

## CURRICULUM VITA (Abbreviated)

### AVNER FRIEDMAN

Ohio State University  
Department of Mathematics  
231 W. 18<sup>th</sup> Ave.  
Columbus, OH 43210

Phone: (614) 292-5296

Fax: (614) 292-1479

Email: [afriedman@math.ohio-state.edu](mailto:afriedman@math.ohio-state.edu)

Web: <http://www.math.ohio-state.edu/~afriedman>

### RESEARCH INTERESTS

Partial differential equations and applications; control theory, stochastic differential equations, and mathematical biology.

### EDUCATION

M.Sc. (Major in Mathematics, minor in Physics), Hebrew University  
Ph.D. in Mathematics, Hebrew University, 1956

### WORK EXPERIENCE

- Research Associate, University of Kansas 1956 – 57
- Lecturer, Indiana University 1957 – 58
- Visiting Assistant Professor, University of California, Berkeley 1958 – 59
- Associate Professor, University of Minnesota 1959 – 61
- Visiting Associate Professor Stanford University 1961 – 62
- Professor, Northwestern University 1962 – 86  
(Noyes Professor of Mathematics 1984 - 85)
- Visiting Professor, Tel Aviv University 1966 – 67
- Visiting Professor, Tel Aviv University 1970 – 71
- Duncan Distinguished Professor of Mathematics, Purdue University 1985 – 87
- Director, Institute for Mathematics and its Applications and 1987 – 97
- Professor, School of Mathematics, University of Minnesota 1987 – 2001
- Director, Minnesota Center for Industrial Mathematics (MCIM) 1994 – 2001
- Regents' Professor, University of Minnesota 1996 – 2001
- Distinguished University Professor, The Ohio State University 2001 – present
- Director, Mathematical Biosciences Institute, The Ohio State University 2002 – 2008

### NATIONAL BOARDS

- Board of Mathematical Sciences 1990 – 96
- Chair of Board on Mathematical Sciences 1994 – 97
- Board of Trustees of SIAM 1990 – 95
- President of SIAM 1993 – 95
- NRC Commission on the Physical Sciences, Mathematics and Applications 1992-94

### **SCIENTIFIC ADVISORY COMMITTEES**

1. NIST 1989 – 96
2. DIMACS (Chair of the Advisory Committee) 1989 – 1999
3. NISS 1991 – 97
4. Fields Institute 1997 – 2000
5. "Mathematics Across the Curriculum", Indiana University 1998 – 2000
6. Institute for Mathematical Sciences, Singapore 2002 – 2008

### **ACADEMIC HONORS/AWARDS/RECOGNITIONS**

1. Sloan Fellowship 1962 – 65
2. Guggenheim Fellowship 1966 – 67
3. Recipient of Stampacchia Prize 1982
4. NSF Special Creativity Award 1983 - 85, 1991 – 93
5. American Academy of Arts and Sciences 1987 –
6. National Academy of Sciences 1993 –
7. Real Academia de Ciencias Exactas, Fisicas y Naturales (Spain) 1998 –

### **VISITING FELLOW**

1. Oxford University, one month each summer 1982 – 88

### **EDITORIAL BOARD**

- Proceedings of the AMS 1962 – 65
- Journal of Differential Equations 1969 –
- SIAM J. Control 1970 – 86
- Royal Society of Edinburgh Proc. Sec. A. 1974 – 83
- Mathematics Operations Research 1976 – 82
- Comm. in Partial Differential Equations 1976 – 95
- J. Nonlinear Analysis, Theor., Meth., Appl. 1976 - 83, 1991 –
- Stochastic Analysis & Applications 1983 –
- J. of Mathematical Anal. and its Appl. 1986 –
- European Journal of Applied Mathematics 1989 –
- Dynamics Systems and Applications 1991 –
- Surveys on Mathematics in Industry 1992 –
- Russian Journal of Mathematical Physics 1993 –
- Nonlinear Differential Equations and Applications 1994 –

- Communications on Applied Nonlinear Analysis 1994 –
- Discrete and Continuous Dynamic Systems 1995 – 97
- Journal of Inverse and Ill-Posed Problems 1998 –
- Chinese Annals of Mathematics 1998 –

