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David I. Leitman, Ph.D.

**Contact Information**

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**Personal**

Citizenship: USA

Married to Valerie Tatard-Leitman, Ph.D.

Languages: some French, Italian, and Hebrew

**Professional**

* 2011 – present, *Research Assistant Professor in Psychology,* Neuropsychiatry Program, Department of Psychiatry, University of Pennsylvania.
* 2010 – 2011, *Instructor in Psychology,* Neuropsychiatry Program, Department of Psychiatry, University of Pennsylvania.
* 2009 – 2011*, Adjunct Professor,*Department of Psychology, Graduate Program in Scientific Psychology, Drexel University.

**Education**

* 2007-2010, *Post-Doctoral Fellow,* Brain Behavior Laboratory, Neuropsychiatry Program, Department of Psychiatry, University of Pennsylvania, Philadelphia PA.
* 2006-2007, *Post-Doctoral Fellow,* Translational Cognitive and Affective Neuroscience Laboratory, UC Davis Imaging Research Center, Sacramento CA.
* 2006*, Ph.D., Cognitive Neuroscience/Psychology,* City College of the City University, NY, NY.
* 1998*, B.S., Psychology/History,* Brooklyn College, City University, NY, NY.

**Research Training**

* Psychophysics & Experimental Design
* Acoustic analysis and processing of speech
* Multimodal neuroimaging (EEG, MEG, fMRI & HARDI)
* Neuropsychiatric illnesses (schizophrenia, depression, and autism)

**Teaching (**Areas of Competency)

* Social and Affective Neuroscience
* Cognitive Neuroscience
* Cognitive Psychology
* History of Psychology
* Abnormal Psychology
* Experimental Design and Quantitative Measures

**Honors, Awards**

* 2011*, Travel Award,*American College of Neuropsychopharmacology Annual Meeting, Waikoloa, Hawaii.
* 2008*, Travel Scholarship,* Society of Biological Psychiatry Annual Conference, Washington DC
* 2007 *Symposium Chair Travel Award*, International Congress on Schizophrenia Research, Colorado Springs, CA
* 2006*, Travel Award for Analysis of Functional Imaging (AFNI),* Training Course at Institute for Clinical Neurophysiology CNR-University of Pisa, Italy.
* 2006*, CUNY Graduate Center Travel Award,* Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
* 1997*, Magna Cum Laude,* Grade Point Average: 3.75.
* 1997*, Dean’s List,* Brooklyn College, Fall, Spring.
* 1995*, Honors Program,* City University of New York*.*

**Society Memberships**

* Society for Neuroscience
* Society for Affective and Social Neuroscience
* Organization for Human Brain Mapping
* Cognitive Neuroscience Society
* Society for Neuroscience Society for Biological Psychiatry
* International Congress on Schizophrenia Research

**Editorial & Review Services**

* *Journals:*
	+ Review editor: Frontiers of Auditory Cognitive Neuroscience.
	+ Guest editor (with Michel Green): Schizophrenia Bulletin (34:4, 2008) for special issue on social cognition in schizophrenia.
	+ *Ad hoc* reviewer: Archives of General Psychiatry, Biological Psychiatry, British Journal of Psychiatry, Schizophrenia Bulletin, Psychiatry Research –Neuroimaging, Schizophrenia Research, Journal of Abnormal Psychology, Neuropsychology, Human Brain Mapping, Brain and Cognition, Psychological Medicine, European Journal of Neuroscience, Journal of Neuroscience, Social Cognitive and Affective Neuroscience, Brain Topography, Cerebral Cortex, Acta Psychiatrica Scandinavica, Cognitive and Affective Behavioral Neuroscience, PLOS-ONE.
* *Governmental and Non-Profit Funding agencies:*
	+ Expert Reviewer for the Swiss National Science Foundation (SNF)
	+ Expert Reviewer for Social Sciences and Humanities Research Council of Canada (SSHRC)

**Current Grant Support**

* NIH Grant 1K01 MH094689-01 *Multimodal Neuroimaging of Prosody in Schizophrenia and Developmental Disorders.* **D.I. Leitman** P.I (Trainee); T.P.L. Roberts and R.C. Gur (Co-mentors). July 5, 2011 – March 30, 2016. $172,599 annual direct costs.

