

February 2007

## CURRICULUM VITAE

### William B Levy

**Education:** A.B., Princeton University, 1969, Dept. of Psychology, University Scholar, cum laude  
Ph.D., University of California at Irvine, 1973, School of Biological Sciences, Dept. of Psychobiology

**Fellowships:** NIMH Research Scientist Development Award, 1992-97  
NIMH Research Scientist Development Award, 1986-91  
Brown University, Fellow, 1981-82  
UC Regents' Faculty Fellow, 1977  
NIMH Postdoctoral Fellow, 1974  
NIMH Predoctoral Fellow, 1971-73  
USPHS Predoctoral Trainee, 1969-71  
NSF Undergraduate Fellow, 1968

**Award:** Hebb Award, International Neural Network Society, 2007

**Major Interests:** The neural bases of cognition  
Computational theories of brain function  
Constraint-based interpretation of neural information processing

**Positions Held:**

1995-	Professor, Dept. of Neurological Surgery, University of Virginia School of Medicine
1994-	Professor, Dept. of Psychology, University of Virginia
1991-95	Research Professor, Dept. of Neurological Surgery, University of Virginia School of Medicine
1989-	Director of Research, Dept. of Neurological Surgery, Univ. of Virginia School of Medicine
1984-91	Research Associate Professor, Dept. of Neurological Surgery, University of Virginia School of Medicine
1979-84	Research Assistant Professor, Dept. of Neurological Surgery, University of Virginia School of Medicine
1981-82	Fellow, Centers for Cognitive and Neural Science, Brown University
1978-79	Visiting Assistant Professor, Dept. of Neurological Surgery, University of Virginia School of Medicine
1974-79	Assistant Professor, Dept. of Psychology, UC-Riverside
1973-74	Research Fellow, Dept. of Psychology, Harvard University
1969-73	Teaching Assistant, Dept. of Psychobiology, UC-Irvine
1969	Research Assistant, Dept. of Psychology, Princeton University

**Teaching Experience:** At University of Virginia: an introductory undergraduate psychology course in neural networks; an undergraduate psychology laboratory course in neural networks; a graduate course in neural-like networks in electrical engineering; lectures in graduate neuroscience courses; a seminar examining the computational approaches to

construction of analogies

At Brown University: seminar in concept formation and pattern recognition

At UC-Riverside: graduate courses in neuroanatomy, neurophysiology, physiological bases of mental processes, and synaptic plasticity; undergraduate courses in physiological psychology and in psychopharmacology and the biological bases of mental illness

At UC-Irvine: undergraduate laboratories in general biology and physiology and in psychobiology

**Memberships:**

Society for Neuroscience  
Institute of Electrical and Electronic Engineers  
International Neural Network Society

**PERSONNEL**

**Supervised Postdoctoral Personnel and Their Present Positions:**

John W. Haycock, Ph.D., Professor, Dept. of Biochemistry, Louisiana State University Dental School, New Orleans, LA

In Jae Myung, Ph.D., Associate Professor, Dept. of Psychology, Ohio State University, Columbus, OH

Ali A. Minai, Ph.D., Associate Professor, Dept. of Electrical & Computer Engineering and Computer Science, University of Cincinnati, Cincinnati, OH

Nancy L. Desmond, Ph.D., Program Officer, Research Training and Career Development Office, Div. Neuroscience and Basic Behavioral Science, National Institute of Mental Health, Bethesda, MD

Anthony J. Greene, Ph.D., Assistant Professor, Dept. of Psychology, University of Wisconsin, Milwaukee, WI

Peter C. Shin, M.S., M.D., Assistant Professor, Dept. of Neurosurgery, Louisiana State University Medical Center, Shreveport, LA

Scott D. Moore, M.D., Ph.D., Associate Professor, Dept. of Biological Psychiatry, Duke University, VA Medical Center, Durham, NC

Douglas A. Lutz, Ph.D., Assistant Professor, Dept. of Ophthalmology and Visual Sciences, University of Louisville, Kentucky Lions Eye Research Institute, Louisville, KY

Mustafa H. Delic, Ph.D., Assistant Professor, Dept. of Electrical Engineering, Bogazici University, Istanbul, Turkey

Frank E. Schottler, Ph.D., Research Assistant Professor, Dept. of Neurology, Washington University School of Medicine, St. Louis, MO

Donna L. Korol, Ph.D., Assistant Professor, Dept. of Psychology and Program in Neuroscience, University of Illinois - Urbana-Champaign, Champaign, IL

De-Xing Zhang, Ph.D., Clinical Assistant Professor, Dept. of Neurology, University of Virginia, Charlottesville, VA

Albert M. Borroni, Ph.D., Visiting Assistant Professor, Biology and Neuroscience, Oberlin College, Oberlin, OH

Ruth Dickstein, D.Sc., Director, School of Physiotherapy, The Wingate Institute, The Sackler School of Medicine, Tel-Aviv University, Tel-Aviv, Israel

M. Reza Zamani, Ph.D., Senior Research Scientist, Dept. of Neurophysiology, National Institute for Medical Research, The Ridgeway, London, UK

Hector Lopez, Ph.D., Research Associate, Centro de Infectologia, Buenos Aires,

## Argentina

Michael A. King, Ph.D., Research Biologist, Dept. of Neuroscience, University of Florida and Veterans Administration Medical Center, Gainesville, FL

Satoru Otani, Ph.D., Researcher (First Class), INSERM, Laboratoire de Neurobiologie et Neuropharmacologie du Developpement, Institut des Neurosciences, Universite de Paris-VI, Paris, France

Anne C. Smith, Ph.D., Assistant Adjunct Professor, Dept. of Anesthesiology, University of California Davis, Davis, CA

H. Hashemzadeh-Gargari, Ph.D., Postdoctoral Fellow, Dept. of Environmental Health Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

R. Dennis Dahl, Ph.D. (deceased)

Dawn Adelsberger-Mangan, Ph.D., Senior Programmer Analyst, Information Technology Center, University of Virginia, Charlottesville, VA

Paul R. Vahey, Ph.D., Research Associate, Dept. of Anatomy and Neurobiology, Boston University, Boston, MA

Paul F. Rodriguez, Ph.D., Associate Research Specialist, Dept. of Cognitive Science, University of California Irvine, Irvine, CA

Yuesheng Li, Ph.D., Research Associate, Dept. of Cardiovascular Research, University of Virginia, Charlottesville, VA

Thomas Sangrey, Ph.D., Research Associate, Dept. of Biology, Emory University, Atlanta, GA

Xiangbao Wu, Ph.D., Currently seeking employment.

