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Howard A. Prior Professor in the Life Sciences

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**EDUCATION**

California Institute of Technology Physics B.S. 1984

Cornell University Physics M.S. 1988

Cornell University Physics Ph.D. 1989

**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

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 – 6/19 Member, KITP Advisory Board

7/19 – Present Associate Director, Princeton Center for Theoretical Science

8/20 – Present Director of Graduate Studies, QCB Graduate Program

7/21 – 6/22 Acting Director, Princeton Center for Theoretical Science

1/23 – Present Member Strategic Advisory Board, Biozentrum, Basel, Switzerland

7/24 – Present Associate Director, Lewis-Sigler Institute, Princeton University

**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)

*Princeton University* (2004-Present)

President’s Award for Distinguished Teaching (2019)

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

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252. Sebastian Gonzalez La Corte *et al.,*

**Morphogenesis of bacterial cables in polymeric enviornments.**

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251. Han, E., Fei, C., Alert, R. *et al.,*

**Local polar order controls mechanical stress and triggers layer formation in *Myxococcus xanthus* colonies.**

*Nat Commun* **16**, 952 (2025). https://doi.org/10.1038/s41467-024-55806-6

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249. K.M. Hallinen, S.P. Bodine, H.A. Stone, T.W. Muir, N.S. Wingreen, & Z. Gitai, **Bacterial species with different nanocolony morphologies have distinct flow-dependent colonization behaviors**,

*Proc. Natl. Acad. Sci.* U.S.A. 122 (7) e2419899122, https://doi.org/10.1073/pnas.2419899122 (2025).

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*Procedings of the Royal Society B.* 2024 Oct;291(2032):20241221. doi: 10.1098/rspb.2024.1221. Epub 2024 Oct 9. PMID: 39381909; PMCID: PMC11462451.

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**Single-cell massively-parallel multiplexed microbial sequencing (M3-seq) identifies rare bacterial populations and profiles phage infection,**

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##### 222. Memet E, Wingreen NS, Meir Y,

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##### 221. Erez A, Lopez JG, Meir Y, Wingreen NS,

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**Hierarchical Transitions and Fractal Wrinkling Drive Bacterial Pellicle Morphogenesis,**

*Proceedings of the National Academy of Sciences USA* May 18;118(20):E2023504118. Doi: 10.1073/PNAS.2023504118. PMID: 33972433; PMCID: Pmc8157956. (2021)

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**Modeling the Ecology of Parasitic Plasmids,**

*ISME Journal* Oct;15(10):2843-2852. Doi: 10.1038/S41396-021-00954-6. Epub 2021 Apr 8. Erratum In: Isme J. 2021 Jun 30;: PMID: 33833414. (2021)

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*Proceedings of the National Academy of Sciences USA.*. Feb 23;118(8):e2014926118. Doi: 10.1073/PNAS.2014926118. PMID: 33593905; PMCID: PMC7923367. (2021)

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*Royal Society Open Science* Jan 27;8(1):202212. doi: 10.1098/rsos.202212. PMID: 33614103; PMCID: PMC7890506. (2021)

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1. Fei C, Mao S, Yan J, Alert R, Stone HA, Bassler BL, Wingreen NS, Košmrlj A,

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1. Weiner BG, Posfai A, Wingreen NS,

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**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

Thierry Mora September 2007 – August 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 – June 2019

Anna Posfai November 2014 – February 2018

David Borenstein May 2015 – March 2016

Matthew Jemielita September 2015 – August 2021

Amir Erez September 2017 – September 2020

Yaojun Zhang September 2018 – December 2021

Zhiyuan Li September 2018 – August 2019

Alejandro Martinez-Calvo January 2021 – present

Julia Steinberg March 2021 – September 2021

Carolina Trenado-Yuste September 2021 – present

Ofer Kimchi September 2021 – present

Trevor GrandPre September 2021 – present

Linnea Lemma September 2021 – present

Daniel Lee October 2021 – March 2022

Jonathan Yuly March 2022 – present

Chenyi Fei August 2022 – February 2023

Colin Scheibner August 2023 – present

François Bourassa September 2024 – present

Benjamin Sorkin September 2024 – 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 3rd rotation 2003-2004