**Description:** Basic science: Use multimodal neuroimaging (EEG, MEG, fMRI & DWI) approaches to produce the first comprehensive description of temporo-frontal circuit, for affective prosodic processing in both healthy adults. Clinical application: 1) Employ this model to examine prosodic dysfunction in schizophrenia; 2) Develop language and prosodic tasks for children and adolescents.

* Brain and Behavior Research Foundation. National Alliance for Research on Schizophrenia and Depression (NARSAD) Young Investigator Award. *Functional Anatomy of Emotion processing in schizophrenia*. **D.I. Leitman** P.I. July 1, 2008 – June 30, 2013. $60,000 total direct costs.

**Description:** Basic science: Examine the effects of parametric modulation of acoustic features on affective prosodic processing using fMRI. Clinical application: measuring the effects of effects of parametric modulation of prosodic signal acoustic features on schizophrenia patient behavior and brain activity.

* Fundação para a Ciência e a Tecnologia', Portugal (PTDC) PSI-PCL-116626-2010, *Examining abnormalities in auditory emotional processing in schizophrenia: an electrophysiological investigation with high-risk, early-stage and chronic patients.* A.T. Pinhero P.I.; **D.I. Leitman** Investigator. July 1, 2013 –June 30, 2015 € 76.932,00 total direct costs.

**Description:** Basic science: Development of a battery to measure prosody and nonverbal expression in Portuguese. Clinical application: Apply this battery to the study of neuropsychiatric populations, and measure EEG evoked responses during prosodic processing.

 **Pending Grant Support**

* NIH Grant R21 MH090479-01*Abstracting Emotions using Frequency Modulated Tones.* **D.I. Leitman** and P. Janata, (Co-PIs). Second submission planed for November 16. $137,000 annual direct costs.

**Description:** Basic science: This proposal asks what is the minimal amount of information necessary to reliably convey affective distinctions. We suggest that acoustic emotion can be reliably differentiated using simple frequency modulated tones, which vary along two dimensions, carrier frequency and modulation depth. In the first experiment, we propose to map the emotional space of five basic emotions. Carrier and modulation frequencies, as well as modulation depths, will be within the F0 range of typical prosodic utterances. We propose that affective judgments will cluster in contiguous and distinct regions within our two dimensional space, and that such cluster size will be in part determined by gender. A second electrophysiological experiment will contrast Mismatch Negativity (MMN) amplitudes in a passive listening task to tones that are within, across, or between affective clusters, but that have equivalent Euclidean distances from each other. MMN is a pre-attentive index of auditory deviance detection, and a larger MMN to tones differing in their affective identity, compared with MMNs to tone within an affect or ascribed to no affect at all, would signal that acoustical information might be grouped pre-attentively based on affective similarity.

* NIH Grant F31 NRSA Predoctoral fellowship *Loneliness, Social Connectedness, and Isolation in Schizophrenia.* Krystal Ludwig (Trainee); F Irani and **D.I. Leitman** (Co-mentors).

**Description**: The current study will provide insight into the relationships between constructs hypothesized to be linked to social communication deficits, such as loneliness (or perceived isolation), desire for social connectedness, actual isolation, and social communication perception. Specifically, two consecutive studies will address the following question: How does social communication ability (measured by vocal prosody and facial affect perception tasks) relate to loneliness (measured by UCLA Loneliness Scale), desire for social connectedness (measured by Need to Belong Scale), and actual isolation (measured by graph theory analysis of Social Networks Inventory) in college students (Aim 1) and in individuals with schizophrenia (Aim 2).

**Completed Grant Support**

* Clinical & Translational Science Award (CTSA) University of Pennsylvania School of Medicine, Junior Investigator Pilot Grant Award. Oxytocin Effects on Social Cognitive Dysfunction in Schizophrenia and Asperger Syndrome. **DI Leitman** and D.H. Wolf co-PIs. July 1, 2008 – 2012. $30,000 total direct costs.

**Description**: This pilot was a double blind placebo control study of effects of intravenous oxytocin on social reward and communication (prosody) perception in healthy subjects as well as individuals with Asperger’s syndrome and schizophrenia. Biological indices of oxytocin, estrogen, cortisol and heart rate variability before during and after task performance were collected as additional dependent variables.