Danielle Morel, Ph.D. Assistant Professor, Dept. of Physics, James Madison University, Harrisonburg, VA

## **Currently Supervised Postdoctoral Personnel:**

Patrick Crotty, Ph.D., Research Fellow, Dept, of Neurosurgery

## **Current Positions of Supervised Ph.D. Students:** (who do not appear above)

David A. August, Ph.D., M.D., Assistant Clinical Professor, Dept. of Anesthesiology, University of California Davis, Davis, CA

Costa M. Colbert, Ph.D., M.D., Associate Professor, Dept. of Biology and Biochemistry, University of Houston, Houston, TX

## **Previous Collaborations with Visiting Senior Scientists:**

Wickliffe C. Abraham, Ph.D., Dept. of Psychology, University of Otago, Dunedin, New Zealand

Jurgen H. Wenzel, Dr. sc. med., Institute of Anatomy, Humboldt-University, Berlin, Germany

Anna Y. Klintsova, Dr. sc., Mental Health Research Centre, Russian Academy of Medical Sciences, Moscow, Russia

Zuoquan Wu, Ph.D., Senior Scientist, Medical Experiment Center, Wuhan General Hospital, Hongshan, Wuhan, P. R. China

## **INVITED LECTURES**

### **Invited Lectures at National and International Meetings:**

'06-'07

Computational and Systems Neuroscience (COSYNNE 2007) Workshop on "The interaction between timeliness and information in determining the energetic cost of the action potential of unmyelinated nerves.", February 2007, Park City, UT

#### '05-'06 Academic Year

Computational Neuroscience (CNS 2006) Workshop on "Methods of Information Theory in Computational Neuroscience" July 2006, Edinburgh, UK  
Computational Neuroscience (CNS 2006) Workshop on "Functional Models of the Hippocampal Formation" July 2006, Edinburgh, UK  
IEEE International Symposium on Information Theory (ISIT 2006) Session on "Neural Information" July 2006, Seattle, WA  
Interdisciplinary Information Science and Technology Laboratory of the University of Central Florida (I<sup>2</sup> Lab) Workshop: "Information Beyond Shannon." October 2005, Orlando, FL

#### '04-'05 Academic Year

Computational Neuroscience (CNS 2005) invited talk, "External Activity and the Freedom to Recode." July 2005, Madison, WI  
Computational Neuroscience (CNS 2005) Workshop on "Information-Theoretic Bases for Computational Neuroscience" July 2005, Madison, WI.  
Johns Hopkins University, 39<sup>th</sup> Annual Conference on Information Sciences and Systems (CISS 2005), March 2005, Baltimore, MD

#### '03-'04 Academic Year

Kavli Institute for Theoretical Physics Program on "Understanding the Brain," August 2004, Santa Barbara, CA  
Computational Neuroscience (CNS 2004) Workshop on "Nonlinear Spatio-temporal Neural Dynamics – Experiments & Theoretical Models," July 2004, Baltimore, MD  
The Biology of Learning and Memory Symposium, University of Texas at San Antonio, March 2004, San Antonio, TX

#### '02-'03 Academic Year

International Joint Conference on Neural Networks (IJCNN 2003) Workshop on "Dynamical Aspects of Information Encoding in Neural Networks," July 2003, Portland, OR  
Cold Spring Harbor Laboratory Workshop on Theoretical Neuroscience: "Optimization and Constraints in the Evolution of Brain Design," July 2003, Lloyd Harbor, NY  
Computational Neuroscience (CNS 2003) Workshop on "Constraints in Neural Systems Design," July 2003, Alicante, Spain  
Computational Neuroscience (CNS 2003) Workshop on "Advances in Activity-Dependent Plasticity," July 2003, Alicante, Spain  
Bio-Inspired Computational Models of Learning and Memory Conference, September 2002, Stockholm, Sweden

#### '01-'02 Academic Year

IEEE International Symposium on Information Theory 2002 (ISIT 2002), July 2002, Lausanne, Switzerland  
Computational Neuroscience (CNS 2002) Meeting, July, 2002, Chicago, IL  
Computational Neuroscience (CNS 2002) Workshop on "Neural Assemblies," July 2002, Chicago, IL  
Computational Neuroscience (CNS 2002) Workshop on "Complex Nonlinear Neural Dynamics," July 2002, Chicago, IL

#### '00-'01 Academic Year

2001 International Joint Conference on Neural Networks (IJCNN '01), Symposium: "Neuromorphic Systems" July 2001, Washington, DC  
Institute for Adaptive and Neural Computation (ANC), Open House, "Individual

Variation in a Homogenous Population Reflects Underlying Computations" July-August 2001, Edinburgh, UK

Neural Information Processing Systems (NIPS\*2000) Workshop on "Information and Statistical Structure in Spike Trains," December 2000, Breckenridge, CO

'99-'00 Academic Year

Neural Information Processing Systems (NIPS\*99) Workshop on "Spike Timing and Synaptic Plasticity," December 1999, Breckenridge, CO

'98-'99 Academic Year

1999 International Joint Conference on Neural Networks (IJCNN '99), Symposium: "Modeling of Hippocampal Function" July 1999, Washington, DC

Agora for Biosystems, Workshop on the Role and Control of Random Events in Biological Systems, September 1998, Sigtuna, Sweden

'97-'98 Academic Year:

National Institutes of Health, Human Brain Project Spring Meeting, "Parallel Simulation of Large Scale Neuronal Models," May 1998

26th Göttinger Neurobiologentagung, "New Neuroethology on the Move," Conference, March, 1998, Göttingen, Germany

Neural Information Processing Systems (NIPS\*97) Workshop on "Models of Episodic Memory and Hippocampal Function," January 1998, Breckenridge, CO

Agora for Biosystems, Workshop on Hippocampal Modeling, January 1998, Sigtuna, Sweden

'96-'97 Academic Year:

NIMH Satellite Symposium of the 26th Annual Meeting of the Society for Neuroscience: Dynamical Neuroscience: Traversing Scales of Organization, "Traversing Time With Synapses, Neurons, and Networks," November 1996, Washington, DC

'95-'96 Academic Year:

Hippocampal Models Workshop, June 1996, Rutgers University, Newark, NJ

Spring Hippocampal Research Conference, April 1996, Grand Cayman, BWI

Freie Universität of Berlin, Workshop, "Signalketten in lebenden Systemen," March 1996, Berlin, Germany

International Workshop "The Role and Control of Random Events in Biological Systems," September 1995, Sigtuna, Sweden

'94-'95 Academic Year:

3rd Workshop on Neural Networks: "From Biology to High Energy Physics," September 1994, Elba Island, Italy

'93-'94 Academic Year:

7th Annual Conference "Neural Information Processing Systems: Natural and Synthetic," and workshop "What Does the Hippocampus Compute?" November 1993, Denver, CO

Spring Hippocampal Research Conference, April 1994, Grand Cayman, BWI

'91-'92 Academic Year:

Dahlem Conference, September 1991, Berlin, Germany

'89-'90 Academic Year:

Ninth International MaxEnt Workshop, August 1989, Dartmouth College, Hanover, NH

'88-'89 Academic Year:

NIDA, Technical Review Meeting, Behavior as an Indicator of Neurophysiological Events: Learning and Memory

Los Alamos National Laboratory, Center for Nonlinear Computations, Ninth Annual International Conference, May 1989: Self-Organizing, Collective, and Cooperative Phenomena in Natural and Artificial Computing Networks, Los Alamos, NM

Twelfth Symposium on Models of Behavior, June 1989: Neural Network Models of Conditioning, Harvard University, Cambridge, MA

