

## CURRICULUM VITÆ

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**Home Address:** 1215 Romney Drive  
Pasadena, CA 91105 (310) 980-7453

**Home Page:** <http://www.brainmapping.org/MarkCohen>  
<http://orcid.org/0000-0001-6731-4053>

**H-Index** 81  
**i10-Index** 226  
**Citations** 38,709

*Note: My name is very common. It is difficult to get an accurate count for these indices. The quoted numbers are from google scholar: <http://tinyurl.com/MSCohenGoogleScholar> on 8/5/21*

**EDUCATION:**

|            |   |
|------------|---|
| 1985 Ph.D. | The Rockefeller University, New York, NY ( <i>Neurobiology and Behavior</i> ) |
| 1979 A.B.  | Stanford University, Stanford, CA   |
| 1974-1976  | Massachusetts Institute of Technology   |

**HOSPITAL APPOINTMENTS:**

|              |   |
|--------------|---|
| 2005-present | Technical Director, Staglin One Mind Center   |
| 1993-2005    | Director of MRI Activation Imaging<br>UCLA Division of Brain Mapping  |
| 1991-1993    | Director of MR Education<br>Massachusetts General Hospital, Boston, MA  |
| 1990-1993    | Director, Hyperscan Imaging Laboratory<br>Technical Director of Clinical MR<br>Massachusetts General Hospital, Boston, MA |

### **ACADEMIC APPOINTMENTS:**

All current UCLA appointments are as Professor in Residence (emeritus, on recall)

|           |  |
|-----------|--|
| 2011 -    | Member, California NanoSystems Institute                       |
| 2009 -    | Biomedical Engineering   |
| 2005 -    | Director UCLA/Semel Neuroimaging Training Program              |
| 2004 -    | Psychology, UCLA College of Arts and Sciences                  |
| 2001 -    | Psychiatry and Biobehavioral Sciences, UCLA School of Medicine |
| 2001 -    | Biomedical Physics, UCLA School of Medicine                    |
| 1994 -    | Neurology, UCLA School of Medicine                             |
| 1994 -    | Radiological Sciences, UCLA School of Medicine                 |
| 2001-     | Professor in Residence, UCLA School of Medicine                |
| 1993-2001 | Associate Professor in Residence, UCLA School of Medicine      |
| 1992-1993 | Assistant Professor, Harvard Medical School, Boston, MA        |
| 1990-1991 | Instructor, Harvard Medical School, Boston, MA                 |

### **OTHER PROFESSIONAL POSITIONS:**

|              |   |
|--------------|---|
| 1983-Present | President, Clear View Designs, Inc.                       |
| 1985-1988    | MR Applications Scientist, Siemens Medical Systems, Inc.  |
| 1988-1990    | Senior Applications Scientist, Advanced NMR Systems, Inc. |
| 2014-Present | Chief Scientist, SMRT Image                               |
| 2016-present | Scientific Advisor, Neuro-AI.com                          |

### **MAJOR RESEARCH INTERESTS:**

1. Functional MR Imaging of Brain Activity
2. High Speed Magnetic Resonance Imaging Applications & Techniques
3. Mental Imagery
4. Multi-modal imaging
5. Electroencephalography and Electrophysiology
6. Epilepsy
7. Hypnosis
8. Schizophrenia
9. Neurostimulation with Ultrasound
10. Sparsity and Compressive Sensing
11. Statistical Machine Learning
12. Brain Reading
13. Physiology of Consciousness
14. Mental Privacy

### **AWARDS AND HONORS:**

|      |  |
|------|--|
| 2007 | National Aeronautics and Space Administration Invention Award  |
| 2012 | Post-Doctoral Mentoring Award (UCLA)   |
| 2014 | Council on Undergraduate Research. Excellence in Mentoring Undergraduate Research  |
| 2017 | Education in Neuroimaging Award. Organization for Human Brain Mapping. See: <a href="http://tinyurl.com/OHBMEducation2017">tinyurl.com/OHBMEducation2017</a> |
| 2019 | Board Member, Shakespeare Center of Los Angeles  |

## **MEMBERSHIPS, OFFICES & COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:**

|           |  |
|-----------|--|
| 1994-1997 | Annual Meeting Program Committee, Publications Committee, Workshop Committee, External Relations Committee, Meetings Coordination Committee, Efficacy Committee; Society of Magnetic Resonance |
| 1994-1997 | Board of Directors; Society of Magnetic Resonance  |
| 1994-1997 | Chairman, Education Committee; Society of Magnetic Resonance   |
| 1993-1998 | Associate Editor; Journal of Magnetic Resonance Imaging  |
| 1993-1997 | Board of Directors; Society for Magnetic Resonance Imaging   |
| 1992-1997 | Education Subcommittee; Society of Magnetic Resonance in Medicine  |
| 1992-1994 | Efficacy Committee; Society for Magnetic Resonance Imaging   |
| 1990-1998 | Editorial Board; Journal of Magnetic Resonance Imaging   |
| 1986 -    | International Society of Magnetic Resonance in Medicine  |
| 1980 -    | Society for Neuroscience   |
| 1979-1984 | Acoustical Society of America  |
| 1979-1984 | American Physics Association   |
| 1979 -    | American Association for the Advancement of Science  |
| 1994 -    | Organization for Human Brain Mapping   |
| 2002 -    | Medical, Scientific, & Technology Advisory Board for the Institute for Magnetic Resonance Safety, Education, and Research (IMRSER)   |

## **FORMAL TEACHING EXPERIENCE (SELECTED):**

|             |  |
|-------------|--|
| 2009-2013   | Field Chair, “ <i>Biological Signal and Information Processing</i> ,” Biomedical Engineering IDP   |
| 2009        | Course Director, “ <i>Functional Neuroimaging</i> ” (M285), UCLA   |
| 2009        | Course Director, “ <i>Experimental Studies of Consciousness</i> ,” NS215, UCLA   |
| 2007 - 2017 | Course Director, “ <i>Principles of Neuroimaging</i> ” (M284A/B), UCLA   |
| 2007 - 2016 | Course Director, “ <i>Advanced Neuroimaging Summer School</i> ”, UCLA  |
| 2006 - 2016 | Program Director, “ <i>Neuroimaging Training Program</i> ” NIH-sponsored program. (Profiled in <a href="#">Science</a> and <a href="#">Nature</a> Magazines) |
| 2005        | Course Co-Director, “ <i>Current Debates and Recent Advances in fMRI</i> ”, International Society for Magnetic Resonance in Medicine, Miami, FL              |
| 2005        | Course Director, <i>NeuroEngineering</i> (M206), UCLA  |
| 2004        | Course Co-Director, <i>Functional Neuroimaging</i> , UCLA  |
| 2004        | K30 Course in Brain Mapping for Translational Investigators, UCLA  |
| 2003        | Course Co-Director, <i>Functional Neuroimaging</i> , UCLA  |
| 2003        | Course-Co-Director, “ <i>FSL/FreeSurfer</i> ”, UCLA and Oxford University  |
| 2003        | Neuroengineering Core Course – Instructor, UCLA  |
| 2003        | K30 Course in Brain Mapping for Translational Investigators, UCLA  |
| 2002        | fMRI in Neurorehabilitation, - Instructor, UCLA  |
| 2001        | Course Co-Director, <i>Functional Neuroimaging</i> , UCLA  |
| 2001        | Course Director, <i>Advanced Magnetic Resonance Imaging</i> , UCLA   |
| 2000        | Course Co-Director, “ <i>Mental Imagery</i> ”, UCLA  |