## SERVICES AS ADVISOR

- Shin-Sheng Tai, Ph.D., Northwestern U., Evanston, IL 1967
- Kuang-Ho Chen, Ph.D., Northwestern U., Evanston, IL 1970
- Zeev Schuss, Ph.D., Northwestern U., Evanston, IL 1970
- William Vesely, Ph.D., Northwestern U., Evanston, IL 1970
- Ronald Jay Stern, Ph.D., Northwestern U., Evanston, IL 1972
- Richard Carmen Scalzo, Ph.D., Northwestern U., Evanston, IL 1973
- Leon Carl Stecher, Ph.D., Northwestern U., Evanston, IL 1973
- Emmanuel Nicholas Barron, Ph.D., Northwestern U., Evanston, IL 1973
- Robert Ronald Jensen, Ph.D., Northwestern U., Evanston, IL 1975
- Pauline Marie Melanson Ippolito, Ph.D., Northwestern U., Evanston, IL 1976
- Barry Franklin Knerr, Ph.D., Northwestern U., Evanston, IL 1976
- Randal Stephen Beck, Ph.D., Northwestern U., Evanston, IL 1979
- Daniel Yaniro, Ph.D., Northwestern U., Evanston, IL 1984
- Sara Cohen, Ph.D., Northwestern U., Evanston, IL 1985
- Srdjan Stojanovic, Ph.D., Northwestern U., Evanston, IL 1986
- Hamid Bellout, Ph.D., Purdue U., West Lafayette, IN 1986
- Arthur Guetter, Ph.D., Northwestern U., Evanston, IL 1987
- Jong-Shenq Guo, Ph.D., University of Minnesota 1989
- Bei Hu, Ph.D., University of Minnesota 1990
- Xinfu Chen, Ph.D., University of Minnesota 1991
- Fernando Reitich, Ph.D., University of Minnesota 1991
- Wenxiong Liu, Ph.D., University of Minnesota 1992
- Chaocheng Huang, Ph.D., University of Minnesota 1995
- Yong Liu, Ph.D., University of Minnesota 1995
- Jianhua Zhang, Ph.D., University of Minnesota 1995
- Scott Shald, Ph.D., University of Minnesota 1998

## BOOKS

1. Generalized Functions and Partial Differential Equations. Prentice-Hall (1963).
2. Partial Differential Equations of Parabolic Type. Prentice-Hall (1964).
3. Partial Differential Equations. Holt, Rinehart, and Winston, New York (1969).
4. Foundations of Modern Analysis. Holt, Rinehart, and Winston, New York (1970).
5. Advanced Calculus. Holt, Rinehart, and Winston, New York (1971).
6. Differential Games. John Wiley, Interscience Publishers (1971).
7. Stochastic Differential Equations and Applications. Vol. 1, Academic Press (1975).
8. Stochastic Differential Equations and Applications. Vol. 2, Academic Press (1976).
9. Variational Principles and Free Boundary Problems, Wiley & Sons (1983).

10. Mathematics in Industrial Problems, IMA Volume 16, Springer-Verlag (1988).
11. Mathematics in Industrial Problems, Part 2, IMA Volume 24, Springer-Verlag (1989).
12. Mathematics in Industrial Problems, Part 3, IMA Volume 31, Springer-Verlag (1990).
13. Mathematics in Industrial Problems, Part 4, IMA Volume 38, Springer-Verlag (1991).
14. Mathematics in Industrial Problems, Part 5, IMA Volume 49, Springer-Verlag (1992).
15. Mathematics in Industrial Problems, Part 6, IMA Volume 57, Springer-Verlag (1993).
16. (with W. Littman) Problems in Industrial Mathematics, SIAM, Philadelphia (1994).
17. Mathematics in Industrial Problems, Part 7, IMA Volume 67, Springer-Verlag (1994).
18. Mathematics in Industrial Problems, Part 8, IMA Volume 83, Springer-Verlag (1996).
19. Mathematics in Industrial Problems, Part 9, IMA Volume 88, Springer-Verlag (1997).
20. Mathematics in Industrial Problems, Part 10, IMA Volume 100, Springer-Verlag (1998).

### **CHAired NRC REPORTS**

1. "Applications of the Mathematical Sciences to Materials Science", National Research Council, 1991.
2. "Mathematical Foundations of High-Performance Computing and Communications", National Research Council, 1991.
3. "Mathematical Research in Materials Sciences", National Research Council, 1993
4. "Preserving Strengths While Meeting Challenges", 1998.

### **REPORTS BY SIAM**

- Friedman, J. Glimm and J. Lavery, "The Mathematical and Computational Sciences in Emerging Manufacturing Technologies and Management Practices", 1992
- Friedman and J. Lavery, "How to Start an Industrial Mathematics Program in the University", SIAM, Philadelphia 1993

### **WORKSHOPS AND LECTURES**

Served on various NSF sponsored workshops on multidisciplinary research, industrial - academic connections, and graduate and postdoctoral education in the mathematical and physical sciences.

### **PUBLICATIONS (Research Articles)**

Approximately 375 papers in the areas of partial differential equations, control theory, stochastic differential equations, with application to physical sciences, engineering, and industrial models.