Ninth International MaxEnt Workshop

'86-'87 Academic Year:

Second World Congress of Neuroscience satellite symposium, Pecs, Hungary

'85-'86 Academic Year:

Cognitive Science Society Annual Meeting, panel discussant

'84-'85 Academic Year:

Winter Brain Research Conference, Aspen, CO

Conference in Pecs, Hungary on the Electrical Activity of Archicortex, in honor of Grastyan's 70th Birthday

### **Invited Lectures at Other Institutions:**

'06-'07 Academic Year

Rice University, Department of Applied Mathematics, November 2006, Houston, TX

'05-'06 Academic Year

Baylor College of Medicine, (two talks) Department of Neuroscience, April 2006, Houston, TX

State University of New York at Stony Brook, Center for Computational Neuroscience, March 2006, Stony Brook, NY

University of Texas at San Antonio, Department of Psychology, August 2005, San Antonio, TX

'04-'05 Academic Year

Philipps-University, Department of Psychology, Marburg, Germany, May 2005

Ecole Polytechnique Federale de Lausanne (EPFL), School of Computer and Communication Sciences, Lausanne, Switzerland, May 2005

National Institutes of Health/NIDDK, Laboratory of Biological Modeling, April 2005, Bethesda, MD

Eastern Virginia Medical School, Department of Pathology & Anatomy, January 2005, Norfolk, VA

Stockholm University, Department of Mathematics & Statistics, October 2004, Stockholm, Sweden

'03-'04 Academic Year

Rutgers University, Department of Psychology, March 2004, Piscataway, NJ

University of Texas at San Antonio, Department of Biology, March 2004, San Antonio, TX

University of Arizona, Department of Physiology, January 2004, Tucson, AZ.

Purdue University, Department of Computer Science, November 2003, West Lafayette, IN

University of Wisconsin-Madison, Department of Mathematics, November 2003, Madison, WI

James Madison University, Department of Mathematics, October 2003,

Harrisonburg, VA

'02-'03 Academic Year

University of Maryland School of Medicine, Department of Physiology, May 2003, Baltimore, MD

Florida Atlantic University, Center for Complex Systems & Brain Sciences Institute, February 2003, Boca Raton, FL

KTH - the Royal Institute of Technology, Department of Numerical Analysis and Computer Science, NADA, January 2003, Stockholm, Sweden

Cornell University, School of Electrical and Computer Engineering, November 2002, Ithaca, NY

Cold Spring Harbor Laboratory, Neuroscience Seminar, October 2002, Cold Spring Harbor, NY

University of Amsterdam, Department of Psychology, September 2002, Amsterdam, Netherlands

Vrije University, Department of Anatomy, September 2002, Amsterdam, Netherlands

'01-'02 Academic Year

University of Wisconsin – Madison, Department of Neurology, May 2002, Madison, WI

Johns Hopkins University, Whiting School of Engineering, Department of Electrical & Computer Engineering, September 2001, Baltimore, MD

'99-'00 Academic Year

University of California at Davis, NSF Research Training Grant "Nonlinear Dynamics in Biology" and the Center for Neuroscience, April 2000, Sacramento, CA

University of Texas at San Antonio, Cajal Neuroscience Research Center, April 2000, San Antonio, TX

University of Texas - Houston, Neurology Grand Rounds, March 2000, Houston, TX

University of Edinburgh, Division of Informatics, October 1999, Edinburgh, UK

University of Marburg, Department of Physiology, October 1999, Marburg, Germany

'98-'99 Academic Year

University of Edinburgh, Center for Neuroscience, March 1999, Edinburgh, UK

George Mason University, Krasnow Institute, September 1998, Fairfax, VA

'97-'98 Academic Year

Florida Atlantic University, Center for Complex Systems, May 1998, Boca Raton, FL

Brown University, Dept. of Neuroscience, April 1998, Providence, RI

Brandeis University, Volen Center for Complex Systems, April 1998, Waltham, MA

Duke University, Dept. of Psychology (two lectures), February 1998, Durham, NC

Karolinska Institute, "Using a Hippocampal Neural Network Model to Understand Hippocampal Function and to Predict Cell Firing," January 1998, Stockholm, Sweden

Computer Science Institute, "Context-dependent Sequence Prediction Using a Computational Model of the Hippocampus," January 1998, Kista, Sweden

University of Richmond, Dept. of Psychology, October 1997, Richmond, VA

'96-'97 Academic Year

National Institutes of Health/NINDS, Laboratory of Adaptive Systems, November 1996, Bethesda, MD

Royal Institute of Technology, "Problem Solving and Creativity in Simple Neural Networks," October 1996, Stockholm, Sweden

'95-'96 Academic Year

Ohio State University, Dept. of Psychology, February 1996, Columbus, OH

Karolinska Institute, "A Highly Simplified Model of CA3 Reproduces Many Hippocampal Functions," December 1995, Stockholm, Sweden

Royal Institute of Technology, "Using Asymmetric Neural Networks to Produce Context-Dependent Prediction," December 1995, Stockholm, Sweden

'94-'95 Academic Year:

University of Utah, Dept. of Psychology, January 1995, Salt Lake City, UT

'93-'94 Academic Year:

University of Arizona, ARL Division of Neural Systems, March 1994, Tucson, AZ

'92-'93 Academic Year:

State University of New York, Dept. of Physiology, December 1992, Brooklyn, NY

'91-'92 Academic Year:

Vanderbilt University, Institute for Developmental Neuroscience, October 1991, Nashville, TN

University of North Carolina, Dept. of Psychology, February/March 1992, Chapel Hill, NC

'90-'91 Academic Year:

University of Cambridge, Dept. of Physiology, May 1991, Cambridge, UK

University of Oxford, Dept. of Experimental Psychology, May 1991, Oxford, UK

'89-'90 Academic Year:

National Institute of Mental Health, Poolesville, MD

University of South Florida, Dept. of Neurological Surgery, January 1990, Tampa, FL

University of Texas, School of Human Development, February 1990, Richardson, TX

'87-'88 Academic Year:

The Salk Institute, Miniseries on Memory, La Jolla, CA

University of Colorado Medical Center, Dept. of Cellular and Structural Biology, Denver, CO

MIT, Lincoln Laboratories

University of California, San Diego, Dept. of Cognitive Science, La Jolla, CA

'86-'87 Academic Year:

Naval Research Laboratory, Washington, DC

University of California, Irvine, Center for the Neurobiology of Learning and Memory, Irvine, CA (2 lectures)

Boston University, Center for Systems Neurodynamics, Boston, MA (2 lectures)

Medical College of Virginia, Division of Neurosurgery, Richmond, VA

Duke University, Dept. of Physiology, Durham, NC

National Institutes of Health, Laboratory of Biomathematics

Pacific-Sierra Corporation

'85-'86 Academic Year:

Johns Hopkins University, Dept. of Psychology, consultant to special Sloan Foundation-funded group studying brain and cognition, Baltimore, MD

Stanford University, Dept. of Psychology, Stanford, CA

California Institute of Technology, Dept. of Neuroscience, Pasadena, CA

BDM International Corporation, McLean, VA



'84-'85 Academic Year:

University of Maryland School of Medicine, Departments of Pharmacology and Neuroscience, Baltimore, MD

Stanford University, Dept. of Psychology, Stanford, CA

University of California At San Diego, Dept. of Cognitive Science, San Diego, CA

The Salk Institute, San Diego, CA (2 lectures)

California Institute of Technology, Dept. of Electrical Engineering, Pasadena, CA

Bowman Gray School of Medicine, Dept. of Pharmacology and Physiology, Winston-Salem, NC

AFOSR, Bolling AFB, Washington, DC

## **PUBLIC SPEAKING**

Central Virginia Secular Humanists, January 2004, Charlottesville, VA

## **NATIONAL/INTERNATIONAL SERVICE**

### **Board of Governors:**

International Neural Networks Society, 2001-2006

### **Editorial Boards:**

*Cognitive Neurodynamics*, member of editorial board, 2005-present

*Network: Computation in Neural Systems*, advisory board member, 1993-1996

### **NIH:**

NIH Integrative, Functional and Cognitive Neurosciences (IFCN-8) Special Emphasis Panel study section member, 1998-2003

NIMH Center for Scientific Review Special Emphasis Panel (IFCN-7) reviewer, 1995-96. 1999-00

NIMH Cognitive Functional Neuroscience Review Committee, ad hoc panel member, 1995-96, 1994-95, 1993-94, 1991-92

NIMH Division of Neuroscience and Behavioral Science Special Workshop, "Models of Neural Ensembles Workshop." (I assisted in the selection of participants as well as being a participant in the workshop.) 1993-94

NIMH Mathematical/Computational/Theoretical Neuroscience Program Workshop, programmatic review, 1991-92

NIH Small Business Innovative Research Program, panel member, 1985-86

### **Other Grant Reviews:**

University of Texas at San Antonio, San Antonio Life Sciences Institute (SALSI)

Air Force Office of Scientific Research (AFOSR)

Human Frontier Science Program Organization

National Science Foundation

Commonwealth of Virginia Alzheimer's and Related Diseases Research Award Fund

The Wellcome Trust

### **Conferences:**

International Joint Conference on Neural Networks (IJCNN), conference paper reviewer, 1990-91, 2003-04, 2004-05.

Foundations of Augmented Cognition, Information Science and Technology Study Group, speaker, August 2001, Washington, DC

International Neural Network Society meeting, Board of Governors member, 2001-

present

Computational Neuroscience Meeting (CNS), board member, 1998-2001  
Psychonomic Society, Thirty-seventh Annual Meeting, session chair, 1996-97  
World Conference on Neural Networks (WCNN'95), program committee member, 1994-95  
Neural Information Processing Systems (NIPS'92), conference paper reviewer, 1991-92  
Winter Conference on Neural Plasticity, 1989-90  
International Neural Network Society meeting, program committee member, 1988-89  
International Neural Network Society meeting, section reviewer, 1987-88

### **Manuscript Reviews:**

Computational Neuroscience 2006  
Behavioral Disorders 2004-2005  
Behavioral Neuroscience 1998-99, 2003-04, 2004-05, 2005-2006  
Behavioral Processes 2005-2006  
Biological Cybernetics 1993-94  
Biophysical Journal 1994-95, 1993-94  
BMC Neuroscience 2003-04  
Brain Research 1992-93  
Current Biology 2001-02  
Experimental Brain Research 1995-96  
Hippocampus 2002-03, 1999-00, 1995-96, 1994-95, 1991-92, 1990-91, 1989-90  
IEEE Transactions on Neural Networks 2002-03, 2001-02  
Journal of Cerebral Blood Flow and Metabolism 2000-01  
Journal of Neuroscience 2002-03, 2001-02, 2000-01, 1999-00, 1995-96, 1994-95, 1993-94, 1986  
Journal of Neurosurgery 2002-03, 1999-00, 1997-98, 1995-96  
Journal of Theoretical Biology 1988-89  
Nature 1993-94  
Nature Neuroscience 1998-1999  
Network: Computation in Neural Systems 2000-01, 1999-00, 1990-91  
Neural Network Models of Conditioning: Quantitative Analyses of Behavior. Proceedings of the IEEE (special issue on neural networks) 1988-89  
Neurobiology of Aging 1997-98  
Neuron 1991-92  
Neuroscience 2005-2006  
Proceedings of the National Academy of Sciences 1996-97, 1985  
Science 1994-95, 1991-92, 1988, 1984  
Synapse 1989-90

### **Promotion Reviews:**

Dept. of Psychology, Boston University, Boston, MA, 2000-2001  
Dept. of Behavioral Neuroscience, University of Pittsburgh, Pittsburgh, PA, 1991-92  
Dept. of Psychology, Northwestern University, Evanston, IL, 1991-92

### **Dissertation Committees outside the University of Virginia:**

Ole Jensen, Neuroscience Program, Department of Biology, Brandeis University, Waltham, MA, 1997-98  
Erik Fransén, Dept. of Numerical Analysis and Computing Science, Royal Institute of Technology, Stockholm, Sweden, 1996-97 (Opponent)  
Brian R. Christie, Dept. of Psychology, University of Otago, Dunedin, New Zealand, 1991-92

## **CONSULTING**

The Boston Consulting Group (BCG) – Strategy Institute, 1998-present

## **UNIVERSITY SERVICE**

### **Doctoral Dissertations Supervised:**

'03-present

Ashlie Benjamin Hocking, MCS, University of Virginia, Computer Science

'96-'97 Academic Year:

David A. August, Ph.D., University of Virginia, Neuroscience

'92-'93 Academic Year:

Dawn M. Adelsberger-Mangan, Ph.D., University of Virginia, Biomedical Engineering

'91-'92 Academic Year:

Costa M. Colbert, Ph.D., University of Virginia, Neuroscience

'86-'87 Academic Year:

Barbara Burger, Ph.D., University of Virginia, Neuroscience

'80-'81 Academic Year:

Nancy L Desmond, Ph.D., University of California, Riverside, Physiological Psychology

### **Master's Candidate Supervised:**

Dean Zywicki, Dept. of Computer Science

### **Master's Theses Supervised:**

'88-'89 Academic Year:

Jon B. Weissman, Dept. of Computer Science

'84-'85 and '85-'86 Academic Years:

R. Williams, Dept. of Biomedical Engineering

P. Ransil, Dept. of Biomedical Engineering

### **Undergraduate Research Projects:**

'06-'07

Rachel Miller, second year, undeclared

Kai Chang, second year, undeclared

Michael Thomas, fourth year, Cognitive Science

Ranjan Khan, second year, undeclared

'05-'06 Academic Year

Jemmie D. Cheng, second year, Psychology

Henry M. Cook, third year, Computer Science

Donald Norum, third year, Echols Scholar, Physics and Cognitive Science

Joyce Arcangeli, first year, Jefferson Scholar

'04-'05 Academic Year

Aleksandr Gershaft, fourth year, Computer Science  
Andrew Howe, fourth year, Cognitive Science  
Aprotim Sanyal, fourth year, Cognitive Science and Computer Science  
Louise Montgomery, second year, Computer Science, and recipient of a Rodman  
Research Grant (sponsor: W. B Levy)  
Jemmie D. Cheng, first year, Psychology