- 1999 Course Director, *Advanced Magnetic Resonance Imaging*, UCLA
- 1998 Course Director, *Functional Neuroimaging*, UCLA
- 1998 Course Director, *Advanced Magnetic Resonance Imaging*, UCLA
- 1998 Course Director, *Introduction to 'C' Programming*, UCLA
- 1996 Course Director, *Functional Neuroimaging*, UCLA
- 1995 - Course Director, *Journal Club*, UCLA
- 1995 Lecturer, *Human Brain Mapping: The Methods*, Cold Spring Harbor Laboratory
- 1995 Course Director; *Advanced Magnetic Resonance Imaging*, UCLA
- 1995 Guest Lecturer; Psychiatry 446 "*Neuroimaging for the Neuropsychologist*," UCLA Department of Psychiatry
- 1993 Course Director; *MR Pulse Sequence Design*, Society for Magnetic Resonance Imaging
- 1992-1993 Faculty; Speech and Hearing Sciences Graduate Program MIT and Harvard
- 1992-1993 Course Director; *MGH-MRI Post Graduate Course*, MGH
- 1991 Co-director; *Clinical MRI: 1991 Update* MGH
- 1990-1993 Course Director; *MRI for Poets*, MGH
- 1990-1993 Co-director; MR Visiting Fellowship Course, MGH
- 1986-1988 Guest Instructor; MR Training Course, Alton Ochsner Clinic

*A Note on Teaching Activities:*

From 2005 through 2011, I developed and ran the UCLA/Semel Neuroimaging Training Program (NITP). Funded by the NIH, the NITP created stipends for 52 graduate fellows, including both US and international scholars. The core course, "Principles of Neuroimaging," which I created, fulfilled graduate requirements for four departments. For ten years, the NITP sponsored and ran an immersive two-week summer program for up to 40 students each year. Our online streaming sessions were watched by up to 2,000 viewers each year, in more than 150 countries.

**OTHER TEACHING ACTIVITIES:**

- Individual course development and training for physicians & scientists at numerous MRI sites.
- Conference co-organizer, "*Machine Learning and Interpretation in Neuroimaging*." Sierra Nevada, Spain, 2011
- Organizer and Program Director of the International Conference, "*Functional Neuroimaging: Looking at the Mind*", Boston, 1992
- Co-Organizer, "*Multi modal Neuroimaging*" held at UCLA's Institute for Pure and Applied Mathematics, Spring 2013.
- Principal Consultant to the American Museum of Natural History in New York, on their exhibit, "*Our Senses*." 2016-2018.
- External Evaluator, *Neurohackademy*

## THESIS COMMITTEES

UCLA

COMPLETED:

Dr. Lavanya Acharya (*co-chair*, biomedical engineering)  
Dr. Richard Albistegui-DuBois (*chair*, neuroscience)  
Dr. Ariana Anderson (*chair*, statistics)  
Dr. Peter Bachman (psychology)  
Dr. Jennifer Bramen (*chair*, neuroscience)  
Dr. Huan Cao (chemistry)  
Dr. John Colby (co-chair, neuroscience)  
Dr. Pamela Douglas (*co-chair*, biomedical engineering)  
Dr. Konstantin Dragomiretskiy (applied mathematics)  
Dr. Anita Dushyanth (biomedical engineering)  
Dr. Chris Furmanksi (psychology)  
Dr. Robin Goldman (*chair*, biomedical physics)  
Dr. Samuel Harris (*chair*, neuroscience)  
Dr. Wesley Kerr (*chair*, biomathematics, M.D. Ph.D. program)  
Dr. Alex Korb (neuroscience)  
Dr. Angela Knox (psychology)  
Dr. James Kroger (psychology)  
Dr. Wei Li (neuroscience)  
Dr. Jia Liu (electrical engineering)  
Dr. Mahsa Malekmohammadi (biomedical engineering)  
Dr. Ekaterina Merkurjev (mathematics)  
Dr. Doris Payer (neuroscience)  
Dr. Angela Rizk-Jackson (psychology)  
Dr. Cameron Rodriguez (*chair*, biomedical engineering)  
Dr. Matthew Schreiner (neuroscience)  
Dr. Debra Strick (*chair*, biomedical engineering)  
Dr. David Wozny (*co-chair*, biomedical engineering)  
Dr. Naomi Santa Maria (biomedical engineering)  
Dr. Matthew Schreiner (neuroscience)  
Dr. William Speier (biomedical engineering)  
Dr. Subashini Srinivasan (biomedical engineering)  
Dr. Natalia Tchemodonav (biomedical engineering)  
Dr. Xia Hongjing (*chair*, biomedical engineering)  
Dr. Austin Head (*chair*, biomedical engineering)  
Dr. Leslie Claar (bioengineering)  
Dr. Travis Meyer (applied mathematics)  
Dr. Dianna Han (*co-chair*, UC Santa Barbara, computer science)  
Dr. Mayank Jog (*chair*, biomedical engineering)  
Dr. Donald Vaughn (*chair*, neuroscience)  
Dr. Chaitali Biswas (bioengineering)  
Dr. Edgar Rios Piedra (bioengineering)

University of Southern California  
Dr. Edward Vessel (psychology)

UNCOMPLETED

Mr. Tavis Allison (uncompleted)  
Mr. Robert Terwilliger (uncompleted)

**POST-DOCTORAL FELLOWS (UCLA)**

Dr. Jianxin Wang – *Employed in computer science in private sector*  
Dr. Yong Ke – *Instructor in Psychiatry, Harvard Medical School*  
Dr. David Glahn – *Professor of Psychiatry, Yale University*  
Dr. Ariana Anderson – *Assistant Professor, UCLA*  
Dr. Wilfred Gordon – *Educator, entertainer (deceased)*  
Dr. Agatha Lenartowicz – *Associate Adjunct Professor, UCLA*  
Dr. Pamela Douglas – *Assistant Professor, UCLA*