Jonathan Guberman 3rd rotation 2003-2004, June 2004 – 2010

Tao Long September 2004 – December 2009

Sidhartha Goyal March 2005 – August 2009

John Rittenhouse 1st rotation 2005-2006

Nikolai Slavov 3rd rotation 2005-2006

Christopher Doucette 1st rotation 2006-2007

Robert Cooper 2rd rotation 2006-2007, June 2007 – October 2012

Jack Lee 1st rotation 2007-2008

Marshall Reaves 3rd rotation 2007-2008

Steven Wang May 2008 – August 2011

Doug Swanson September 2009 – June 2011

Lihui Feng 4th rotation 2010, September 2010 – December 2014

Max Wilson 1st rotation 2010-11

David Borenstein May 2011 – May 2015

Vikram Kumar 2rd rotation 2012-2013, June 2013 – September 2015

Elizabeth Rowland 1st rotation 2013-14

Sophie Zhang February 2014 – June 2015

Farzan Beroz February 2014 – June 2018

Bin Xu June 2015 – June 2018

Olivia Chu 1st rotation 2015-16

Riley Skeen-Gaar 2nd rotation 2015-16

Whitney Warren 2nd rotation 2015-16

Zhidong Zhang 2nd rotation 2015-16

Jared Balaich 3rd rotation 2015-16

Siddhartha Jena 1st rotation 2016-17

Daniel Lee 1st rotation 2016-17, June 2017 – October 2021

Nishant Pappireddi 1st rotation 2016-17

Cassidy Yang 2nd rotation 2016-17

Ben Weiner February 2017 – May 2021

Guanhua He June 2017 – August 2022

Jaime Lopez 1st rotation 2017-18, March 2018 – May 2022

Chadi Saad-Roy 1st rotation 2017-18, March 2018 – June 2022

Chenyi Fei 2nd rotation 2017-18, March 2018 – July 2022

David Denberg 2nd rotation 2018-19

Bruce Wang 3rd rotation 2019-20, March 2020 – present

Andrew Pyo 1st rotation 2020-21, September 2020 - present

Sebastian Gonzalez La Corte 1st rotation 2020-21, March 2021 – present

Pablo Oyler-Castrillo 2nd rotation 2020-21

Kimberly Sabsay 3rd rotation 2020-21, March 2021 – present

Ziyang Chen 2nd rotation 2021-22, March 2022 – present

Qiwei Yu 2nd and 3rd rotation 2021-22, March 2022 – present

Olenka Jain 2nd rotation 2021-22

Jiayi Zhang 2nd rotation 2022-2023

Sohit Miglani 2nd rotation 2022-2023, March 2023 – present

Lawrence Abad 1st rotation 2023-2024, April 2024 – present

Changyuan Wang 1st rotation 2023-2024

Abir George 2nd rotation 2023-2024, February 2024 – present

Anurag Pendse 1st rotation 2024-2025

Finn Braaten 1st rotation 2024-2025

Ahn Young Jeong 2nd rotation 2024-2025

Andrew Engedal 2nd rotation 2024-2025

Xingjian Hou 2nd rotation 2024-2025

**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

Daniel Greenidge June 2015 – August 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, January 2020 – August 2020

Tanya Tafolla June 2017 – August 2017

Andy Liu September 2018 – May 2019

John McEnany April 2018 – December 2021

Janelle Nelson June 2018 – August 2018

Bo Liu June 2018 – January 2020

Jonathan Kutasov September 2018 – January 2020

George Georges September 2018 – May 2019

Yusha Sun February 2019 – May 2019

Katherine Shelburne June 2019 – September 2019

Yechen Hu February 2020 – May 2021

Conor Wilson February 2020 – May 2021

Chris Russo January 2020 – August 2020

Mary Davis February 2021 – May 2022

Angela Zhou February 2022 – present

Meryl Liu May 2022 – present

Sophie Leheny December 2023 – present

Sokol Hoxha April 2024 – present

Reuben Cook February 2025 – present

Andrew Vodinho-Ho February 2025 – present