OMB No. 0925-0001 and 0925-0002 (Rev. 11/16 Approved Through 10/31/2018)

BIOGRAPHICAL SKETCH

NAME: **David Parker**

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Graduate Researcher

EDUCATION/TRAINING:

| INSTITUTION AND LOCATION | DEGREE(if applicable) | Start DateMM/YYYY | Completion DateMM/YYYY | FIELD OF STUDY |
| --- | --- | --- | --- | --- |
| University of Georgia, Athens, GA | B.A. | 08/2008 | 12/2012 | Philosophy |
| University of Georgia, Athens, GA | B.A. | 08/2008 | 12/2012 | Cognitive Science |
| University of Georgia, Athens, GA | PHD | 08/2013 | In Progress | Psychology |

1. **Personal Statement:**

My research interests are twofold: 1) identifying primary auditory and visual neural deviations in major psychotic and affective disorders, and 2) the use of large datasets to identify novel sub-groups of psychiatric diseases using brain-based measures. Over the course of my academic training I have gained extensive experience in electrophysiological and magnetoencephalography (EEG/MEG) research and multivariate statistical analysis techniques that provide the skills necessary to make significant contributions towards biologically-based psychopathology research. I work in the Clinical and Cognitive Neuroscience Laboratory (CCNL) under the direction of Drs. Brett Clementz and Jennifer McDowell. The CCNL is highly renowned for its psychosis-related research in electrophysiology, fMRI, and eye-tracking, with numerous publications in top academic journals.
 The CCNL is part of the Bipolar and Schizophrenia Network on Intermediate Phenotypes (BSNIP). BSNIP is a 5 site research consortium (Harvard Medical School, Yale School of Medicine, University of Chicago, UT Southwestern Medical School, and UGA/Augusta University) that uses a dense battery of clinical, neurocognitive, neurophysiological, neuroanatomical, and genetic measures to identify unique biomarkers related to psychosis and affective disorders. The current BSNIP project is in the process of collecting data from ~3000 individuals with schizophrenia (SZ), schizoaffective disorder (SAD), psychotic (BDP) and non-psychotic (BD-NP) bipolar disorders. Due to my involvement with BSNIP I have had the opportunity to collaborate with and learn from top experts in the field of biological psychiatry. My role in BSNIP has been to oversee the quality control of the EEG data, to independently analyze 4 EEG measures (Auditory Oddball, Paired Stimulus, auditory and visual steady-state response), to perform multivariate integration across EEG measures in order to generate novel hypotheses about the biological causes of psychosis and affective disorders, and to use clustering algorithms on large datasets in order to generate, replicate, and validate biologically based classification systems that go beyond the current clinical phenotype-based classification system of psychosis and affective disorders.
 As an undergraduate I completed independent research on the philosophical implications of dynamic systems theory, embodied cognition, and neural oscillations and was awarded the UGA philosophy department’s Daniel S. Hart Scholarship to Outstanding Undergraduate (2012). This work inspired me to transition from philosophical research to psychology and neuroscience research and to join the CCNL. As an undergraduate researcher in the CCNL I was awarded the Center for Undergraduate Research Opportunities (CURO) summer research fellowship, which provided me with the opportunity to collect and analyze electrophysiological data and to examine how pre-stimulus neural oscillations in the 4-12 Hz range contribute to saccade reaction times in healthy individuals. As a graduate researcher I make significant contributions to multiple NIH funded projects that use EEG to study early visual and auditory neural responses in psychosis. In 2014, I was awarded the psychology department’s Michael H. Kernis Research Award for having the best first year graduate project in the brain and behavioral sciences program. In 2016, I was awarded the Franklin Foundation Neuroimaging Research Training Fellowship, which provides additional training in Neuroimaging techniques and funding for my graduate research assistantship, an independent neuroimaging project, and an annual travel award. My independent project is highly mutlimodal and uses simultaneous M/EEG and an fMRI paradigm to identify precise locations of neural sources related to the auditory steady-state response in healthy individuals. I have participated as distinguished speaker in three symposia at: the Society for Neuroscience (2013), Southeastern Psychological Association (2016), and the Society for Biological Psychiatry (2018). My research was selected for presentations at multiple international conferences such as: the International Congress on Schizophrenia Research (2015, 2017), the Australian Conference on Psychosis (2018), and the Society for Biological Psychiatry (2016), and I have presented three posters at Society for Psychophysiological Research (2014, 2016: Poster Award, 2018). As a graduate student one of my passions is research mentorship with undergraduate and junior graduate researchers. I have directly mentored 11 junior researchers, with many of them presenting their research at the CURO or UGA Psi Chi annual meetings; Zoe Schnieder, Lingyu Huang, and Libby Thomas presented posters at international conferences.
 My long-term career goal is to become a fully independent research scientist at a major research university/hospital who uses neuroimaging techniques to identity unique biomarkers related to psychiatric brain diseases. On a personal level, I am familiar with the individual and family tolls engendered with major mental illness. I feel that due to my personal and academic background, and in addition to the research training I will receive under Drs. Clementz and McDowell, I am building a solid foundation towards my lifelong objective of finding neural mechanisms that will significantly affect how psychosis/affective disorders are diagnosed and treated.