**UNIVERSITY COMMITTEES**

|                |   |
|----------------|---|
| 2001 – 2002    | Medical Investigational Review Board                                    |
| 2006           | Neurosciences IDP Admissions Committee                                  |
| 2011 – 2016    | UCLA Council on Research ( <i>chair</i> , 2015 – 2016)                  |
| 2012 – present | Institute for Digital Research and Education (IDRE) Executive Committee |
| 2015 – 2016    | University of California University Committee on Research Policy        |

**(Selected) INVITED PRESENTATIONS:**

- 1988 Grand Rounds, Dept. of Radiology, Washington University School of Medicine, “*Methods of Fast MR Imaging*” St. Louis, MO
- 1989 Grand Rounds, Department of Radiology, “*Rapid MR Imaging: Techniques and Performance Characteristics*”, University of San Francisco. San Francisco, CA
- 1990 Society for Magnetic Resonance Imaging, Plenary Lecture, “*Ultra-fast Imaging*”, Philadelphia, PA
- 1990 BioElectroMagnetic Society 13<sup>th</sup> Annual Conference. Invited Lecture: “*Peripheral Nerve Stimulation by Time-Varying Magnetic Fields*” San Antonio, TX
- 1991 Magnetic Resonance Imaging: A short course trio. “*High-speed and Real-time Imaging*” and “*MR Imaging of Perfusion and Diffusion*” Philadelphia, PA
- 1991 New York Academy of Sciences Conference: Biological Effects and Safety Aspects of Nuclear Magnetic Resonance Imaging and Spectroscopy, invited lecture: “*Evidence of Peripheral Nerve Stimulation by Time-Varying Magnetic Fields.*” Bethesda, MD
- 1991 International Symposium of Magnetic Resonance Imaging in Medicine. “*Approaches to High-speed MR Imaging & Applications of High-speed and Instant Imaging*”, National Yang-Ming Medical College, Taipei, Taiwan
- 1992 American Epilepsy Society “*Functional Magnetic Resonance Imaging of the Human Brain*” Seattle, WA
- 1992 Advanced Clinical Magnetic Resonance Imaging, “*Ultrafast Imaging – Principles*” and “*Echoplanar Imaging – Clinical Experience*”, Kona, HI.

- 1993 American College of NeuroPsychopharmacology, “*Practical Aspects In the Design of Mind Reading Instruments*”, Honolulu, HI
- 1994 National Institutes of Health: NIMH Special Lecture: “*Principles and Applications of Functional MRP*”, Bethesda, MD
- 1994 Grand Rounds, Dept. of Radiology, Washington University School of Medicine, “*Principles and Applications of functional MRP*” St. Louis, MO
- 1994 Grand Rounds, Dept. of Neurology, “*Functional MRI: A new method for interrogating brain function.*” University of Texas, Houston, TX
- 1994 American Academy of Neurology, “*Functional MRI and Advanced MR Techniques*” Boston, MA
- 1994 Nottingham Symposium on Magnetic Resonance in Medicine, “*Advances in the Study of Brain Function Through Rapid Magnetic Resonance Imaging*”, Nottingham, UK
- 1994 Advances in Brain Tumor Management, “*Brain Mapping – MRP*”, Las Vegas, NV
- 1995 21<sup>st</sup> International Epilepsy Congress, “*Observing Brain Activity with Functional Magnetic Resonance Imaging: Techniques and Results*” Sydney, Australia,
- 1995 Neuroimaging and the Cognitive Neuroscience of Schizophrenia, “*Where the Voices Come From: fMRI of Schizophrenic Hallucinations*”, Carmel, CA
- 1996 American Academy of Neurology, “*Rapid MRI & Functional Applications*” San Francisco, CA
- 1997 20<sup>th</sup> annual meeting of Japan Society for CNS Computed Imaging “*Practical Aspects in fMRI*”, Kyoto, Japan
- 1997 Hyogo Neuroimaging Conference “*Mental Rotation Studied by fMRP*”, Kobe, Japan
- 1997 Special University Lecture “*Practical Aspects in fMRP*”, Tsukuba, Japan
- 1997 Grand Rounds, Radiology, Tokyo University, “*Advances in High Field MR Imaging*” Tokyo, Japan
- 1997 Special Lecture, Ika-Shika University, “*Where the voices come from: Imaging of Schizophrenic Auditory Hallucinations*” Tokyo, Japan
- 1997 Society of Cerebral Blood Flow and Metabolism, “*fMRI Issues and Answers*”
- 1998 Society for the Social Studies of Science, “*Image and Logic – Perspectives of an Imager*”, Halifax, Nova Scotia, Canada
- 1999 Mental Illness Research Education and Clinical Center Scientific Retreat, “*Functional MRI: What does it Offer? What are its Limitations?*” San Diego, CA
- 2000 Neurology/Radiology Grand Rounds, “*The Autocerebroscope – an update*” Vancouver, CA
- 2000 Special seminar, “*Analysis Methods in fMRP*”. UCSD
- 2000 First Shanghai International Workshop on Functional Neurosurgery and Imaging. “*Functional MRI: Tools for Epilepsy; Mental Imagery*” Shanghai, China
- 2001 Special seminar. “*Technical Considerations In the Design of Mind Reading Instruments*”. UC Irvine
- 2001 Plenary Lecture. “*Practical Aspects In the Design of Mind Reading Instruments.*” American Society for Neuroradiology. Boston, MA