* NIH Grant R01 MH073174 Computational quantification of emotion in faces and voice for neuropsychiatry. R Verma P.I.; **DI Leitman** Investigator. August 1, 2010 – May 4, 2014. Annual direct costs $381,680

**Description**: The specific aims of this project were to develop and validate classifier-based methods for facial affect analysis based on automated temporal action unit profiles for quantifying facial emotion expression and imitation in the presence of speech to develop and validate emotion classifiers based on the spectral and prosodic features extracted from the acoustic signal. Role: provide expertise and guidance in the development of the paradigms and analysis of prosodic information in schizophrenia patients.

* NIH Grant T32 MH019112 Postdoctoral training grant. *Schizophrenia A Neuropsychiatric Perspective* August 1, 2007 – July, 30, 2010. **D.I. Leitman** Trainee; PI: R.E Gur $178,000 annual direct costs.

**Description**: The specific aims of this training were to develop expertise in fMRI experimental design and analysis. This work focused on two projects examining BOLD signal activation during facial affect identification. 1). Basic science: In an initial project we studies the effects of cognitive set or context on affective processing , observing that subjects activated right orbitofrontal cortex (OFC)/ventrolateral prefrontal cortex (VLPFC) more to affiliative foils in threat contexts than to identical stimuli within affiliative contexts. Clinical application: using the approach above in schizophrenia, no context modulations of brain activity were observed. A second connectivity study indicated that effective connectivity network in schizophrenia contained abnormal superior temporal gyrus activation absent in healthy controls. 2) Development of an audio linguistic computerized testing battery to examine the building blocks of prosodic ability in terms of respective contributions of pitch, rhythmic and time perception on prosodic discrimination performance and its dysfunction in schizophrenia.

* NIH Grant 5F31MH067339-01 National Research Service Award (NRSA) *Neurostructural Correlates of Prosody in Schizophrenia.* March 31, 2003 – October 10, 2006*,* **DI Leitman** Trainee; D.C. Javitt and J. Foxe (Mentors). annual direct costs $156,000.

**Description**: The specific aims of this training to develop \expertise in EEG and ERP techniques. Basic Science Thesis work consisted of measuring the relationship between pitch perception ability musical ability and affective and non-affective prosodic ability. Clinical application: Relating such behavioral measurements of pitch and prosody to schizophrenia electrophysiological abnormalities in mismatch negativities and P300 oddball detection.

**Supervision and Mentorship**

**Graduate**

* Meghan Healey (2013 – present). *Parametric modulation of signal ambiguity during affective prosodic processing using fMRI.* PhD candidate, Neuroscience, University of Pennsylvania (UPenn), independent research study.
* Krystal Gamez Ludwig (2012 – present). *Loneliness, Social Connectedness, and Isolation in Schizophrenia*. Doctoral Candidate, Clinical Psychology, Immaculata University, thesis research project and National Research Service Award (NRSA) fellowship application.
* Kara Blacker (2009). *Emotional Prosody Impairment in Schizophrenia*

Master’s Candidate,Scientific Psychology, Drexel University, independent research study.

**Undergraduate**

* Kara Olzowy (2013 – present). *Examining the Use of Amplitude Envelope and Format Transitions for Phonemic Detection, in Healthy and Neuropsychiatric Populations.* Biological Basis of Behavior, UPenn, independent research study.
* Jake Rubin (2013 – present). *Automated and semi automated segmentation and quantification of Magnetic Resonance images of Amygdala and Hippocampus*. NeuroBiology, UPenn, independent research study.
* Ananad Vanuri, Vikram Iyer, and Michael Bororchinn (2012-2013). *Automated Detection of Depression via Vocal Prosody and Coordinated Interpersonal Timing* *Analysis.* Bioengineering, UPenn, senior thesis project.
* Nitya Kanuri (2011). *The Emotional Mapping of Frequency Modulated (FM) Tones.* Biological Bases of Behavior, UPenn, independent research study
* Joshua Bolgar (2010). *Measuring Rhythmic Performance in Schizophrenia.* Biological Bases of Behavior, UPenn, independent research study.
* Keri Wong (2009).Biological Bases of Behavior, UPenn, independent research study.
* Shivika Trivedi(2008). *Creating an Emotional “McGurk effect”.* Biological Bases of Behavior, UPenn, independent research study.
* Jeffrey Russ (2008). *Development of PROID: Penn Prosodic Identification battery.* Biological Bases of Behavior, UPenn, independent research study.