'03-'04 Academic Year:

Maya Dewan, third year Echols Scholar  
David Faulkner, second year Echols Scholar  
Kurt Mitman, fourth year Echols Scholar, and recipient of the Faculty Senate  
Harrison Undergraduate Research Award and a Barry M. Goldwater Scholarship  
(sponsor: W. B Levy)  
Aprotim Sanyal, third year, Cognitive Science and Computer Science

'02-'03 Academic Year:

Timothy Robinson, fourth year Engineering Science, and recipient of a Virginia  
Space Grant Consortium Aerospace Undergraduate Research Scholarship  
(sponsor, W. B Levy)  
Joseph Monaco, fourth year Echols Scholar, recipient of the Faculty Senate Harrison  
Undergraduate Research Award (sponsor: W. B Levy), and recipient of the Best  
Student Poster Award at the International Joint Conference on Neural Networks  
(IJCNN) 2003 Meeting (co-author: W. B Levy).  
Richard Barnes, third year Echols/Jefferson Scholar, and recipient of the Faculty  
Senate Harrison Undergraduate Research Award (sponsor: W. B Levy)  
Jason Love, third year Cognitive Science  
Maya Dewan, second year Echols Scholar

'01-'02 Academic Year:

Timothy Robinson, third year Engineering Science, and recipient of a Virginia Space  
Grant Consortium Aerospace Undergraduate Research Scholarship (sponsor, W.  
B Levy)  
Joseph Monaco, third year Echols Scholar, and recipient of the Faculty Senate  
Harrison Undergraduate Research Award (sponsor: W. B Levy)  
Kurt Mitman, second year Echols Scholar, and recipient of the Faculty Senate  
Harrison Undergraduate Research Award and a Barry M. Goldwater Scholarship  
(sponsor: W. B Levy)  
Richard Barnes, second year Echols/Jefferson Scholar, and recipient of the Faculty  
Senate Harrison Undergraduate Research Award (sponsor: W. B Levy)  
Christine Garrett, second year Psychology  
Terese Zacharias, second year Cognitive Science

'00-'01 Academic Year:

Meghan Hession, first year Echols Scholar  
Kurt Mitman, first year Echols Scholar  
Matthew Archer, fourth year Echols Scholar  
Ptryk Laurent, fourth year Echols Scholar, and recipient of the Faculty Senate  
Harrison Undergraduate Research Award (sponsor: W. B Levy)  
Madeline Hogan, fourth year Psychology  
Andrew Leaver-Fay, fourth year Echols Scholar  
Joseph Monaco, second year Echols Scholar  
Timothy Robinson, second year Engineering Science  
David Sullivan, fourth year Computer Science

'99-'00 Academic Year:

Matthew Archer, third year Echols Scholar  
Ptryk Laurent, third year Echols Scholar, and recipient of the Faculty Senate  
Harrison Undergraduate Research Award (sponsor: W. B Levy)  
Scott Gorman, fourth year Computer Science  
Donald Christman, fourth year Echols Scholar  
Andrew Leaver-Fay, third year Echols Scholar  
Madeline Hogan, third year psychology student  
Preeti Kanodia, third year psychology student

'98-'99 Academic Year:

Matthew Archer, second year Echols Scholar  
Ptryk Laurent, second year Echols Scholar  
Tilottoma Mukherjee, third year Echols Scholar  
Sean Polyn, fourth year Echols Scholar  
Aaron Shon, fourth year Echols Scholar

'97-'98 Academic Year:

Matthew Harrison, fourth year Echols Scholar  
Sean Polyn, third year Echols Scholar  
Aaron Shon, third year Echols Scholar

'96-'97 Academic Year:

Asohan Amarasingham, fourth year Echols Scholar  
Sean Polyn, second year Echols Scholar  
Aaron Shon, second year Echols Scholar  
Matthew Harrison, third year Echols Scholar  
Justin Sands, third year Engineering and Applied Science student  
Tilottoma Mukherjee, first year Echols Scholar

'95-'96 Academic Year:

Asohan Amarasingham, third year Echols Scholar  
Per Sederberg, fourth year Cognitive Science student  
Aaron Shon, first year Echols Scholar  
Adam Soroka, first year Echols Scholar

'94-'95 Academic Year:

Asohan Amarasingham, second year Echols Scholar

'93-'94 Academic Year:

Brian Laurey, fourth year Engineering and Applied Science student  
Colin Prepscius, fourth year Engineering and Applied Science student

'92-'93 Academic Year:

Geoffrey Barrows, fourth year Engineering and Applied Science student  
Alan Stanton, fourth year Engineering and Applied Science student  
Colin Prepscius, third year Engineering and Applied Science student  
Denise Wernersbach, third year Biology student

'91-'92 Academic Year:

Geoffrey Barrows, third year Engineering and Applied Science student  
Alan Stanton, third year Engineering and Applied Science student  
Colin Prepscius, second year Engineering and Applied Science student

'90-'91 Academic Year:

Richard Stone, Howard Hughes Medical Institute Undergraduate Research Program  
in Biomedical Science  
Jennifer Griffin, third year Biology student

'87-'88, '88-'89 and '89-'90 Academic Years:

Michelle Heydenreich, Echols Scholar

'84-'85 Academic Years:

Marybeth Daucher, who won the second place award in the competition for the  
"Richard Katz Prize for Undergraduate Research" in the Dept. of Biology.

### **Undergraduate Thesis Reader/Technical Advisor**

'05-'06 Academic Year

Matthew Rodgers, Thesis in STS 402, Bachelor of Science in Computer Science  
Willow Noonan, Thesis in STS 402, Bachelor of Science in Computer Science

'04-'05 Academic Year

Aleksandr Gershaft, Bachelor of Science in Computer Science  
Aprotim Sanyal, Bachelor of Science in Computer Science

'03-'04 Academic Year

Gary Sharp, Bachelor of Science in Computer Science

'00-'01 Academic Year

Neeraj Gupta, Bachelor of Science in Computer Science  
David W. Sullivan, Bachelor of Science in Computer Science

'99-'00 Academic Year:

Scott Gorman, Bachelor of Science in Computer Science

'98-'99 Academic Year:

Ting Mui Li, Bachelor of Science in Electrical Engineering  
Jonathan Lin, Bachelor of Science in Computer Science

'86-'87 Academic Year:

Dawn Nunziato, interdisciplinary major in the Depts. of Computer Science and  
Philosophy

### **Teaching and Lectures at University of Virginia:** ( [#] = students enrolled)

'06-'07 Academic Year

1 semester course, USEM 170: Biology of Consciousness [12]

1 semester course, Directed Readings [1]

1 semester course, USEM 171: Neurobiology of Drug Addiction [17]

'05-'06 Academic Year

1 lecture, CS 290, Computer Science Seminar I

1 lecture, Psyc 716, Cognitive Science

1 semester course, Neural Network Models of Cognition and Brain Computation

1 semester course, Directed Readings [2]