- 2002 International Seminar on EEG dipole tracing and fMRI, “*Simultaneous Imaging for Tomographic Electrophysiology.*” Tokyo, Japan.
- 2002 Neurorehabilitation, “*Functional MRI in Assessment of Motor Function*” Honolulu, HI
- 2002 Office of National Drug Control Policy Demand Reduction Symposium, “*Integrated Functional Imaging and Neurophysiology: Applications to Drug Abuse Research*” Boston, MA
- 2002 Special Lecture “*Combining Electrophysiology and Imaging*” Stanford University
- 2002 Radiology Grand Rounds “*Combining EEG and functional MRI: Why and How*” New York University Medical School. New York, NY
- 2003 International Society for Magnetic Resonance in Medicine. “*Neuronal anatomy and Electrical Activity*”, Toronto, Canada
- 2003 Brain Research and Development, International Seminar on EEG dipole tracing and fMRI. “*Advances in combined EEG and fMRI*”, Tokyo, Japan.
- 2003 National Institute on Neurological Disorders and Stroke, “*fMRI and EEG*”, Bethesda, MD
- 2003 Art and the Brain “*Seeing (and) the brain*” Los Angeles, CA
- 2003 Cuban Neuroscience Center, “*Simultaneous Imaging for Tomographic Electrophysiology: Implementation and Applications*”, Havana, Cuba
- 2003 Organization for Human Brain Mapping Satellite Symposium on EEG-Correlated fMRI, “*Simultaneous imaging for tomographic electrophysiology: Efficient tools of acquisition and analysis*”, New York, NY
- 2004 Brain Mapping for Translational Investigators. “*Fundamentals of functional MRI.*” Los Angeles, CA
- 2005 Calculating Images: Representation by Algorithm in Science and Art. “*Seeing (and) the Brain*” Santa Barbara, CA
- 2005 Southern Epilepsy & EEG Society and Western Clinical Neurophysiology Society Joint Annual Meeting. “*fMRI-EEG: Is this the next Pandora's box?*” Scottsdale AZ
- 2005 International Society for Magnetic Resonance in Medicine, “*Neural Signaling and fMRI Signal Detection.*” Miami, FL
- 2005 Congresso Brasileiro de Neuroimagem Funcional. “*Recent advances in combined EEG-fMRI*” Riberão Preto, Brazil.
- 2005 Magnetom World Congress “*Advances in Neuroimaging at High Field*”, Singapore
- 2005 Rochester Center for Brain Imaging, “*Emerging Technologies in functional Neuroimaging*”, Rochester, NY
- 2005 EEG and Biofeedback, UCLA, “*On the Origin of Oscillatory Electrical Signals in the Brain,*” Los Angeles, CA
- 2005 UC San Diego, “*Integrative Methods in Functional Neuroimaging: fMRI, EEG and ... ?*” San Diego, CA
- 2005 International Society for Magnetic Resonance in Medicine, “*Current Debates and Recent Advances in fMRI.*” Miami, FL
- 2006 Hong Kong Polytechnic University, Inauguration Year Lecture, “*Multiscalar Neuroimaging: Higher Resolution in Space and Time*” Hong Kong
- 2006 Princeton University, “*Multiscalar Neuroimaging: Higher resolution in space and time*”, Princeton, NJ



- 2006 International Society for Magnetic Resonance in Medicine, “*Real-time Neuro MRI*”, Seattle, WA
- 2006 University of South Carolina, “*Studying Human Brain Activity at Multiple Scales of Space and Time*,” Columbia, SC
- 2006 University of South Carolina, “*fMRI: Testing the Spatiotemporal Limits*,” Columbia, SC
- 2006 University of Texas San Antonio, “*Pushing the Limits of Space and Time in Functional Imaging*”, San Antonio, TX
- 2006 Department of Biomathematics Seminar Series, “*fMRI: Testing the Spatiotemporal Limits*”, UCLA, Los Angeles, CA
- 2006 FSL Training Program, “*MRI Basics*,” Siena, Italy
- 2007 Brown University “*Multi-scalar Probes of Human Brain Function*”, Providence, RI
- 2007 Brown University “*Multi-scalar Neuroimaging*”, Providence, RI
- 2007 University of South Carolina, “*Images at the Nanoscale*,” Columbia, SC
- 2007 Universitätsklinikum Schleswig-Holstein, “*Physical background of fMRI: echo-planar imaging (EPI) techniques and other technical issues*,” Kiel, Germany.
- 2008 National Academy of Sciences, American Institute for Medical and Biomedical Engineers, “*The Uses of Portable Ultra-Low Field MR Imaging Devices*,” Washington, DC
- 2008 Institute for Pure and Applied Mathematics, “*Simultaneous EEG and fMRI Acquisition – Algorithmic Analysis*,” UC Los Angeles, CA
- 2008 Organization for Human Brain Mapping, “*Combining EEG and fMRI*,” Melbourne, Australia
- 2009 FSL Training Program, “*Physical Basis of MRI and fMRI*,” Brisbane, Australia
- 2009 Organization for Human Brain Mapping Satellite Symposium on EEG Methods and Practice, “*EEG and fMRI: A Look Forward*,” San Francisco, CA
- 2009 Organization for Human Brain Mapping, “*The Technologies of Multi-modal Imaging*” San Francisco, CA
- 2009 Asilomar conference on Signals, Systems and Computers, *Electricity and Magnetism Two views of the brain in action*
- 2009 Society for Psychophysiological Research, “*Approaches to the Joint Analysis of EEG and fMRI Data: Methods and Early Results*”, Berlin, Germany
- 2010 Organization for Human Brain Mapping. “*EEG-fMRI: Principles & Ideas*.” Barcelona, Spain
- 2010 Yom Limmud Special Lectures. “*The Brain, the Mind, and the Structure of its Beliefs*.” Leo Baeck Temple, Los Angeles
- 2010 Cedars Sinai Medical Center Grand Rounds, “*Decoding Brain Signals using Combined EEG and fMRI*”, Los Angeles, CA
- 2011 UCLA Neurology Grand Rounds, “*Manganese-induced Parkinsonism: Toxicological findings and public health*.” Los Angeles, CA
- 2012 Leveraging Sparsity: Compressive Sensing Workshop. “*Large, High-dimensional data sets in functional neuroimaging*” Los Angeles, CA.
- 2012 Social and Affective Neuroscience, “*Classifying for Discovering: Multimodal Data and Optimal Bases*.” Beijing, China (presented also at Max Planck, Leipzig, and Technische Universität, Berlin)