**Thesis committees**

* Mary Claire Hanlon (2012).*Detecting an intention to communicate****:*** *Using ToMAS to Test theory of mind in people with schizophrenia and healthy controls.* The University of Newcastle, AU.

**Publications**

1. Lakatos P, Schroeder CE, **Leitman DI,** Javitt, DC. *Predictive suppression of cortical excitability and its deficit in schizophrenia* J Neurosci*.* 2013 Jul 10;33(28):11692-702
2. Kantrowitz JT, Hoptman MJ, **Leitman DI,** Silipo G, Javitt DC. The 5% difference: *Early sensory processing predicts sarcasm perception in schizophrenia and schizoaffective disorder*. Psychol Med. 2013;Apr 24:1-12.
3. Gold R, Butler P, Revheim N, **Leitman DI**, Kantrowitz JT, Laukka P, Juslin, PN, Silipo, GS, and Javitt DC. *Auditory emotion recognition impairments in schizophrenia: Relationship to acoustic features and cognition*. Am J Psychiatry2012 Apr;169(4): *4324-432.*
4. **Leitman DI**, Garidis C, Gomez-Ramierz M, Sehatpour P, Javitt DC. *Preattentive distinctions of frequency-modulated (FM) tones that convey affect.* Frontiers of Human Neuroscience 2011 October 3;5(96):1-8.
5. Kantrowitz JT, **Leitman DI,** Lehrfeld JM, Silipo G, Javitt DC, *Reduction in tonal discriminations predicts receptive emotion processing deficits in schizophrenia and schizoaffective disorder.* Schizophr Bull2013 Jan;39(1):86-93.
6. **Leitman DI**, Wolf DH, Laukka P, Ragland JD, Valdez JN, Turetsky BI, Gur RE, Gur RC. *Not pitch perfect: Sensory contributions to affective communication impairment in schizophrenia*. Biol Psychiatry *2*011;70:611-18.
7. **Leitman DI**, Wolf DH, Loughead J, Valdez JN, Kohler CG, Brensinger C, Elliott M, Turetsky BI, Gur RE, Gur RC. *Ventrolateral prefrontal cortex and the effects of task demand context on facial affect appraisal in schizophrenia*. Soc Cogn Affect Neurosci. 2011;6(1):66-73.
8. **Leitman DI**, Wolf DH, Ragland JD, Laukka P, Loughead J, Valdez JN, Javitt DC, Turetsky BI, Gur RC. *“It’s not what you say, but how you say it”: A reciprocal temporo-frontal network for affective prosody.* Front Hum Neurosci. 2010 Feb 26;4(19):1-8.
9. **Leitman DI**, Sehatpour P, Foxe JJ, Higgins B, Silipo G, Javitt DC. *Sensory deficits and distributed hierarchical dysfunction in schizophrenia.* Am J Psychiatry. 2010 Jul;167(7):818-827.
10. **Leitman DI**, Sehatpour P, Shpaner M, Foxe JJ, Javitt DC. *Mismatch negativity to tonal contours suggests preattentive perception of prosodic content*. Behavior and Brain Imaging. 2009;3:284-291.
11. **Leitman DI**, Loughead J, Wolf DH, Ruparel K, Kohler CG, Elliott MA, Bilker WB, Gur RE, Gur RC. *Abnormal superior temporal connectivity during fear perception in schizophrenia.* Schizophr Bull. 2008;34:673-678.
12. **Leitman DI**, Laukka P, Juslin PN, Saccente E, Butler P, Javitt DC. *Getting the cue: Sensory contributions to auditory emotion recognition impairments in schizophrenia.* Schizophr Bull. 2010 May;36(3):545-56.
13. Green MF, **Leitman DI**. *Social cognition in schizophrenia*. Schizophr Bull. 2008;34:670-672.
14. **Leitman DI**, Hoptman M, Foxe JJ, Wylie GR, Nierenberg J, Jalbkowcski M, Lim K, Javitt DC. *The neural substrates of impaired prosodic detection in schizophrenia and its sensorial antecedents.* Am J Psychiatry. 2007 Mar;164(3):474-482.
15. **Leitman DI**, Ziwich R, Pasternak R, Javitt DC. *Theory of Mind (ToM) and counterfactuality deficits in schizophrenia: misperception or misinterpretation?* Psychol Med. 2006 Aug;36(8):1075-83.
16. **Leitman DI**, Foxe JJ, Butler PD, Saperstein A, Revheim N, Javitt DC. *Sensory contributions to impaired prosodic processing in schizophrenia.* Biol Psychiatry. 2005 Jul 1;58(1):56-61.
17. Corcoran C, Mujica-Parodi L, Yale S, **Leitman D**, Malaspina D. *Could stress cause psychosis in individuals vulnerable to schizophrenia?* CNS Spectr. 2002 Jan;7(1):33-8, 41-2.
18. Coleman E, Goetz RR, **Leitman D**, Yale S, Stanford A, Gorman JM, Malaspina D. *Odor identification impairments in schizophrenia: relationship with demographic measures, clinical variables, and diagnostic subtypes*. CNS Spectr. 2002;7(1):43-8.
19. Corcoran C, Gallitano A, **Leitman D**, Malaspina D. *The neurobiology of the stress cascade and its potential relevance for schizophrenia*. J Psychiatr Pract. 2001;7(1):3-14.
20. Malaspina D, Dalack G, **Leitman D**, Corcoran C, Amador XF, Yale S, Glassman A, Gorman JM. *Low heart rate variability is not caused by typical neuroleptics in schizophrenia patients*. CNS Spectr. 2002;7(1):53-7.

