

# Arushi Badola

(she/her/hers)

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(330)-949-0532

## EDUCATION

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**Bachelor of Science**, The Ohio State University, Columbus, Ohio

Major: Behavioral/Systems Neuroscience

Minors: Psychology, Philosophy

3.645 Major GPA | 4.000 Psychology Minor GPA | 3.925 Philosophy Minor GPA | 3.660 Overall GPA | May 2023

Graduate Non-Degree | 4.000 GPA | May 2025

### Awards and Distinctions:

Cum Laude Distinction

Dean's List

Merit Scholarship

## PUBLICATIONS

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**Badola, A.\***, Yu, W.\* & King, A. P. (2025, June). *Mindfulness-based interventions for psychological trauma and posttraumatic stress disorder (PTSD)*. In Current Treatment Options in Psychiatry: Mindfulness and Compassion (Vol. 12). Springer.

**Badola, A.**, King, A. P. (manuscript in prep). *Altered Resting State Functional Connectivity Between Subgenual ACC, Default Mode Network, Salience Network, and Limbic System in Adults with Posttraumatic Stress Disorder and History of Childhood Maltreatment*.

**Badola, A.\***, Yu, W.\* & King, A. P. (manuscript in prep). *Effects of Mindfulness-Based Cognitive Therapy and Single-Session IV Ketamine on Treatment-Resistant Depression*.

## SELECTED POSTERS & PRESENTATIONS

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**Badola, A.**, Yu, W., Lazarus, S., Duchemin, A.-M., Virk, S., Esis, V., & King, A. P. (2025, November). *Rapid and longitudinally sustained antidepressant effects of ketamine-assisted MBCT for treatment-resistant depression*. Poster presented at the Institute for Behavioral Medicine Research Day, Columbus, OH.

Thotapalli, S., Yu, W., **Badola, A.**, Jiang, M., King, A. P. (2025, November). *Postural Heart Rate Variability and PTSD Symptom Change in a Pilot Study of Mindfulness-Based Cognitive Therapy*. Poster presented at the Institute for Behavioral Medicine Research Day, Columbus, OH.

**Badola, A.**, Yu, W., & King, A. P. (2025, May). *Mindfulness-based intervention effects on DMN cross-network resting functional connectivity associated with symptom improvement*. Poster presented at the Early Psychosis Intervention Center (EPICENTER) Research Day, Columbus, OH.

Yi, W., **Badola, A.**, Lazarus, S., Duchemin, A.-M., Virk, S., & King, A. P. (2024–2025). *Pilot study: Ketamine-assisted mindfulness-based cognitive therapy for treatment-resistant depression*. Poster presented at the Institute for Behavioral Medicine Research Day (Nov 2024, Columbus, OH), Neuroscience Research Institute Research Day (Nov 2024, Columbus, OH), Anxiety and Depression Association of America Conference (Mar 2025, Las Vegas, NV), and the Society of Biological Psychiatry Conference (Apr 2025, Toronto, Canada). Updated to include results from a second cohort and 2-month follow-up analyses.

**Badola, A.**, Jagan, J., Madhvan, S., Hosterman, G., & King, A. P. (2023–2025). *Aberrant functional connectivity (rsFC) between subgenual ACC and default mode network in adults with a history of childhood maltreatment*. Poster presented at The Ohio State University's Cognitive Center for Brain Imaging Research Day (Dec 2023), Anxiety and Depression Association of America Conference (Apr 2024, Boston, MA; Mar 2025, Las Vegas, NV), Institute for Behavioral Medicine

Research Day (Nov 2024, Columbus, OH), Neuroscience Research Institute Research Day (Nov 2024, Columbus, OH), and the Society of Biological Psychiatry Conference (Apr 2025, Toronto, Canada). Includes independent replication across two sites and additional seed-based rsFC analyses of amygdala–rACC connectivity.

King, A. P., **Badola, A.**, Thompson, M., & Langenecker, S. (2025). *Psychotherapy leads to altered cross-network connectivity of posterior cingulate (PCC) with frontal cortex / central executive network: Replications in five independent studies with two independent pre-registered hypotheses*. Poster presented at the Anxiety and Depression Association of America (ADAA) Conference, Las Vegas, NV (March 2025); and the Society of Biological Psychiatry (SOBP) Conference, Toronto, Canada (April 2025).

