

## Gaurav Hiren Patel

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### **Academic Appointments:**

- 2016-present Assistant Professor of Clinical Psychiatry, Columbia University
- 2016-present Research Scientist V, New York State Psychiatric Institute

### **Education:**

- 2000-2009 MD, Washington University School of Medicine (MSTP), Washington University, St. Louis, MO.
- 2000-2009 PhD, Neurosciences Program (MSTP), Washington University, St. Louis, MO. Thesis: "Attentional Networks in the Rhesus Macaque." Sponsor: Maurizio Corbetta.
- 1995-1999 BA, Philosophy-Neuroscience-Psychology & Biology, Summa Cum Laude, Washington University, St. Louis, MO.

### **Training:**

- 2013-2016 Schizophrenia Research Fellowship, Columbia University/New York State Psychiatric Institute
- 2009-2013 Resident, Department of Psychiatry, New York Presbyterian Hospital (Columbia Campus)/New York State Psychiatric Institute Program
- 2009-2013 Postdoctoral Residency Fellow, Department of Psychiatry, Columbia University College of Physicians & Surgeons

### **Training Gaps:**

- 1999-2000 Deferred admission to medical school to travel

### **Licensure and Board Certification:**

**Licensure** Physician, New York, #260732, Issued 3/14/11

**Board Qualification** ABPN Psychiatry, #66984, Issued 9/23/13

### **Awards and Honors:**

- 2017 David Mahoney Neuroimaging Award, Dana Foundation
- 2016 American College of Neuropsychopharmacology Travel Award
- 2015 NARSAD Young Investigator Award

2015	Sidney R. Baer, Jr. Fellowship
2015	Dr. Joseph E. and Lillian Pisetsky Young Investigator Award
2013	APF/Schizophrenia Research Fellowship Award
2012	APA Research Colloquium for Junior Investigators
2012	Career Development Institute
2011	NIMH Outstanding Resident Award Program
2011	NIMH Brain Camp III
2006	NIMH Summer Institute in Cognitive Neuroscience
1999	Phi Beta Kappa
1999	Sigma Xi
1997	HHMI Undergraduate Research Fellowship

**Academic Service:**

2017-present	Co-founder, Computational/Cognitive/Clinical Neuroscience (C3N) Seminar series
2013-present	Screening/Interviewer for Residency Applicants

**Administrative Leadership:**

2017-present	Member, MRI Operating Committee
2017-present	Head, MRI Technical Committee
2013-2017	Member, MRI Technical Committee

**Professional Organizations and Societies:**

2011-	American Psychiatric Association
2013-	Society for Neuroscience

**Ad-Hoc Journal Reviewer:**

PNAS; Biological Psychiatry; Journal of Physiology; Neuroimage; Cerebral Cortex; Cognitive, Affective, & Behavioral Neuroscience, eNeuro

**Fellowship and Grant Support:****Active:**

2017	<u>David Mahoney Neuroimaging Award, Dana Foundation</u> Title: Neural Substrates of Social Cognition Impairment in the Schizophrenia Clinical High Risk State Total direct support: \$200,000
2016	<u>K23 MH108711</u> Title: Neural Substrates of Attention and Social Cognition Impairment in Schizophrenia Total direct support: \$736,279
2015	<u>NARSAD Young Investigator Award</u>

Two years of funding  
 Total direct support: \$69,500

2015 Sydney R. Baer, Jr. Fellowship  
 One year of funding  
 Total direct support: \$30,000

2015 Dr. Joseph E. and Lillian Pisetsky Young Investigator Award  
 One year of funding  
 Total direct support: \$15,000

2013 APF/Schizophrenia Research Fellowship Award  
 One year of funding (extended)  
 Total direct support: \$45,000

2013 Training in Schizophrenia and Psychotic Disorders: From  
 Animal Models to Patients  
 T32 MH018870  
 Up to three years of funding awarded  
 Total direct support: \$49,020 per year

**Past:**

2009-2013 Leon Levy Resident Fellowship  
 Four years of funding awarded  
 Role: Post-Doctoral Fellow  
 Total direct support: \$70,000