1. **Positions and Honors:**

**FUNDING AND AWARDS:**

**2018 Society of Biological Psychiatry Annual Conference Symposium Travel Award ($350)**

**2018 UGA Graduate School Travel Award, Society of Biological Psychiatry Annual Conference ($850)**

**2017 UGA Graduate School Travel Award,** International Congress on Schizophrenia Research. ($**775)**

**2017-2018 Psychology Graduate Student Advisory Board Representative**

**2016 Poster Award, Society for Psychophysiology Annual Conference ($300)**

**2016-2018 Franklin Foundation Neuroimaging Fellowship Award:**

 **-24 months of Graduate Research Assistantship support (22% time)**

 **-$3500 in research funds (Annually)**

 **-$1000 travel funds (Annually)**

**2016 Franklin Foundation Travel Award ($1200)**

**2016 1st Place Paper Presentation, UGA Psi Chi Annual Convention**

**2015 Michael H. Kernis Research Award: Best Presentation**

 **Behavioral & Brain Sciences Program, Department of Psychology**

**2015 Franklin Foundation Travel Award ($1200)**

**2013 Franklin Foundation Travel Award ($1500)**

**2012 Center for Undergraduate Research Opportunities Summer Research Fellowship ($3000)**

**2012 Daniel S. Hart Scholarship to Outstanding Undergraduate- UGA Philosophy Department ($1000)**

**2010-2011** **Phi Sigma Tau (Philosophy Honors Society), UGA Chapter President**

**2008-12 HOPE Scholarship (Merit Based Full Tuition Scholarship)**

**RESEARCH:**

**2013- Graduate Research Assistant, Clinical and Cognitive Neuroscience Laboratory, Department of**

**Psychology, University of Georgia.**

**2011-2013 Research Assistant / Lab Manager, Clinical and Cognitive Neuroscience Laboratory**

**Department of Psychology, University of Georgia.**

**2011 Independent Researcher, Investigated the philosophical implications of dynamic system theory**

**and embodied cognition under the direction of Sarah Wright, Ph.D.-Department of Philosophy,**

**University of Georgia**

 **TEACHING:**

**2015 Graduate Teaching Assistant, Research Methods. UGA**

**2014 Graduate Teaching Assistant, Introduction to Psychology. UGA**

**2013 Graduate Teaching Assistant, Cognitive Psychology. UGA**

 **RESEARCH CLINICAL TRAINING:**

**2015 Trained to administer the Positive and Negative Syndrome Scale (PANSS)
2014 Trained to administer the Structured Clinical Interview for DSM Diagnosis (SCID)**

 **WORKSHOPS:**

**2016 Time Frequency Decomposition: Methods and Challenges. Society for Psychophysiology Annual Conference**

**2016 Advanced M/EEG Statistical Parametric Mapping (SPM) Workshop at Wellcome Trust Centre for Neuroimaging at the University City of London. May 14-16th**

**C. Contributions to Science:**

**PUBLISHED PAPERS:**

**Hamm, J.P., Bobilev, A.E., Hayrynen, L.K., Hudgens-Haney, M.E, Oliver, W.T., Parker, D.A., McDowell, J.E., Buckley, P.A, Clementz, B.A. (2015) Stimulus train duration moderates gamma-band auditory neural entrainment abnormalities in schizophrenia. Schizophrenia Research.**