**Publications Under Review**

1. Gamez K, Bolgar J, Neustadter, E, and **Leitman DI**. *What rhythmic perception and amusia can tell us about vocal social communication in schizophrenia.* Under review.
2. Gamez K, Kohler C, Calkins M, Turetsky BE, Irani F, and **Leitman DI**. *Influences of social connectedness and feelings of loneliness on affective prosody perception in schizophrenia.* Under review*.*
3. Kantrowitz JT, **Leitman DI,** Lehrfeld, J Dias, Laukka P Silipo G, Javitt DC. *Preattentive sensory processing deficits predict voice emotion recognition deficits in schizophrenia*.Under review*.*

**Publications In Preparation**

1. Janata P, Bolgar J, **Leitman DI**. *Sounds of sadness sounds of joy: Abstracting emotions using frequency modulated tones.* Under review
2. **Leitman DI**, Wolf DH, Yin Lee, Rosen J, Loughead J, Gur RE, Gur RC, Turetsky BI. *Oscillatory Activity During Auditory Streaming and Integration: A Combined EEG-fMRI study.* In prep.
3. **Leitman DI**, Wolf DH, Yin Lee, Rosen J, Loughead J, Gur RE, Gur RC, Turetsky BI. *Abnormal Oscillatory Activity During Auditory Streaming and Integration: in Schizophrenia.* In prep.
4. **Leitman DI**, Edgar CJ, Berman J, Gamez K, and Roberts, TPL. *Multimodal Neuroimaging of Vocal Social Communication in Speech Prosody Using a Unified EEG- MEG- fMRI Mode*l. In prep.
5. **Leitman, DI** Vanuri A, and Kim, D. *Detection of depression via automated acoustic analysis of prosodic signals*. In prep.

5. Kalkstein S, **Leitman DI**, Irani F, and Gur RC*. Emotion recognition abilities among veterans with PTSD and anger, dyscontrol*. In prep.