- 2012 Max Planck Institute, “*Classifying for Discovering: Multimodal Data and Optimal Bases.*” Leipzig, Germany
- 2012 Technische Universität Machine Learning Program. “*Classifying for Discovering: Multimodal Data and Optimal Bases.*”
- 2012 Brain Storming Turing: Celebrating the Alan Turing Centennial + 25 years of AI & Society, “*This does not (just) compute.*” Los Angeles, CA. (video: <http://www.brainmapping.org/MarkCohen/Vid/Turing-cohen.mp4>)
- 2012 Berlin Brain Computer Interface: “*Informative Brain-Mind Feature Spaces*” Berlin, Germany (Video: [http://videlectures.net/bbci2012\\_cohen\\_feature\\_space/](http://videlectures.net/bbci2012_cohen_feature_space/))
- 2013 Center for Biological Imaging at Stanford Symposium. “*A Unified Theory of Images?*” Keynote presentation.
- 2013 California NanoSystems Institute. “*A Unified Theory of Images: what we see is what we know.*” Los Angeles, CA
- 2013 American Society for Neuroradiology (ASNR), “*Pattern Analysis in the Diagnosis of Epilepsy*” (with WT Kerr). San Diego, CA.
- 2014 Harvard University/MGH. “*fMRI + EEG + Pattern Classification.*” Charlestown, MA.
- 2014 NSF UC Riverside IGERT on Video Bioinformatics. “*Towards a New Science of Images.*” Lake Arrowhead, CA
- 2014 International Conference on Analytical Science and Technology. “*Multimodal Imaging in Neuroscience.*” Korea Basic Science Institute, Daejeon, Korea; and Ochang Headquarters, Ochang, Korea
- 2014 Plenary Grand Rounds. “*Multimodal Imaging in Neuroscience.*” Asan Medical Center, Seoul, Korea; and Korea University, Seoul, Korea
- 2014 Art+Brain. Stories and Structures Symposium. “*What We See is What We Know*”. UCLA Broad Art Center, Los Angeles ([Video](#))
- 2014 Cuban Neuroscience Center. “*Features, Dimensions, Neurons.*” Havana, Cuba
- 2015 1<sup>st</sup> Latin American Brain Mapping Network Meeting. “*Joint acquisition & analysis of imaging & electrophysiology.*” Hospital das Clínicas, São Paulo, Brazil
- 2015 Columbia University. “*More from less: Sparsity in Data and the Mind.*” New York, NY
- 2015 University of Mississippi. “*Scientific Images: Depictions/Diagrams/Data.*” Jackson, MS
- 2016 BCI 2016 Annual Meeting, “*Domain Knowledge and Feature Selection*” Yongpyong, Korea.
- 2016 Korea University, “*Domain Knowledge and Feature Selection*” Seoul, Korea
- 2016 Living Architecture Systems Group, “*Alive*” Waterloo, Ontario, Canada (<http://www.brainmapping.org/MarkCohen/Vid/LASGKeynoteMarkCohen.mp4>)
- 2016 DART Pharmaceutical, “*The Promise of Neuroimaging*”, San Diego, CA
- 2016 Neuroscience and Radicalization (DARPA Conference), “*Emerging Neurotechnology*”, Los Angeles, CA
- 2016 UCLA Luskin Center Grand Opening, “*Brainstorming: Empathy*”, Los Angeles, CA ([video](#))
- 2017 University of California, Santa Barbara. “*On Images*”
- 2017 American Museum of Natural History, “*Understanding the Senses*”. New York, NY ([video](#), [video2](#))
- 2017 Speculum Artium “*Octopus Brainstorming*”, Trbovlje, Slovenia ([video](#))

- 2017 California Science Center, “*What Minds are Made Of*”, Los Angeles ([video](#))
- 2018 Los Angeles Art Show Modern+Contemporary, “*Brainstorming:Empathy*”, Los Angeles
- 2018 Neuroimaging Affinity Group, “*What Minds are Made Of*” UCLA, Los Angeles
- 2018 The Bohemian Club, “*The Coming End of Mental Privacy*”, Bohemian Grove, CA
- 2018 The First Friday Forum, “*What Minds are Made Of*”, Los Angeles, CA
- 2019 University of Wisconsin Madison, “*The Generative Structure of Consciousness*”  
Madison, Wisconsin
- 2021 Basic and Clinical Multimodal Imaging Conference, Symposium: “*Concurrent EEG-fMRI: Developments in Methods and Applications*” (held online)

**ARTS & MUSIC (STATEMENT):**

I worked as a scientific illustrator, beginning in 1972, when I created figures for Professor Roger Shepard at Stanford. I have illustrated several books, including Jonathan Winson’s, “*Brain and Psyche*” (1987), prompting me to join the New York Graphic Artists Guild. My work for the November 1991 cover of *Science Magazine* has been reproduced (and critiqued) extensively.

Working with partner artists, I have developed several major projects. Among these is the “*Allobrain*,” (2009) created with Marcos Novak. This is a high dimensional self-referential project on the neurophysiology of beauty; it is part of the permanent exhibits of “*The Allosphere*”, itself the unique instrument for immersive virtual reality in service of art and science.

Collaborating with Victoria Vesna, beginning in 2012, I developed a series of performative and participatory pieces on the theme of “*Brainstorming*” (<https://octopusbrainstorming.com>) that included a technological realization of emotional mind-reading through joint analysis of EEGs.

I have been a performing musician for most of my life, professionally since 1971. My principal instruments are guitar, and pedal steel guitar. I have performed and/or recorded with many nationally-known artists.

**REVIEWER FOR:**

|  |               |
|--|---------------|
| National Institutes of Health Study Sections                       | 1994-present  |
| National Science Foundation Study Sections                         | 1994-present  |
| UC Discovery Grant Study Sections                                  | 2008, 2009    |
| Canada Research Council, Canada Foundation                         | 2017          |
| Fulbright Scholar Program  | <i>ad hoc</i> |
| <i>Archives of General Psychiatry</i>                              |               |
| <i>Brain</i>   |               |
| <i>Brain and Cognition</i>   |               |
| <i>Brain Stimulation</i>   |               |
| <i>Cerebral Cortex</i>   |               |
| <i>Clinical Neurophysiology</i>                                    |               |
| <i>Journal of Cognitive, Affective and Behavioral Neuroscience</i> |               |
| <i>European Journal of Neuroscience</i>                            |               |
| <i>Human Brain Mapping</i>   |               |
| <i>IEEE Transactions in Medical Imaging</i>                        |               |

*Journal of Neuroscience Methods*  
*Journal Magnetic Resonance Imaging*  
*Magnetic Resonance in Medicine*  
*Medical Physics*  
*Nature Neuroscience*  
*Neural Information Processing Systems*  
*NeuroImage*  
*Neurology*  
*Neuron*  
*Neuroscience Letters*  
*NeuroReport*  
*Psychiatry Research*  
*Science*

**ADVISORY BOARDS:**

Institute for Magnetic Resonance Safety, Education and Research  
Stanford University Center for Advanced Magnetic Resonance Technology  
General Electric Medical Systems High Field MRI  
UC San Diego HIV Neurobehavioral Research Center  
UCSD CNS HIV Antiretroviral Therapy Effects Research Center  
*Summer Institute in Neuroimaging and Data Science*, University of Washington. NIH R25  
MH112480-02  
APEX Innovative Sciences  
Kapoose Creek Organics

**FORMAL CONSULTING ACTIVITIES (partial):**

|                                       |              |
|---------------------------------------|--------------|
| General Electric Medical Systems..... | 1994-2000    |
| Resonance Technology Corporation..... | 1993-2012    |
| Alfred E. Mann Foundation.....        | 2000         |
| University of Oregon.....             | 2000         |
| Varian Instruments.....               | 2000-2002    |
| Medical Imaging of Santa Monica.....  | 2002-present |
| University of Wisconsin.....          | 2003-2004    |
| Gamma Medica.....                     | 2004         |
| O'Melveny and Myers (legal).....      | 2004         |
| Pacific Neuroscience Institute.....   | 2020-2021    |