1 semester course, USEM 170: Biology of Consciousness [13]

1 semester course, Directed Readings [3]

1 lecture, Department of Biology Seminar Series

1 lecture, Cognitive Lunch Seminar Series

'04-'05 Academic Year

1 lecture, Psyc 737, Department of Psychology

1 lecture, DADA, Department of Psychology

1 lecture, CS 390, Department of Computer Science

1 semester course, Neural Network Models of Cognition and Brain Computation

1 semester course, USEM 170: Biology of Consciousness [16]

1 semester course, Directed Readings [4]

'03-'04 Academic Year

1 lecture, CS 390, Department of Computer Science

1 lecture, Psyc 583, Department of Cognitive Science

1 lecture, Neuroscience Graduate Program presentation to first-year students

1 semester course, Neural Network Models of Cognition and Brain Computation

1 lecture, Seminar on Applied Mathematics Series

1 semester course, Directed Reading

'02-'03 Academic Year

1 semester course, Neural Network Models of Cognition and Brain Computation

1 lecture, CS 390, Department of Computer Science

1 lecture, Biol/Phil 386, Strategic Thinking course

1 semester course, Directed Reading [6]

'01-'02 Academic Year

1 semester course, Neural Network Models of Cognition and Brain Computation

1 lecture, CS 390, Department of Computer Science

1 lecture, Darden School

1 semester course, Directed Reading [3]

2 lectures, Neurophysiology (Biol 817 and Phy 862)

'00-'01 Academic Year

1 semester course, Neural Network Models of Cognition and Brain Computation

1 semester course, Current topics in Cognition and Neocortical Function [7]

1 lecture, Psyc 581, Cognitive Science course

1 lecture, CS 390, Department of Computer Science

1 lecture, Cognitive Studies of Science & Technology Workshop

1 lecture, Phil 386, Concepts of Strategy course

1 lecture, Darden School

'99-'00 Academic Year

1 semester course, Neural Network Models of Cognition and Brain Computation

1 semester course, Current Topics in Brain Imaging [11]

1 class, Behavioral and Cognitive Neuroscience

1 lecture, Department of Computer Science

1 lecture, Department of Psychiatric Medicine, Grand Rounds

1 lecture, Darden School

1 lecture, Department of Psychology, Graduate Lecture Series

1 lecture, ACM Undergraduate Research Seminar

2 lectures, Dept. of Neurological Surgery

'98-'99 Academic Year:

1 semester course, Neural Network Models of Cognition and Brain Computation

1 semester course, Construction of a Neural and Molecular Theory of Memory and Encoding [7]

1 class, Tutorial in Fundamentals in Neuroscience  
1 lecture, Department of Psychology, Graduate Lecture Series

'97-'98 Academic Year:

1 semester course, Neural Network Models of Cognition and Brain Computation  
1 semester course, Role of Prefrontal Cortex in Cognition [10]  
2 classes, Integrated Systems and Cognitive Neuroscience  
1 lecture, Dept. of Neurological Surgery  
1 lecture, Cognitive Studies Group  
1 class, Functional Neuroanatomy

'96-'97 Academic Year:

1 semester course, Neural Network Models of Cognition and Brain Computation  
1 semester course, Seminar on Analogy [6]  
1 semester course, Directed Readings on Neural Networks

'95-'96 Academic Year:

1 semester course, Neural Network Models of Cognition and Brain Computation  
1 semester course, Directed Readings on Neural Networks  
2 classes, Integrated Systems and Cognitive Neuroscience  
1 lecture, Physics Colloquia  
1 lecture, Cognitive Studies Group  
1 lecture, Dept. of Neurological Surgery

'94-'95 Academic Year:

1 semester course, Introduction to Neural Networks  
2 classes, Integrated Systems and Cognitive Neuroscience  
1 lecture, Cognitive Studies Group  
1 lecture, Artificial Neural Networks Journal Club

'93-'94 Academic Year:

1 semester course, Introduction to Neural Networks  
3 classes, Neuroanatomy Course  
2 classes, Integrated Systems and Cognitive Neuroscience  
1 lecture, Neuroscience Graduate Program  
1 lecture, Biophysics Program

'92-'93 Academic Year:

1 lecture, Neural and Behavioral Development Training Grant Seminar  
1 lecture, Medical Academic Advancement Program

'91-'92 Academic Year:

1 semester University Seminar course, Introduction to Neural Networks  
5 classes, Intensive Survey in Neuroscience  
1 lecture, Neuroscience Graduate Program  
1 lecture, First Annual Symposium, *Creativity and Intelligence*, Sponsored by the School of Engineering and Applied Science, University of Virginia, Charlottesville, VA  
1 lecture, Summer Enrichment Program, School of Education

'90-'91 Academic Year:

2 classes, Intensive Survey in Neuroscience  
2 classes, Fundamentals of Neuroscience  
1 lecture, Biophysics Seminar



'89-'90 Academic Year:

2 classes, Fundamentals of Neuroscience  
2 lectures, Intensive Survey in Neuroscience  
1 lecture, Dept. of Neurological Surgery

'88-'89 Academic Year:

Directed a one semester reading course for Catherine M. Jordan, Dept. of Systems Engineering  
1 lecture, Dept. of Neurological Surgery  
2 lectures, Intensive Survey in Neuroscience  
2 lectures, Dept. of Mathematics (Statistics Forum)

'87-'88 Academic Year:

1 lecture, Dept. of Neurological Surgery  
1 lecture, Neuroscience Graduate Program

'86-'87 Academic Year:

Electrical Engineering 886/Computer Science 851, three hours of lectures a week for the spring semester  
2 lectures, Neuroscience Graduate Program, graduate Intensive Survey course  
1 lecture, Dept. of Neurological Surgery  
1 lecture, Dept. of Systems Engineering  
4 lectures in this series: Conducted unofficial interdisciplinary seminar series in Systems Neurodynamics that met every week of the fall semester. I also brought in outside speakers of interest to this group during the spring semester.