**MANUSCRIPTS UNDER REVIEW:**

**Parker, D.A., Hamm J.P., McDowell, J.E., Keedy, S.K, Sweeney, J.A., Gershan, E.S., Ivena, E.I., Keshavan, M.S., Tamminga, C.A., Pearlson, G.D., Clementz, B.A. The Auditory Steady-State Response as a Psychosis-specific Biomarker: Deviant Auditory Steady State EEG Responses Identify Psychosis, not a conventional Diagnosis: Findings from Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP) Consortium**

**MANUSCRIPTS IN PREPARATION:**

**Parker, D.A., McDowell, J.E., Keedy, S.K, Sweeney, J.A., Gershan, E.S., Ivena, E.I., Keshavan, M.S., Tamminga, C.A., Pearlson, G.D., Clementz, B.A. Multivariate Investigations of Auditory Processing deviations in psychotic and non-psychotic bipolar disorder.**

**Thomas, O.F.\*, Parker, D.A., McDowell, J.E., Keedy, S.K, Sweeney, J.A., Gershan, E.S., Ivena, E.I., Keshavan, M.S., Tamminga, C.A., Pearlson, G.D., Clementz, B.A.** Intrinsic Resting State Activity as an External Validator of Biologically Derived Psychosis Subgroupings: Findings from Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP). **\*Co-first authors**.

**Parker, D.A., McDowell, J.E., Keedy, S.K, Sweeney, J.A., Gershan, E.S., Ivena, E.I., Keshavan, M.S., Tamminga, C.A., Pearlson, G.D., Clementz, B.A. The Visual Steady-State Response as a Psychosis-specific Biomarker: Deviant Visual Steady State EEG Responses Identify Psychosis, not a conventional Diagnosis: Findings from Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP) Consortium**

**Parker, D.A., Hamm J.P., McDowell, J.E., Clementz, B.A. Neural Investigations of Pre-stimulus activity during “GAP” paradigms.**

**SYPOSIUM PRESENTATIONS:**

**Parker, D.A.,** Trotti, R.L., McDowell, J.E, Keedy, S.E., Sweeney, J.A., Gershan E.S., Pearlson, G.D, Keshavan, M.S., Tamminga, C.A., Clementz, B.A (2018). Auditory and Visual EEG Validators of Psychosis Biotypes, Findings from Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP) Consortium. Talk presented at the symposium entitled, “Validation of Brain-Based Biotypes for Classification of Individuals on the Psychosis Spectrum: Findings from the B-SNIP Consortium” at the Society for Biological Psychiatry Annual Meeting.

**Parker, D.A.,** Hudgens-Haney, M.E.**,** Oliver, W.T., Hayrynen, L.K., Bobilev, A.M., Buckley, P.F., Clementz, B.A, McDowell, J.E..(2017). Measuring the Brain Before it acts: How Pre-Stimulus Neural Activity Shapes Cognitive Control in High and Low Working Memory Groups. Talk presented at Southeastern Psychological Association annual conference by The Society for Experimental Psychology and Cognitive Sciences conference (Symposium on Executive Control and Its Disorders).

**Parker, D.A**., Hamm J.P., McDowell, J.E., Clementz, B.A. (2013) Pre-trial alpha band dynamics affect saccadic reaction times as a function of temporal expectancy. Talk presented at the nanosymposum on Functional Mechanisms of Attention at the Society for Neurosciences Annual Conference.

**ORAL PRESENTATIONS:**

Clementz, B.A.\*, **Parker, D.A.,** Pearlson, G.D, Keshavan, M.S., Gershan E.S., Keedy, S.E., Ivleva, E.I., McDowell, J.E., Tamminga, C.A. (2018). Replication and Extension of Psychosis Biotypes: Findings from the

Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP) consortium. Talk presented at the annual Australian Psychosis Conference. **\*Major Contribution**

**Parker, D.A.,** McDowell, J.E., Keshavan, M.S., Pearlson, G.D, Keedy, S.E., Gershan E.S., Sweeney, J.A., Tamminga, C.A., Clementz, B.A. (2018). Multivariate Investigation of EEG Auditory Processing deviations in

psychotic, affective psychotic and non-psychotic affective disorders. Talk presented at the annual Australian Psychosis Conference.