**Conference Presentations**

1. Ludwig K, Zerbe SA, Calkins ME, Neustader ES, Kohler C, Turetsky BI, Irani F, **Leitman DI.** *Perceptual correlates of interpersonal attachment and feelings of loneliness in schizophrenia.* International Congress on Schizophrenia Research, Orlando, FL 2013.
2. Kalkstein S, **Leitman DI**, Irani F, and Gur RC. *Emotion recognition abilities among veterans with ptsd and anger, dyscontrol*. Annual Meeting of the American Psychological Association, Orlando, FL, 2012.
3. **Leitman DI,** Yonelinas AP, Hansen J, Chan C, Richard J, Brensinger CM, Gur, RE, and Gur RC. *Remembrance of things past: The role of item familiarity and recollection of circumstance in schizophrenia delayed recall memory performance.* Annual Convention of the Society for Biological Psychiatry, Philadelphia, PA, 2012.
4. Turetsky BI, Seligman S, Wolf DH, **Leitman DI,** Gur RC, and Gur RE. *Physiological and behavioral correlates of aversive conditioning in schizophrenia*. Annual Meeting of the Schizophrenia International Research Society. Firenze, Italy, 2012.
5. Gur RC, Wolf DH, Satterthwaite TD, Seubert J, **Leitman DI,** Loughead J, Elliot MA, and Gur RE. *Aberrant amygdala activation and connectivity effects on emotion processing deficits in schizophrenia: Functional neuroimaging studies in patients and controls.* Annual Meeting of the Schizophrenia International Research Society. Firenze, Italy, 2012.
6. **Leitman DI,** Wolf DH, Mcdaniel J, Li Y, Rosner J, Loughead J, Gur RE Gur RC and Turetsky BI. *Impaired auditory object formation in schizophrenia as revealed by theta-gamma oscillatory entrainment dynamics*. Annual Convention of the American College of Neuropsychopharmacology, Wakilkoa, Hawaii 2011.
7. Kantrowitz JT, **Leitman DI,** Lehrfeld JM, Silipo G, Javitt DC. *The effect of frequency modulation of abstract tones on affective prosody in schizophrenia*. International Congress on Schizophrenia Research, Colorado Springs, CD 2011.
8. **Leitman DI,** Wolf DH, Loughead J, Ragland JD, Turetsky BI, Valdez JN, Gur RE, and Gur RC. *Temporo-frontal dysfunction during vocal affect perception in schizophrenia.* Annual Convention of the American College of Neuropsychopharmacology, Fort Lauderdale, FL, 2009.
9. **Leitman DI,** Campellone T, Ragland JD, Wolf DH, Loughead J, Valdez JN, Carter CS, Turetsky BI, Javitt DC, and Gur R.C. *Cue-dependent neural representations of vocal affect perception.* Annual Convention of the Society of Cognitive Neuroscience, San Francisco, CA 2009.
10. **Leitman DI,** Wolf DH, Rosner J, Turetsky BI. *Abnormal Oscillatory Activity in Schizophrenia Patients During an Auditory Streaming Task*. International Congress on Schizophrenia Research, San Diego, CA, 2009.
11. Turetsky BI, Rosner J, and **Leitman DI,** *A failure of auditory temporal integration in schizophrenia*. International Congress on Schizophrenia Research, San Diego, CA, 2009.
12. **Leitman DI,** Wolf DH, Loughead J, Ruparel K, Valdez JN, Kohler CG, Elliott MA, Gur, RE, Gur RC. *The effects of context on schizophrenia facial affect perception*. Annual Convention of the Society for Biological Psychiatry, Washington DC, 2008.
13. Garidis C, **Leitman DI,** Javitt DC. *Mismatch negativity and emotional prosody perception in schizophrenia: Future directions.* Annual Convention of the Society for Biological Psychiat, Washington DC, 2008.
14. **Leitman DI,** Yoon J, Reinking C, Walter R, Olsen E, Watrous A, Carter CS. *Neural correlates of conflict monitoring in early psychosis.* Annual Convention of the Society for Biological Psychiatry, San Diego, CA, 2007.
15. Saccente E, **Leitman DI,** Javitt DC. *Affective Dysprosodia in schizophrenia and its relation to acoustic cue perception: A preliminary investigation*. International Congress on Schizophrenia Research, Colorado Springs, CD, 2006.
16. **Leitman DI,** Saccente E, Ziwich R, Pasternak R, Javitt DC. *Neurostructural Correlates of theory of mind dysfunction in schizophrenia.* Annual Convention for the Organization for Human Brain Mapping, Florence, Italy, 2006.
17. Saccente E, **Leitman DI,** Javitt DC. *Non-affective prosody deficits in schizophrenia*. Annual Convention of the Society of Biological Psychiatry, Toronto, Canada, 2006.
18. **Leitman DI,** Ziwich R, Pasternak R, Javitt DC. *Theory of Mind (ToM) and counterfactuality deficits in schizophrenia: Misperception or misinterpretation?* Annual Convention of the Society of Cognitive Neuroscience, San Francisco, CA, 2006.
19. Javitt DC, Butler P, Foxe JJ, Revheim N, **Leitman DI**, Silipo G, Jalbrizikowski M, Ziwich R. Is seeing believing? Role of sensory processing deficits in neurocognition in schizophrenia. Schizophr Res, 2006 Jan;81(3):308-308
20. **Leitman DI,** Hoptman MJ, Foxe JJ, Wylie GR, Nierenberg J, Jalbrzikowski M, Lim KO, Javitt DC. *Shared neural correlates for pitch detection and affective prosody in schizophrenia*. Annual Convention for the Society of Neuroscience, Washington DC ,2005.
21. **Leitman DI,** Hoptman M, Foxe JJ, Wylie G, Jabrizkowski M, Nierenberg J, Javitt DC. *Diffusion tensor imaging reveals structural vulnerability associated with musical pitch perception in patients with schizophrenia.* Annual Convention for the Society of Cognitive Neuroscience, New York, NY, 2005.
22. **Leitman DI,** Foxe JJ, Hoptman M, Leavitt V, Sehatpour P, Kim D Piesco J, Javitt DC. *High density mapping of visual P300 deficits in schizophrenia*. International Congress on Schizophrenia Research. Savannah, GA, 2005.
23. **Leitman DI,** Foxe JJ, Butler P, Saperstien A, Wylie G, Molholm S, Revheim N, Javitt DC. *Do Affective speech recognition deficits in schizophrenia have early cortical antecedents?* Annual Convention of the Society of Biological Psychiatry, New York, NY, 2004.
24. **Leitman DI**, Molholm S, Gomez-Rameriez M, Sehatpour P, Piesco J, Shpaner M, Javitt DC, Foxe JJ. *Pre-attentive perception of speech-like contour patterns: A Mismatch Negativity (MMN) study*. Annual Convention for the Society of Cognitive Neuroscience, San Francisco, CA, 2004.