**RESEARCH FUNDING**

**As PI or Co-PI:**

|                      |                            |              |
|----------------------|----------------------------|--------------|
| 5T90DA022768 (Cohen) | 09/1/2006 - 08/31/2016     | .24 calendar |
| NIH                  | \$1,850,400 (total direct) |              |

***Comprehensive training in Neuroimaging Fundamentals and Applications.***

The major goal of this study is to provide two years of training to graduate students in the fundamentals and applications of neuroimaging. Students in the NITP complete a year of graduate training in the Neurosciences, including fundamentals of Neuroanatomy, Systems Neuroscience, Neurophysiology and/or Cognitive Neuroscience, followed by a second year of graduate training which entails an intensive program in the tools of neuroimaging, including acquisition, data processing, analysis and experimental design.

No number assigned (PI: Cohen) 06/01/2016 – 06/30/2019 0.8 calendar  
National Academy Keck Futures Initiative \$80,000 (total direct)

***SENTIENT ARCHITECTURAL SYSTEMS: transforming architecture by coupling human neurology to interactive responsive building environments.***

Might future buildings begin to know and care about us? Might they start, in very primitive ways, to become alive?

A new generation of architecture can be developed to transform our conceptions of our built environment. This experimental research-creation program has profound implications: by developing practical methods coupling human consciousness with tomorrow's buildings, a new generation of architects and scientists can be equipped with essential skills and sensitive judgement for working with the potency of intelligent, self-renewing interactive architecture. Practical contributions in this research program address key challenges for intelligent buildings: how can we equip intelligent environments with empathy and curiosity? How can we ensure that rapidly-emerging technologies for interactive environments are healthy and satisfying?

Through multiple cycles of exchange where prototypes in test-beds alternate with trial applications of software and testing, Beesley and Cohen will explore the coupling of immersive architectural environments with the neural responses of individuals that inhabit them. The researchers will examine how architectural environments might be sentient, how they might influence human consciousness for those occupying these responsive spaces, and in turn, how new generations of control systems for interactive environments might be developed responding and resonating with human consciousness.

Unnumbered (PIs: Cohen, Dougherty, George, Koch, Monti, Tononi)

01/2016 – 12/31/2018

1.2 Calendar

Tiny Blue Dot Foundation \$3,963,870 (total for three years)

***Measuring Consciousness: from theory to practice***

This is an unusual award from a private donor to fund collaborative work aimed at making instrumental measurements of consciousness. The team members are leading thinkers in the field: Christoph Koch, Giulio Tononi, Darin Dougherty, Mark George, Martin Monti, and Dr. Cohen. The aims of the first three years of funding are to test and apply Integrated Information Theory to the development of devices that measure the complexity of evoked neural signals as proxy measures of "Φ", interpretable as degree of consciousness. The project is exceedingly ambitious, with a fifteen year plan to improve and validate these measures, and to apply them to pressing areas of research, that include both clinical and basic applications in understanding human cognition.

Unnumbered (PIs: Cohen, Dougherty, George, Koch, Monti, Tononi)  
01/2019 – 12/31/2028

Tiny Blue Dot Foundation Budget is non-public

***Measuring Consciousness: from theory to practice***

This is a continuation of the project of the same name initiated in 2016. We received approval for continued funding. The new award is expected to be from five to ten times larger than the initial amount.

5 R33 DA026109-3 (Cohen) 09/01/2008 – 08/31/2013 3 calendar  
NIH/NIDA \$1,592,816 (total direct)

***Real-Time Automated Detection of Craving States with fMRI and EEG***

The goal of this project is to develop, characterize and validate a method of real-time detection of cognitive states relevant to the study of drug abuse using concurrent electrophysiological recordings, first to enhance the state discriminations and, later, to serve potentially as a proxy for the neuroimaging brain-state data.

1R21MH096239 01A1 (Cohen) 06/11/2012 – 05/31/2014 0.6 calendar  
NIH/NIMH \$423,500 (total direct)

***Understanding attention-control across functional systems and temporal scales***

By concurrent recording of instantaneous electrical activity (EEG) and slower fluctuations in regional metabolism during a variety of attentionally demanding tasks with multimodal distractors, this project will help to improve our understanding of the interactions between brain mechanisms that allows us to ignore distractions and to sustain attention for extended periods.

Korean Basic Science Institute 03/01/09-12/31/2010 (KBSI)

***Neuroimaging Studies of Hypnotically Induced Deception***

Evaluate the validity of functional MRI (fMRI) as a method for the detection of deception, and compare it to the gold standard of polygraphy. Better understand the extent to which false memories may be created that are indistinguishable from true memories. Attempt to detect physiological changes that might differentiate false from true Memories. Study brain changes that occur under hypnosis, especially when the subjects are under hypnosis.

Role: Co-PI

R01DA013054 Cohen 8/20/1999 – 1/31/2004  
NIH/NIDA

***Real Time Imaging of Mental Activity***

For the development and characterization of a novel software tool set for the immediate analysis of functional MRI and other medical images. It will take advantage of novel approaches to computation that enable both multi-platform interoperability and rapid execution.

1 R01-EY12722-01A1 (Cohen) 05/15/2000 - 04/30/2004  
NIH/NEI

***fMRI of Inverted Vision: Plasticity of Visuospatial Maps***

This research was designed to assess the plastic changes in cortex that we hypothesize occur in the face of grossly distorted visual input from inverting goggles. Functional MRI is used to derive retinotopic, spatiotopic and auditory maps following semi-chronic exposure to the inverting device.

1R21-DA13627-01 (Cohen) 06/25/2002 - 05/31/2004

NIH

***Enabling Technologies in fMRI and Cigarette Smoking***

This project centers on the design of a system for the controlled delivery of cigarette smoke to subjects during functional Magnetic Resonance Imaging, and the characterization of the drug delivery and the responses of the human brain to cigarette smoke. We will look at both global and local signal changes from the smoke per se, and at local changes in BOLD responses to external stimuli as a function of the cigarette exposure.

1R21-DA15549-01 (Cohen) 06/01/2002-05/31/2004

NIH

***Simultaneous Electrophysiology and Functional MRI***

This project proposes the development of methods to record extracellular potentials during functional MRI in order to understand better the coupling between BOLD signals and cellular activity.