**Parker, D.A.,** Kittle, F, McDowell, J.E, Sweeney, J.A., Keshavan, M.S., Tamminga, C.A., Pearlson, G.D, Clementz, B.A. (2017). Investigation of the Auditory Steady-State Response in Schizophrenia, Schizoaffective, Psychotic and Non-Psychotic Bipolar Disorders. Talk presented at the 16th International Congress on Schizophrenia Research.

**Parker, D.A.,** Hudgens-Haney, M.E., McDowell, J.E., Sabatinelli, D.,Keshavan, M.S., Tamminga, C.A., Pearlson, G.D, Clementz, B.A. (2016). Multivariate Discrimination of Neural Processing in Bipolar Disorder with or without Psychosis: Findings from the Bipolar & Schizophrenia Network on Intermediate Phenotypes. Talk presented at Society of Biological Psychiatry Annual Meeting.

**Parker, D.A.,** Hudgens-Haney, M.E., McDowell, J.E., Sabatinelli, D.,Keshavan, M.S., Tamminga, C.A., Pearlson, G.D., Clementz, B.A. (2016). Divergent neural processing in Bipolar Disorder with or without psychosis. Talk presented at 39th Annual Psi Chi Convention at UGA.

**Parker, D.A.,** Hudgens-Haney, M.E., Oliver, W.T., Hayrynen, L.K., Kinght, J.B., Bobilev, A.M., Hamm, J.P, Arkin, S.C, Buckley, P.F., McDowell, J.E., Clementz, B.A. (2015). Reduced Steady-State Phase Synchronization during a Cognitive Control task. Talk presented at the 15th International Congress on Schizophrenia Research.

**POSTERS:**

Edge, E, **Parker, D.A.,** Hamm, J.P., Buckley P.F., McDowell, J.E., Clementz, B.A. (2018).

Visual steady state response differences related to cognition rather than psychopathology. Poster presented at the Society for Psychophysiological Research Annual Meeting.

Thomas, O.F.\*, **Parker, D.A.,** McDowell, J.E, Keedy, S.E., Gershan E.S., Ivleva, E.I., Pearlson, G.D, Keshavan, M.S., Tamminga, C.A., Sweeney, J.A., Clementz, B.A (2018). Intrinsic Resting State Activity as an External Validator of Biologically Derived Psychosis Subgroupings: Findings from Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP). Poster presented at the Society for Psychophysiological Research Annual Meeting. **\*Mentored Poster**

Trotti, R.L., **Parker, D.A.,** Sabatinelli, D., Tamminga, C.A., **Gershan, E.S.,Keedy, S.E., Sweeney, J.A., Keshavan, M.S., Pearlson, G.D.,** McDowell, J.E., Clementz, B.A. (2018). Effect of Lithium on Emotional Processing in bipolar disorder with and without Psychosis: Findings from the Psychosis and Affective Research Domains and Intermediate Phenotypes Consortium. Poster presented at the Society for Psychophysiological Research Annual Meeting.

**Parker, D.A.,** McDowell, J.E, Keedy, S.E., Gershan E.S., Ivleva, E.I., Pearlson, G.D, Keshavan, M.S., Tamminga, C.A., Sweeney, J.A., Clementz, B.A (2018). Investigation of the Visual Steady-State Response as a Psychosis Biomarker: Findings from Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP) Consortium. Poster presented at the Society for Psychophysiological Research Annual Meeting.

Trotti, R.L., **Parker, D.A.,** Sabatinelli, D., Tamminga, C.A., **Gershan, E.S.,Keedy, S.E., Sweeney, J.A., Keshavan, M.S., Pearlson, G.D.,** McDowell, J.E., Clementz, B.A. (2018). Emotional processing in Bipolar Disorder With and Without Psychosis: Findings from the Psychosis and Affective Research Domains and Intermediate Phenotypes Consortium. Poster presented at Society of Biological Psychiatry Annual Meeting.