**Invited Lectures**

1. **Speaker:** *Vocal social communication*. Department of Psychology, Brooklyn College, Brooklyn, NY November 26, 2013.
2. **Speaker:** *Perception and the development of social communication: Implications for neuropsychiatric disorders*. Philadelphia Neuropsychological Society, Philadelphia PA. November 1st, 2012.
3. **Speaker:** *Social communication*. University of Pennsylvania Neuroscience Graduate Group Fall Research Talks. Philadelphia PA. September, 2012.
4. **Speaker:** Symposium: *Sensory contributions to vocal affect communication dysfunction in schizophrenia.* Annual Meeting of the Society for Research in Psychopathology. Ann Arbour, MI. October, 2012.
5. ***Chair and Speaker****:* Symposium: *Developmental cognitive neuroscience perspectives on autism and schizophrenia*. Annual Meeting of Society for Biological Psychiatry, Philadelphia, PA, 2012.
6. ***Speaker****:* *The Brain and social communication*: Implications for psychiatry. Department of Psychiatry Grand Rounds, University of Pennsylvania, Philadelphia, PA. December 16, 2010
7. ***Speaker****: Cognitive neuroscience of vocal affective communication and its clinical application in neuropsychiatric disorders*. Neuropsychology Brown Bag Seminar, Department of Psychiatry, University of Pennsylvania, Philadelphia, PA. 2010
8. ***Speaker****:* *Cue-dependent neural representations of vocal affect perception: New approaches to studying vocal affect perception or prosody in schizophrenia*. International Congress on Schizophrenia Research, San Diego, CA, 2009.
9. ***Speaker****: Abstracting Emotion Using frequency modulated tones*. Penn-Aachen Winter School in Affective Dysfunction in Schizophrenia, Philadelphia, PA, 2007.
10. ***Chair and Speaker****: Symposium: Social cognition and affective disturbance*. International Congress on Schizophrenia Research, Colorado Springs, CD, 2007.
11. ***Speaker****:* *Neurostructural Correlates of prosodic dysfunction in schizophrenia*, Imaging Research Center School of Medicine, University of California Davis, May, 2006.
12. ***Speaker****:* *Neurostructural Correlates of prosodic dysfunction in schizophrenia*. Center for Integrative Neuroimaging NIH-NIMH, April, 2006.
13. ***Speaker****:* *Sensory and prosodic dysfunction in schizophrenia*. Departments of Psychology and Psychiatry, Uppsala University, Uppsala, Sweden, August, 2005.
14. ***Speaker****:* *Current methods in electrophysiology*. Department of Biomedical Engineering, New York State University at Stony Brook, January, 2004.

**References**

Timothy P.L. Roberts, PhD

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