2005-2007 Attentional Systems in Humans and Macaques  
 F31 NS051972  
 Two years of funding awarded  
 Role: Pre-Doctoral Fellow  
 Total direct support: \$47,104

**Pending:**

2017 Burroughs-Wellcome Career Awards for Medical Scientists  
 Five years of funding  
 Role: PI  
 Total direct support: \$700,000

**Educational Contributions:**

**Direct Teaching:**

2017-present	Coursemaster, PGY-2 Introduction to Neuroscience
2013-2016	Lecturer, PGY-2 Introduction to Neuroscience
2013-present	Supervisor, CPEP

2014-2015 Supervisor, Supportive Psychotherapy, 1hr weekly  
2014 Lecturer, Systems Neuroscience  
2013-2014 Supervisor, Evaluation Clinic, Eye-6, 2hrs weekly

**Mentorship:**

2011-present Undergraduate Research Advisor: Danica Yang, Emery Jamerson, Jake Drobner, Heloise DeBaun, R.T. Smith, Daniel Ruiz-Betancourt, Fabiola Plaza  
2013-present Advisor, Trainees performing MRI experiments: Louisa Steinberg, Jiok Cha, Amit Lazarov, Michael Avissar

**Clinical Care:**

2013-present Attending, CPEP  
2013-present Private Practice

**Bibliography:**

**Peer Reviewed Articles:**

2015

1) **GH Patel\***, D Yang, EC Jamerson, LH Snyder, M Corbetta, and VP Ferrera. Functional Evolution of new and expanded attention networks in humans. Proc Natl Acad Sci USA. 2015 July 13;112(30):9454-9459. PMID: PMC4522817

2014

2) **GH Patel\***, DM Kaplan, and LH Snyder. Topographic organization in the brain: Searching for general principles. Trends Cogn Sci. 2014 July; 18(7), 351–363. PMID: PMC4074559

2010

3) **GH Patel\***, GL Shulman, AZ Snyder, LH Snyder, and M Corbetta. Topographic organization of macaque area LIP. Proc Natl Acad Sci USA. 2010 Mar 9;107(10):4728-4733. PMID: PMC2842044

2008

4) M Corbetta, **G Patel**, GL Shulman. The reorienting system of the human brain: from environment to theory of mind. Neuron. 2008 May 8;58(3):306-324. PMID: PMC2441869

2007

5) Al Jack, **GH Patel**, SV Astafiev, AZ Snyder, E Akbudak, GL Shulman, and M Corbetta. Changing human visual field organization from early visual to extra-occipital cortex. PLoS ONE. 2007 May 16;2(5):e452. PMID: PMC1866221

6) JL Vincent, **GH Patel**, MD Fox, AZ Snyder, JT Baker, DC Van Essen, JM Zempel, LH Snyder, M Corbetta, and ME Raichle. Intrinsic functional architecture in the anaesthetized monkey brain. *Nature*. 2007 May 3; 447(7140):83-86.

2006

7) JT Baker, **GH Patel**, M Corbetta, and LH Snyder. Distribution of Activity Across the Monkey Cerebral Cortical Surface, Thalamus and Midbrain during Rapid, Visually Guided Saccades. *Cereb Cortex*. 2006 Apr;16(4):447-459.

**Chapters and Books:**

2009

1) **GH Patel\***, BJ He, M Corbetta. Attentional Networks in the Parietal Cortex. In: *Encyclopedia of Neuroscience*, Larry R. Squire, Editor-in-Chief, Academic Press, Oxford, 2009, Pages 661-666

**Invited Talks:**

- 1) Attentional Systems in the Rhesus Macaque. Cognitive Neuroscience Colloquium, Case Western Reserve University, 1/23/2008.
- 2) Attentional Systems in the Rhesus Macaque. Mahoney Center Seminar, Columbia University, 3/15/2011
- 3) Evolution of Attention Systems, Neuroscience Seminar, Università degli Studi G. d'Annunzio Chieti e Pescara, 5/26/2012
- 4) Structural/Functional Relationships of Attention Networks, Center for Neural Science Seminar, New York University, 3/9/2014
- 5) Structural/functional Relationships of Attention Networks, Leon Levy Foundation Neuroscience Fellows Symposium, Weill Cornell Medical Center, 4/30/2014
- 6) Structural/functional Relationships of Attention Networks, Creedmoor Grand Rounds 3/9/2015
- 7) Neural Substrates of Social Dysfunction in Schizophrenia, Neuroscience Seminar, NIMH, 3/1/2016
- 8) Neural Substrates of Social Dysfunction in Schizophrenia, Grand Rounds, Austen Riggs Center, 6/16/2017