Schneider, Z\*, **Parker, D.A.,** Kittle, F McDowell, J.E, Sweeney, J.A., Keshavan, M.S., Tamminga, C.A., Pearlson, G.D, Clementz, B.A (2017). Investigation of the Visual Steady-State Response in Schizophrenia, Schizoaffective, Psychotic and Non-Psychotic Bipolar Disorders. Poster presented at the 16th International Congress on Schizophrenia Research. **\*Mentored Poster**

Huang, L.-Y.\*, **Parker,D.A,** Hill, S.K., Sweeney, J.A., Pearlson, C.A.,Tamminga,C.A., Keshavan, M.S., Clementz,B.A. (2016). Frontal Neural Dysfunction Implicated in Executive Inflexibility in Psychosis. Poster presented at Society for Neurosciences Annual conference. **\*Mentored Poster**

**Parker, D.A.**, McDowell, J.E., Sabatinelli, D.,Keshavan, M.S., Tamminga, C.A., Pearlson, G.D, Clementz, B.A (2016). Auditory Steady-State Response in Bipolar Disorder with or without Psychosis: Findings from the Bipolar & Schizophrenia Network on Intermediate Phenotypes. Poster presented at Society of Psychophysiological Research Annual Meeting.

Hart, R.,Bobilev, A., Oliver, W., Hudgens-Haney, M., Hayrynen, L., **Parker, D.A.,** Buckley, P., McDowell, J. & Clementz, B.A. (2015). Resting state oscillatory activation associated with schizophrenia and high and low cognitive control. Poster presented at Society for Neuroscience annual conference.

Oliver, W., Hamm, J., Bobilev, A., Hudgens-Haney, M., Hayrynen, L., **Parker, D.A,** Hart, R., Buckley, P., Sweeney, J., McDowell, J., & Clementz, B. (2015) Neural oscillatory patterns during sustained visual attention task in schizophrenia and high/low cognitive control. Poster presented at the Society for Psychophysiological Research Annual Meeting.

**Parker, D.A.,** Hudgens-Haney, M.E., Oliver, W.T., Hayrynen, L.K., Kinght, J.B., Bobilev, A.M., Hamm, J.P, Arkin, S.C, Buckley, P.F., McDowell, J.E., Clementz, B.A. (2014). Alpha band dynamics in Schizophrenia during an ocular motor inhibition task. Poster presented at Society for Psychophysiological Research Annual Conference.

Arkin, S., Bobilev, A., Rodrigue, A., Oliver, W., Hudgens-Haney, M., Schaeffer, D., Hayrynen, L., Hamm, J.,

**Parker, D.A.,** Weinberger, A., McDowell, J., & Clementz, B.A. (2014) Resting state neural activity analysis between schizophrenia patients and high and low working memory capacity controls via EEG and fMR techniques. Poster presented at BIRC SEC mini-conference, Athens, GA.

 **UNDERGRADUATE PRESENTATIONS:**

**Parker, D.A.,** Hamm J.P., Clementz, B.A. McDowell, JE. (2013) Investigating the GAP effect in the Generation of Express Saccades. Talk presented at the Center for Undergraduate Research Opportunities Symposium at the University of Georgia.

**Parker, D.A.,** Schaefer, D. J., McDowell, JE. (2012)The effects of Volume Removal on Fractional Anisotropy. Talk and Poster presented at the Center for Undergraduate Research Opportunities Symposium at the University of Georgia.

**Parker, D.A.** (2011) Is Embodied Cognition an Alternative Theory of Cognition? Talk Presented at the Classic City Undergraduate Philosophy Conference at University of Georgia.

**D. SERVICE:
PROFESSIONAL ORGANIZATIONS:**

**2014-Present Society for Psychophysiological Research**

 **2016- Committee to Promote Student Interests**

**2013-Present Society for Neuroscience**

**2010-Present Phi Sigma Tau, UGA Chapter President 2010-11**

**2010-11 Dean’s Student Advisory Board Representative for Cognitive Science Majors**

**REVIEWER:**

**Psychiatry Research: Neuroimaging**

**MENTORED STUDENTS (Significantly contributed to training and overseeing research projects):**

**Olivia Thomas, Connor Lawhead, Megan Rogers, Lingyu Huang, Rebekah Trotti, Meagan Buford, Zoe Shneider, Tiffany Javadi, Mitra Kumareswaran, Ian Berger.**

**UGA BIOIMAGING RESEARCH CENTER:
Monitored and maintained MEG liquid helium levels.**

**LAST UPDATED: 7/3/2018**