, U. Meirav, M. A. Kastner, Ned S. Wingreen, S. J. Wind,
Self-consistent Addition Spectrum of a Coulomb Island in the Quantum Hall Regime,
Physical Review B (Rapid Communications) **45**: pp. 11419-11422 (1992).
- P. L. McEuen, E.B. Foxman, U. Meirav, M.A. Kastner, Yigal Meir, Ned S. Wingreen,
Transport Spectroscopy of a Coulomb Island in the Quantum Hall Regime,
Physical Review Letters **66**: pp. 1926-1929 (1991).
- Yigal Meir, Ned S. Wingreen, Ora Entin-Wohlman, Boris L. Altshuler,
Spin-Orbit Scattering for Localized Electrons: Absence of Negative Magnetoconductance,
Physical Review Letters **66**: pp. 1517-1520 (1991).
- Yigal Meir, Ned S. Wingreen, Patrick A. Lee,
Transport Through a Strongly Interacting Electron System: Theory of Periodic Conductance Oscillations,
Physical Review Letters **66**: pp. 3048-3051 (1991).
- Ned S. Wingreen,
Rectification by Resonant Tunneling Diodes,
Applied Physics Letters **56**: pp. 253-255 (1990).
- Ned S. Wingreen, Karsten W. Jacobsen, John W. Wilkins,
Inelastic Scattering in Resonant Tunneling,
Physical Review B **40**: pp. 11834-11850 (1989).
- Ned S. Wingreen, Monique Combescot,
Electron-electron Scattering: Collision Integral and Relaxation Rate,
Physical Review B **40**: pp. 3191-3196 (1989).

- Ned S. Wingreen, Monique Combescot,
Ohm's Law for Hot Carriers: the Role of Carrier-carrier Scattering at High Fields,
Solid State Communications **70**: pp. 185-189 (1989).
- Ned S. Wingreen, Karsten W. Jacobsen, John W. Wilkins,
Resonant Tunneling with Electron-Phonon Interaction: An Exactly Solvable Model,
Physical Review Letters **61**: pp. 1396-1399 (1988).
- Ned S. Wingreen, Chris J. Stanton, John W. Wilkins,
**Electron-electron Scattering in Nondegenerate Semiconductors: Driving the
Anisotropic Distribution Toward a Displaced Maxwellian,**
Physical Review Letters **57**: pp. 1084-1087 (1986).

TRAINEES

Postdoctoral Fellows

Noam Sivan	May 1992 – August 1993
Alan Middleton	September 1992 – December 1994
Hao Li	September 1994 – August 1997
Igor Aleiner	September 1997 – March 1998
Eugene Tsiper	July 1997 – September 1997
Jonathan Miller	August 1998 – September 2001
Eldon Emberly	August 2000 – September 2002
Ranjan Mukhopadhyay	September 2001 – August 2003
David Moroz	July 2001 – July 2002
Rahul Kulkarni	August 2002 – July 2004
Peter Thumfort	November 2002 – November 2005
Je-Luen Li	February 2003 – March 2005
Juan Keymer	March 2003 – December 2005
Morten Kloster	September 2003 – October 2005
Robert Endres	October 2004 – August 2007
Kerwyn Huang	August 2004 – August 2008
Pankaj Mehta	September 2006 – July 2010
Konstantin Doubrovinski	November 2008 – September 2012
Sven van Teeffelen	July 2009 – December 2013
David Schwab	September 2009 – August 2014
Knut Drescher	February 2010 – August 2014
Michele Castellana	November 2011 – August 2015
Thibaud Taillefumier	November 2011 – August 2016
Anne-Florence Bitbol	September 2012 – January 2016
Jing Yan	October 2014 – present
Anna Posfai	November 2014 – February 2018
David Borenstein	May 2015 – March 2016
Matthew Jemielita	September 2015 – present

Graduate Students

Robert Helling	June 1995 – September 1995
Tairan Wang	June 1996 – September 1997
Dmitry Green	June 2000 – March 2001
Mehdi Yahyanejad	June 2001 – September 2002
Kerwyn Huang	June 2002 – August 2004
Forrest Coleman	3 rd rotation 2003-2004
Jonathan Guberman	3 rd rotation 2003-2004, June 2004 – 2010
Tao Long	September 2004 – December 2009
Sidhartha Goyal	March 2005 – August 2009
John Rittenhouse	1 st rotation 2005-2006
Nikolai Slavov	3 rd rotation 2005-2006
Christopher Doucette	1 st rotation 2006-2007
Robert Cooper	2 nd rotation 2006-2007, June 2007 – October 2012
Jack Lee	1 st rotation 2007-2008
Marshall Reaves	3 rd rotation 2007-2008
Steven Wang	May 2008 – August 2011
Doug Swanson	September 2009 – June 2011
Lihui Feng	3 rd rotation 2009-10
Max Wilson	1 st rotation 2010-11
David Borenstein	May 2011 – May 2015
Vikram Kumar	2 nd rotation 2012-2013, June 2013 – September 2015
Elizabeth Rowland	1 st rotation 2013-14
Sophie Zhang	February 2014 – June 2015
Farzan Beroz	February 2014 – June 2018
Bin Xu	June 2015 – June 2018
Olivia Chu	1 st rotation 2015-16
Riley Skeen-Gaar	2 nd rotation 2015-16
Whitney Warren	2 nd rotation 2015-16
Zhidong Zhang	2 nd rotation 2015-16
Jared Balaich	3 rd rotation 2015-16
Siddhartha Jena	1 st rotation 2016-17
Daniel Lee	1 st rotation 2016-17, June 2017 – present
Nishant Pappireddi	1 st rotation 2016-17
Cassidy Yang	2 nd rotation 2016-17
Ben Weiner	February 2017 – present
Guanhua He	June 2017 – present
Jaime Lopez	1 st rotation 2017-18, March 2018 – present
Chadi Saad-Roy	1 st rotation 2017-18, March 2018 – present
Chenyi Fei	2 nd rotation 2017-18, March 2018 – present

Undergraduate Students

Philip Kidd	June 2004 – August 2006
Lenny Shulgin	February 2007 – May 2007
Clinton Hansen	September 2006 – May 2008
Howard Yu	September 2007 – May 2008

Leon Furchtgott	February 2008 – May 2009
Evgeni (Genya) Frenkel	February 2009 – May 2010
Michael Gelbart	June 2009 – May 2010
Michael Salazar	February 2010 – August 2010
Edvin Memet	February 2011 – August 2012
Jose Mena	May 2011 – May 2012
Ken Jean-Baptiste	February 2014 – May 2015
Annie Maslan	September 2014 – May 2015
Rosie Zhang	September 2014 – May 2015
Ofer Kimchi	June 2015 – May 2016
Andrew Sharo	September 2015 – May 2016
Avaneesh Narla	February 2016 – June 2017
Iris Rukshin	June 2016 – August 2016
Chris King	September 2016 – June 2017
Chris Russo	June 2017 – August 2017
Tanya Tafolla	June 2017 – August 2017
Jon McEnany	April 2018 – present
Janelle Nelson	June 2018 – present