'85-'86 Academic Year:

3 lectures, Statistics Forum, Dept. of Mathematics  
2 lectures, special seminar group that studied neural networks, pattern recognition and cognition. Members included professors and graduate students from Biomedical Engineering, Computer Science, Mathematics, Electrical Engineering, Psychology, and Neurosurgery  
1 lecture, Dept. of Neurological Surgery

'84-'85 Academic Year:

2 lectures, Statistics Forum  
2 lectures, Dept. of Neurological Surgery  
3 lectures, Intensive Survey in Neuroscience program  
1 lecture, Dept. of Electrical Engineering  
1 lecture, Dept. of Biomedical Engineering

### **Examination Committees**

Ph.D. and Advancement to Candidacy Committees:

'05-'06 Academic Year

Lars Strother, Dept. of Psychology  
Ashlie B. Hocking, Dept. of Computer Science

'04-'05 Academic Year

Dimitrios Katramatos, Dept. of Computer Science

'03-'04 Academic Year

David Van Valkenburg, Dept. of Psychology

'97-'98 Academic Year:

Tyrone Yang, Dept. of Psychology  
Raul E. Torres Muniz, Dept. of Electrical Engineering  
Christopher M. Norris, Neuroscience Graduate Program

'96-'97 Academic Year:  
David A. August, Neuroscience Graduate Program  
Monica P. Carley, Dept. of Electrical Engineering

'95-'96 Academic Year:  
Jeannine M. Pinto, Dept. of Psychology  
Peter Dlugos, Dept. of Philosophy

'92-'93 Academic Year:  
Dawn M. Adelsberger-Mangan, Dept. of Biomedical Engineering

'91-'92 Academic Year:  
Costa M. Colbert, Neuroscience Graduate Program

'89-'90 Academic Year:  
William Katz, Dept. of Biomedical Engineering

'86-'87 Academic Year:  
Tres Thompson, Neuroscience Graduate Program  
Barbara Burger, Neuroscience Graduate Program  
Geoffrey White, Dept. of Physiology

'84-'85 and '85-'86 Academic Years:  
Lauren Davis, Dept. of Neuroscience  
Geoffrey White, Dept. of Physiology  
Barbara Burger, Dept. of Neuroscience

**Master's Examinations:**

C. A. Ashworth, Dept. of Psychology

**Director of Neurosurgery Research**

Responsibilities include advising the residents doing research. In addition I facilitate communications between laboratories of the department (I go to Kassell's, and Desmond's, research meetings). I also supervise certain departmental facilities including the electron microscope, ultramicrotome, and the photographic darkroom. These facilities are used by members of various departments including Neurology, Neuroscience, Otolaryngology, and Ophthalmology.

**Search Committees:**

'04-'05 Academic Year:  
Member of the Neuroimager Search Committee in the Department of Psychiatric Medicine.

'01-'02 Academic Year:  
Member of the Neuroimager Search Committee in the Department of Psychiatric Medicine.

'89-'90 Academic Year:  
Chaired the search committee to hire another basic scientist in the Department of Neurosurgery. An offer was made to the candidate I identified.

'85-'86 Academic Year:

Member of the search committee to replace E. W. Rubel, Dept. of Otolaryngology & Head-Neck Surgery. I devoted a lot of time to the search for a candidate suitable to both Otolaryngology and Neuroscience. Eventually I discovered Jeff Corwin and convinced Otolaryngology to invite him for an interview. He was hired.

**Miscellaneous:**

'98-'99 Academic Year:

Participant: University of Virginia - School of Medicine 1999 Faculty Research Retreat Program, February 1999

Participant: Keswick Conference on "Interpreting Strategy," Sponsored by the Boston Consulting Group - Strategy Institute, Keswick, VA, September 1998

'93-'94 Academic Year:

Moderator: Neuroscience Graduate Program Research Day, October 1993, Charlottesville, VA.

'91-'92 Academic Year:

First Annual Symposium, *Creativity and Intelligence*, Sponsored by the School of Engineering and Applied Science, University of Virginia, Charlottesville, VA

'90-'91 Academic Year:

Moderator: Seventh Conference on Neural Trauma, September 1990, Charlottesville, VA.

'89-'90 Academic Year:

Assisted Professor R. Abbott in interviewing candidates for a position in the Statistics and Epidemiology Program.

Promotion committee member for H. Bozdogan. (This was a controversial case in the Dept. of Mathematics requiring outside members.)

'85-'90 Academic Years:

Selection Committee, Clinical Neurosurgery Resident Program.

'84-'85 Academic Year:

I helped run (invited speakers and set up their schedules) the Statistics Forum Colloquium (funded by the College through the Dept. of Mathematics) while H. Bozdogan was on leave.

I assisted the Dept. of Mathematics in getting a world class mathematician (I. Csiszar) to study and teach at the University for the '85-'86 year.

**Other University Service (abbreviated):**

Executive Committee, Neuroscience Graduate Program

Admissions Committee, Neuroscience Graduate Program

Executive Committee, Interdisciplinary Graduate Program in Biophysics

Coordinator, Neuroscience Graduate Program spring seminar series, 1993

Coordinator, Commonwealth Center for Literary and Cultural Change, fall seminar series, "The changing concepts & practices of experiments," 1993.

I am very proud to have had the opportunity to work with Ralph Cohen, Professor of English, the Director of the Commonwealth Center. We put together a seminar series which was open to the public. The series was of special benefit to the university community by bringing together disciplines as diverse as neural networks, philosophers of science, professors of engineering, and other academics

interested in the role of scientific ideas in society and in academia itself

## FEDERAL FUNDING HISTORY

### Projected Funding:

"Neural simulations as a tool in drug discovery," NIH/NIMH R41 (STTR)  
W. B Levy, PI.

	(Dollars are direct costs)
(To University of Virginia)	2007-09 ----- \$ 300,000
(To Informed Simplifications, LLC)	2007-09 ----- \$ 200,000

### Past Funding:

(Dollars are direct + indirect costs)

Principal Investigator: William B Levy, Ph.D.

1) "Understanding computation and communication in the brain," NIH/NIMH RO1  
MH63855. W. B Levy, PI.

2002-06 ----- \$ 740,000

2) "Ovarian Steroid Hormones and Hippocampal Plasticity," NIH/NINDS R01  
NS41582. W. B Levy, PI.

2001-06 ----- \$ 911,896

3) "Reproducing hippocampal function with a biological model of the  
hippocampus," PSC, IBN030004P, W. B Levy, PI.  
(This grant awarded computer time on the Pittsburgh Supercomputing  
Center's TCS computer.)

2004-05 ----- (computer time)

4) "A computational approach for studying the brain," NIMH, RO1 MH48161  
This is a grant to study our hippocampal model.

1991-95 ----- \$ 609,839

1996-99 ----- \$ 490,709

1999-04 ----- \$ 831,760

5) "Molecular correlates of adult synaptogenesis," NIMH RO1 MH59349

1999-04 ----- \$1,018,949

6) "Analyzing neural activity using information theory," NIH/NCRR R21 RR15205  
This is an "Innovative Approaches to Developing New Technologies" grant in  
which Toby Berger and I are using rate distortion theory to understand neural  
computation.

2001-03 ----- \$ 220,560

- 7) "Parallel simulation of large scale neuronal models," NIMH RO1 MH57358.  
N. Goddard, PI; subcontract to W. B Levy.
- 1997-02 ----- \$ 153,479
- 8) "Synapses as information processing-memory elements," NIH, RO1 NS15488.  
W. B. Levy, PI.
- 1979-82 ----- \$ 173,550  
1982-85 ----- \$ 320,000  
1985-88 ----- \$ 456,875  
1988-93 ----- \$1,081,965  
1993-99 ----- \$1,017,158
- 9) "A computational approach to hippocampal function," PSC, BNS950001P, W. B Levy, PI.  
(This grant awarded computer time on the Pittsburgh Supercomputing Center's Cray computer.)
- 1993-98 ----- (computer time)
- 10) "Relating synaptic modification to cognitive function," NIMH, KO2 MH00622.  
W. B Levy, PI.
- 1986-91 ----- \$ 282,906  
1992-97 ----- \$ 379,412
- 11) "Interpreting hippocampal function and developing artificial neural networks for prediction in spatial control," EPRI RP8030-08. P. T. Kazakos, PI; W. B Levy, Co-PI.
- 1993-96 ----- \$ 76,574
- 12) "A computational model of synaptic development," NIH/NCRR, RO3 RR07864.  
W. B Levy, PI.
- 1993-95 ----- \$ 50,834
- 13) "Interpreting hippocampal function and developing artificial neural networks for prediction in spatial control," NSF MSS-9216372, P. T. Kazakos, PI; W. B Levy, Co-PI)
- 1993-94 ----- \$ 35,031
- 14) "Using information measures to evaluate neural networks," NIMH, RO3 MH45921. W. B Levy, PI.