**Abstracts:**

2016

1) **GH Patel**, SC Arkin, N Strauss, HM De Baun, CC Klim, R Berman, DA Leopold, and DC Javitt. Functional Connectivity Underlying Dynamic Scene Assessment during Naturalistic Social Viewing in Schizophrenia. *ACNP Abs.* 2016.

2) **GH Patel**, SC Arkin, N Strauss, HM De Baun, CC Klim, R Berman, DA Leopold, and DC Javitt. Disruptions in connectivity to frontal Theory of Mind networks underlies deficits in naturalistic social cognition in schizophrenia. *Soc. Neur. Abs.* 2016.

3) SC Arkin, CC Klim, RA Berman, DA Leopold, DC Javitt, and **GH Patel**. Engagement of Visual, Face, Attention, and Theory of Mind Areas in schizophrenia during naturalistic viewing. Soc. Neur. Abs. 2016.

4) **GH Patel**, SC Arkin, E Jamerson, N Strauss, R Berman, DA Leopold, and DC Javitt. Functional connectivity and cognitive substrates of social disability in schizophrenia. OHBM Abs. 2016.

5) **GH Patel**, SC Arkin, E Jamerson, N Strauss, R Berman, DA Leopold, and DC Javitt. Neural and cognitive substrates of social communication impairment in schizophrenia. SOBP Abs. 2016.

6) SC Arkin, E Jamerson, DC Javitt, and **GH Patel**. Properties of Dorsal and Ventral Attention Networks in Schizophrenia.

#### 2014

7) **GH Patel**, EC Jamerson, DC Javitt, and VP Ferrera. Myelination of the Dorsal Attention Network. Soc. Neur. Abs. 2014.

8) F Liu, **GH Patel**, JX Van Snellenberg, M Riddle, Y Duan, A Gerber, and A Kangarlu. Optimization of Multiband EPI in fMRI Studies. ISMRM Abs. 2014.

#### 2013

9) **GH Patel**, D Yang, LH Snyder, M Corbetta, and VP Ferrera. Evolution of Attention Systems. Soc. Neur. Abs. 2013.

#### 2006

10) JL Vincent, **GH Patel**, MD Fox, AZ Snyder, JT Baker, LH Snyder, ME Raichle, and M Corbetta. The functional connectivity of spontaneous fMRI BOLD fluctuations in FEF and LIP of the monkey and human. Soc. Neur. Abs. 2006.

#### 2005

11) JT Baker, **GH Patel**, M Corbetta and LH Snyder. fMRI comparison of the macaque cortical substrates for smooth pursuit and saccadic eye movements. Soc. Neur. Abs. 2005.

#### 2004

12) **GH Patel**, JT Baker, LH Snyder, and M Corbetta. Linear Summation of BOLD responses in awake behaving macaques. Soc. Neur. Abs. 2004.

13) Al Jack, **GH Patel**, SV Astafiev, AZ Snyder, M McAvoy, GL Shulman, and M Corbetta. Retinotopic specificity in human parietal, temporal, and frontal cortices. Soc. Neur. Abs. 2004.

14) JT Baker, **GH Patel**, M Corbetta, and LH Snyder. Cortical and subcortical substrates for oculomotor behavior in non-human primates explored with fMRI. Soc. Neur. Abs. 2004.

2003

15) **G Patel**, A Snyder, E Akdubak, G Shulman, and M Corbetta. Visuotopic organization of human visual attention areas. Soc. Neur. Abs. 2003.

1999

16) **G Patel**, G Harding, and A Burkhalter. Emergence of topographic and laminar specificity of interareal forward and feedback connections in mouse visual cortex. Soc. Neur. Abs. 1999.