1R43MH099709

UCLA subcontract

NIMH (Simpson, Subcontract to Mark Cohen)

Subcontract total: \$164,408

***Validation of a novel neurophysiological assessment tool for ADHD***

The aims of this work are to: (1) Validity testing of an EEG-based (Neurophysiological Attention Test) NAT as an objective assessment instrument of neurophysiological processes of attentional control in ADHD and (2) Optimize the NAT EEG measures for differentiation of individuals with ADHD from control. The UCLA team, led by Mark Cohen, will recruit and screen all subjects in the project and acquire all the behavioral and EEG data. In addition, Drs. Cohen and Lenartowicz will contribute substantially to the creation of optimal metrics for analyzing the data and will guide the research team at Think Now in the use and interpretation of those metrics applied to the analyses of the data.

WM Keck Foundation (Co-PIs: Weiss P, Bertozzi A, Cohen M, Osher S)

\$1,000,000

***Leveraging Sparsity***

Our goal is to leverage mathematical advances to transform the way imaging and related data are acquired, analyzed, and understood. The result will be richer, more meaningful, data through significant changes in how experiments are currently conducted and, in so doing, advancing the science of imaging. We propose critical tests of the advantages of sparsification using two diverse sets of experiments, in which leading mathematicians work closely with top imaging scientists. If these test cases are successful, the advances will apply broadly across many fields involving imaging. We are placed uniquely to develop the theory, to carry out the tests, to generalize the results, and to disseminate the tools we create.

1R43MH099709 (PI:Simpson, Subcontract to Mark Cohen) UCLA subcontract  
NIMH Subcontract total: \$225,000 (approx.)

***Validation of a novel neurophysiological assessment tool for ADHD***

Disorders of attention and attention control are hallmark features of important psychiatric disorders including schizophrenia, the attention deficit disorders, bipolar disorder and many others. We have developed an innovative means of assessment of measuring attention that uses a combination of conventional and electrophysiological data to provide quantitative metrics of long and short term changes in attention. In this project we will develop and deploy a Sustained Attentional Control (SAC) training tool, distributed as a mobile application. We will assess the efficacy of this training in improving the subject's ability to focus attention.

1T90DA22768 (Cohen) 09/1/2006 - 08/31/2011 .24 calendar  
NIH \$1,461,579

***Comprehensive training in Neuroimaging Fundamentals and Applications***

The major goal of this study is to provide two years of training to graduate students in the fundamentals and applications of neuroimaging. Students in the NITP complete a year of graduate training in the Neurosciences, including fundamentals of Neuroanatomy, Systems Neuroscience, Neurophysiology and/or Cognitive Neuroscience, followed by a second year of graduate training which entails an intensive program in the tools of neuroimaging, including acquisition, data processing, analysis and experimental design.

**As Co-Investigator**

5R01MH116268-03 Lenartowicz, PI 11/6/2018-10/31/2023  
NIH \$707,797

***Alpha oscillations and working memory deficits in ADHD: A multimodal imaging investigation***

This project examines a novel putative neurophysiological biomarker, alpha event-related decrease (ERD), of attention mechanisms that directly contribute to deficits of working memory in ADHD. To validate the alpha ERD biomarker, we will characterize the underlying neural mechanisms using concurrent EEG-fMRI, test the clinical correlates, and identify its developmental trajectory into adolescence, which we address through longitudinal follow-up of a large, previously assessed sample. This biomarker will help to identify patients with ADHD whose working memory deficits are due to early attention mechanisms, thus reducing heterogeneity and improving specificity of underlying neural deficits, potentially leading to more targeted, and therefore, more effective treatment approaches for these individuals.

R01 MH095878 Green (PI) 07/01/2011 – 06/31/2016 .76 calendar  
NIMH \$538,059 (FY 2012)

***Visual Tuning and Performance in Schizophrenia and Bipolar Disorder***

The proposed study will recruit 90 SZ patients, 90 BD patients and 90 healthy controls that will be group matched on key demographic variables. The subjects will participate in perceptual performance, electrophysiological (EEG), cognition, and functional magnetic resonance imaging (fMRI) procedures to address the following three aims: 1) To examine visual neural tuning in SZ using specialized EEG and fMRI methods; 2) To examine visual neural tuning cross-diagnostically among SZ, BD, and healthy controls with specialized EEG and fMRI methods; and 3) To examine the implications of visual tuning deficits in SZ, BD, and healthy controls for perceptual and higher-level cognitive domains.



2P50 HD055784:06 (Bookheimer) 07/1/2007-06/31/2017 1.2 calendar  
NICHD \$2,065,152 (FY 2012)

***ACE Autism Center of Excellence***

The major goal of this Center is determining the bases, consequences, and mutability of social communication deficits in autism.

Number not assigned (PI: Vesna) 06/01/2016 – 06/30/2019 as needed  
UCLA FRG Program \$20,000 (total direct)

***Brainstorming.***

Can people be trained to share their emotions and affect, and communicate through them? In “Brainstorming” we use brain electrical signals (EEG) to coordinate the brain states of weather, in a project that incorporates modern neuroscience into artistic exploration.

1R01MH084955 (Altshuler) 7/1/09 – 6/30/14 .6 calendar  
NIMH \$630,630 (total direct)

***Mapping Brain Structure to Function in Euthymic Subjects with Bipolar Disorder.***

Goal: To compare brain functional deficits in persons with bipolar disorder (observed during the performance of neuropsychological tasks during functional MRI) to gray and white matter volume data obtained from structural MRI.

8R21RR026238-01 (Hahn, Cal Inst. of Technology) 9/15/2010 – 6/30/2013 Effort as needed  
NIBIB \$200,475 (FY2012)

***A New Ultra-low field in-vivo EPR technology for biomedical applications***

Using superconducting quantum interference detection in a low magnetic field we are performing electron spin resonance imaging experiments at energy levels compatible with in-vivo human imaging, a technique heretofore impossible. EPR has the advantage of superior chemical resolution and sensitivity. *This award is in no-cost time extension.*

5R01HD061504-02 (Asarnow) 4/9/10 – 3/31/15 Effort as needed  
NICHD \$690,175 (FY 2012)

***Reconnection of Neural Networks and Cognitive Recovery After Pediatric TBI***

The study will explore the structure and function of brain systems that are particularly vulnerable to white matter disruptions caused by traumatic brain injury. By explicating mechanisms that underlie naturally-occurring white matter injury and repair, the proposed project will identify potential new targets for interventions designed to accelerate the process of neurocognitive recovery.

1 P50 MH077248-01 (McCracken) 9/01/2005-8/30/2011 1.57 calendar  
NIMH \$1,233,777

***CIDAR: Translational Research to Enhance Cognitive Control (TRECC)***

The major goal of this CIDAR is to conduct translational research to examine brain circuit and pharmacology involved in attention deficit/hyperactivity disorder (ADHD) and chronic tic disorder (CTD).