1989-91 ----- \$ 32,938

- 15) "Direct assessment of synaptic modification rules," AFOSR, 83-0236. W. B Levy, PI.

1983-86 ----- \$ 287,001

- 16) "Control processes in brain synaptic plasticity," NIH, RO1 NS13670. W. B Levy, PI.

1979-82 ----- \$ 175,580

This award was declined in order to concentrate on NS15488 above.

- 17) "Autoregulation of neurotransmitter release from brain," NSF, BMS 18089. W. B Levy, PI.

1975-78 ----- \$ 60,000

### **Fellowships:**

- 18) Burroughs Wellcome Research Travel Grant, "A neural network model of cell firing in the primate hippocampus," W. B Levy, PI. Spring 1995 to Oxford University, UK.

- 19) Burroughs Wellcome Research Travel Grant, "The roles of synaptic modification in visual development and in information processing," W. B Levy, PI. Spring 1991 to Cambridge University, UK.

- 20) NIMH Postdoctoral Fellowship to W. B Levy. "Identification of changes mediating habituation," MH19314. Awarded for two years but used only in 1974.

- 21) NIMH Predoctoral Fellowship to W. B Levy. "Biological bases of neurosynaptic function," MH51700; 1971-73.

- 22) NSF Undergraduate Summer Fellowship to W. B Levy, 1968.

### **Training Grants-Preceptor/Participant:**

- 23) "Training in neuroplasticity and regeneration research," NIH 5-T32-NS07199, J. A. Jane & O. Steward, Program Co-Directors; 1986-96.

- 24) "Training in neurobiological and behavioral development," NIH 1-T32-HD07323, P. Brunjes, Program Director; 1986-2001.
- 25) "Predoctoral training in neuroscience," NIH, T32-GM08328, K. S. Lee, Program Director; 1992-2002.

### **Postdoctoral Awards that I Mentored:**

#### **Current:**

- 26) "A Quantitative Analysis of Dendrites and Synapses," NIH/NIMH 1F32 MH072058. Patrick R. Crotty, Fellow; W. B Levy, Sponsor.

2004-07 ---- \$ 146,772

#### **Past:**

- 27) "Learning in Hippocampus with Neocortical Interactions," NIH/NIMH 1F32 MH12762. Paul F. Rodriguez, Fellow; W. B Levy, Sponsor.

2000-03 ---- \$ 109,164

- 28) "Flexibility and Cortical Teaching in a Hippocampal Model," NIH/NIMH 1F32 MH11979 Anthony J. Greene, Fellow; W. B Levy, Sponsor.

1997-00 ----- \$ 93,528

### **Predoctoral Fellowships to my Graduate Students:**

#### **Past:**

- 29) "Neurally plausible methods for encoding analog signals," D. A. August, NIMH F31 MH10702, 07/01/94 - 06/30/97.
- 30) "Information flow in computational hippocampal models" Dawn Adelsberger-Mangan, NIMH F31 MH09967, 04/01/90 - 03/31/93.
- 31) NSF predoctoral fellowship to Teresa Esch, project period: 1991 - 1992.
- 32) "Supervised associative synaptic modification in CA1" Costa M. Colbert, NIMH F31 MH10019, 10/01/90 - 09/30/92.
- 33) "Role of entorhinal cortex in a conditioned response" Nancy L Desmond, NIMH F31 MH05677, 01/01/77 - 12/31/79.



## BIBLIOGRAPHY

William B Levy

### Refereed Journals

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Levy, W. B, Redburn, D. A., and Cotman, C. W. Stimulus-coupled secretion of gamma amino-butyric acid from rat brain synaptosomes. *Science* 181, 1973, 676-678.

Mensah, P. T., Glanzman, D., Levy, W. B, and Thompson, R. The effects of 5,6-dihydroxytryptamine in the amphibian spinal cord using silver techniques. *Brain Res.* 78, 1974, 255-261.

Levy, W. B, Haycock, J. W., and Cotman, C. W. Effects of polyvalent cations on stimulus-coupled secretion of (<sup>14</sup>C)-gamma-aminobutyric acid from isolated brain synaptosomes. *Mol. Pharmacol.* 10, 1974, 438-449.

Levy, W. B, Haycock, J. W., and Cotman, C. W. Membrane permeability and receptor function. *J. Theoret. Biol.* 60, 1975, 109-130.

Levy, W. B, Haycock, J. W., and Cotman, C. W. Stimulation-dependent depression of readily releasable neurotransmitter pools in brain. *Brain Res.* 115, 1976, 243-256.

Cotman, C. W., Haycock, J. W., and Levy, W. B On the functional coupling of neurotransmitter uptake and release in brain. *Br. J. Pharmacol.* 58, 1976, 569-572.

Haycock, J. W., Cotman, C. W., and Levy, W. B Pentobarbital depression of stimulus-secretion coupling in brain: Selective inhibition of depolarization-induced calcium-dependent release. *Biochem. Pharmacol.* 26, 1977, 159-161.

Rogers, H. R. and Levy, W. B The effects of Ca<sup>+2</sup> and Mg<sup>+2</sup> on the habituating LC-VR reflex of the frog spinal cord. *Brain Res.* 139, 1978, 183-189.

Haycock, J. W., Levy, W. B, Denner, L. A., and Cotman, C. W. Effects of elevated [K<sup>+</sup>]<sub>o</sub> on the release of neurotransmitters from cortical synaptosomes: Efflux or secretion? *J. Neurochem.* 30, 1978, 1113-1125.

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Struble, R. G., Desmond, N. L, and Levy, W. B Anatomical evidence for interlamellar inhibition in the fascia dentata. *Brain Res.* 152, 1978, 183-189.

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Levy, W. B and Rogers, H. R. Effect of temperature on habituation of the LC-VR

reflex of the frog spinal cord. *Physiol. Behav.* 22, 1979, 647-652.

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Wilson, R., Levy, W. B, and Steward, O. Functional effects of lesion-induced plasticity: Long-term potentiation in the normal and lesion-induced temporodentate circuits. *Brain Res.* 176, 1979, 65-78.

Haycock, J. W., Levy, W. B, Denner, L. A., and Cotman, C. W. Stimulus-secretion coupling processes in brain: Dependence upon extracellular calcium concentration. *Neurosci.* 4, 1979, 1341-1346.

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