P50 HD055784:01 (Geschwind, D.; Sigman, M.) 07/1/2007-06/31/2012 1.2 calendar  
***ACE Autism Center of Excellence*** \$1,497,970

The major goal of this Center is determining the bases, consequences, and mutability of social communication deficits in autism.

P01 HD35470 Sigman (PI) 09/23/2002 - 05/31/2007  
NIH

***Determinants of Social Communication Skills in Autism***

To determine the neural networks underlying social communication skills in autistic children using functional MRI.

Role: Co-Investigator

R01 DA15179 London (PI) 07/01/2003 – 06/30/2006  
NIH-NIDA

***Early methamphetamine Abstinence: fMRI and Cognition***

The major goal of this project is to use functional magnetic resonance imaging (fMRI) to delineate the abnormalities in the brain circuits of methamphetamine abusers that underlie the cognitive deficits that they exhibit.

Role: Investigator

R01 AG13308 Small (PI) 9/1/2000-8/31/2005  
NIH/NIA

***Functional MRI for Early Diagnosis of Alzheimer's Disease***

Correlating changes in the pattern of fMRI activation with neuropsychological measures of cognitive an memory decline in a population of older individuals who are genetically at risk for Alzheimer's Disease, based on the presence of the APOE4 allele.

R01 DA14093 London (PI) 7/1/01 – 6/30/04  
NIH/NIDA

***Nicotine Withdrawal, Smoking and Cognition: an fMRI Study***

We used functional imaging by MRI to understand the changes in attention and working memory that have been detected in smokers as a function of abstinence and satiety. This grant, rewarded originally to Mark Cohen, has been transferred to Dr. Edythe London, as PI

5 R01 EY11862 Engel (PI) 09/30/1999 – 09/29/2005  
NIH/NEI

***Color Processing in Human Cortex***

This project uses functional MRI to identify populations of neurons in cortex that support color vision. Neural responses will be measured for stimuli that reveal stages in the perception of color. These responses will be compared to behavioral measures, help in to clarify the stages of cortical processing that result in color perception.

5R01DA015059 Brody (PI)  
NIH/NIDA

10/01/2002-09/30/2006

***Treatments for Nicotine Dependence: Brain Mechanisms***

Using as interventions, bupropion HCl, practical group counseling, or placebo, this study seeks to determine changes in regional cerebral metabolic activation during presentation of cigarette-related cues from pre- to post-treatment, to determine changes in cue-induced cigarette craving from pre- to post-treatment, to determine changes in regional metabolism in the neural state from pre- to post-treatment and to determine pre-treatment regional brain metabolic predictors of response treatment.

R01 EY408313-08 Demer (PI)  
NIH/NEI

***“Biomechanical Analysis in Strabismus Surgery”***

This research aims to understand the functional and neuroanatomical aspects of a newly developed biomechanical model of the extraocular musculature and its associated connective tissue through a combination of high resolution anatomical analysis, histopathologic study, direct magnetic resonance imaging of the orbital muscles including dynamic analysis of perfusion properties and biomechanical modeling and the incorporation of these into a computational model suitable for clinical use in surgical planning.

P01-AG024831-01 Small (PI)  
NIH/NIA

9/01/05- 05/31/10

***Amyloid Plaque and Tangle Imaging in Aging and Dementia***

This program project grant is designed to determine whether FDDNP plaque and tangle PET imaging (1) correlates with the expected accumulation of neuropathological changes associated with aging and dementia; (2) predicts future decline in people at risk for dementia and in patients with dementia; and (3) augments other informative imaging, neuropsychological, and genetic risk measures in diagnosis and differential diagnosis of normal aging and dementia.

1R01DA021754-01A1 Monterosso (PI)  
NIH/NIDA

9/1/07 - 6/30/09

***Neural recruitment during self-control of smoking: An fMRI paradigm***

Recent studies have used functional magnetic resonance imaging (fMRI) to identify neural substrates of reward, which include striatal, midbrain, and mesial forebrain regions. We use fMRI to examine a basic property of reward well studied in the behavioral sciences – the devaluation of anticipated rewards proportional to their delay. This property (“temporal discounting”) is central to addiction, where recovery taxes the capacity to delay gratification.

1P20 RR020750 Bilder, Robert (PI)  
NIH/NCRR

09/28/2004-7/31/2007

***Cognitive Phenotyping for Neuropsychiatric Therapeutics***

The exploratory Center for Cognitive Phenomics (CCP) aims to accelerate identification and efficient measurement of cognitive phenotypes across syndromes and across species to advance interdisciplinary research on neuropsychiatric therapeutics.

Role: Investigator

R01 MH65079 Cannon, Tyrone (PI)  
NIH/NIMH

12/01/2002 – 11/30/2007

***Working Memory and Social Functioning in Schizophrenia***

Uses fMRI to evaluate neural systems involved in working memory and their relation to the development of schizophrenia in adolescents at risk and to functional outcome in a parallel group of first-episode schizophrenic patient.

P50 MH066286 Cannon, Tyrone (PI)  
NIH/NIMH

07/01/2003 – 06/30/2008

***Encoding and Retrieval Processes in Long-Term Memory***

As one project in a multi-project Center grant, uses fMRI to evaluate neural systems involved in episodic memory in longitudinal studies of prodromal adolescents and first-episodes schizophrenia patients to isolate deterioration in these systems and their relation to social deterioration in the prodromal and early phase of schizophrenia.

ROLE: Investigator (Nuechterlein, Center PI)

***“VISN22 Mental Illness Research Education and Clinical Center”***

Veterans Administration

PI: Stephen Marder

The MIRECC is dedicated to improving the long-term functional outcome of individuals with psychotic disorders through innovative research, clinical care and educational programs. The center consists of a Neuroimaging core, a Data core, a Neuroscience unit, a Treatment unit, a Health Services unit and an Education unit.

R01 NS33310 Jerome Engel (PI)  
NIH/NINDS

07/01/2000 – 06/30/2004

***In Vivo Studies of the Epileptic Hippocampus”***

Capitalizing on results from models of epilepsy in lab animals, this project will characterize the fast-ripple (FR) discharges in the human hippocampus and their association with sites of seizure initiation. The project uses high-resolution MR imaging of the affected structures to precisely indicate electrode locations and to investigate local structural abnormalities. Importantly, this program is linked tightly to Dr. Cohen’s current investigations into the combined measurement of electrical and functional MRI signals.

**PATENTS**

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### **ABSTRACTS (partial – I do not track these)**

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