King, A. P., **Badola, A.**, & Hosterman, G. R. (2024, April). *Altered dynamic functional neural connectivity (dFNC) in a brain state involving default mode (DMN) and fronto-parietal (FPN) network connectivity in acute mindfulness and after 8-week mind-body intervention in PTSD patients*. Poster presented at the Anxiety and Depression Association of America (ADAA) Conference, Boston, MA.

Hosterman, G. R., **Badola, A.**, Lazarus, S., & King, A. P. (2024, April). *The mediating role of self-compassion, psychological inflexibility, mindfulness, and emotional regulation on the relationship between childhood emotional maltreatment and adult PTSD symptom severity*. Poster presented at the Anxiety and Depression Association of America (ADAA) Conference, Boston, MA.

**Badola, A.**, Maryanna Klatt (2023, April). *Mindfulness in Motion targeted to sustaining the mental and physical resilience of first responders and health system employees*. Poster presented at The Ohio State University's Spring Undergraduate Research Festival, Columbus, OH.

## WORK EXPERIENCE

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### Lab Manager and Senior Clinical Research Assistant

July 2023 – Present

The Ohio State University Mindfulness Lab

*Department of Psychiatry and Behavioral Health, Institute for Behavioral Medicine Research, Columbus, OH*

Primary Investigator: Anthony P. King, PhD

- Coordination of Mindfulness-Based Cognitive Therapy (MBCT) for Posttraumatic Stress Disorder (PTSD) Study and Ketamine-Assisted Mindfulness-Based Cognitive Therapy (MBCT) for Treatment-Resistant Depression Study:
  - Assisted with grant application writing
  - Developed IRB protocols and managed all compliance documentation
  - Recruited, screened, and consented participants
  - Development of EEG tasks (Neuro Behavioral Systems Presentation Software)
  - Conducted 30 fMRI rest and task sessions (E-Prime)
  - Conducted 40 EEG rest and task sessions (ActiView)
  - Performed Montgomery-Asberg Depression Rating Scale (MADRS) assessments with over 100 hours of clinical interviewing experience
  - Collected saliva samples and heart rate variability data (MoviSens)
  - Created and managed all data collection databases (Qualtrics, REDCap, Ecological Momentary Assessment, IHIS)
  - Lead participants through body scan exercise at the start of their ketamine infusion session
  - Scheduled and attended all MBCT sessions as a participant learner
- State of Ohio Adversity and Resiliency Study (SOAR). *A state-wide, state-funded, multigenerational, deep-phenotyping study to uncover the biological, psychological, and social patterns related to mental health as well as modifiable risk and resiliency factors of mental illness with up to 3,600 participants.*
  - Served as the first research assistant on the project
  - Conducted 50 participant sessions with families (ages 12+) both in Columbus and rural, Appalachian communities:
    - Multimodal fMRI and EEG
    - Neuropsychological testing for memory, attention, executive functioning, inhibitory control
    - Interview, questionnaires, an Ecological Momentary Assessment (EMA)
    - Blood biomarkers

- Developed protocols and SOPs; planned all logistical aspects of study sessions, data collection, and data management
- Adapted EEG paradigms for use in Presentation software, first-line technical support for EEG sessions
- Trained new team members
- Data Analysis and Manuscript Preparation:
  - Conducted first-level and group-level fMRI preprocessing and analysis (fMRIprep, FSL, SPM12, ENIGMA HALFpipe)
  - Performed seed-based functional connectivity analyses (SPM, MarsBaR)
  - Applied Group Iterative Multiple Model Estimation (GIMME) for network-level modeling
  - Conducted ANOVA, linear regression, and time-lagged analyses in R
  - Assisted with EEG preprocessing and analysis (EEGLab)
  - Processed and analyzed heart rate variability (HRV) data
  - Cleaned, managed, and analyzed behavioral self-report data in R
  - Developed HPC-automated neuroimaging preprocessing workflows involving DICOM-to-NIfTI conversion for over 100 participants
  - Contributed to manuscript writing, reviewing, and submission
- Other Collaborative Projects:
  - Adapted Mindfulness-Based Cognitive Therapy protocol for community members in partnership with the Columbus Free Clinic
  - Drafted IRB proposal for Intensive Outpatient Program/ Partial Hospitalization Program Patient Satisfaction Study
- Lab Management, Business Operations:
  - Managed data use agreements for all members of ENIGMA-Meditation
  - Registered new studies on clinicaltrials.gov
  - Trained, supervised, and mentored 1 research assistant and 8 undergraduate research assistants
  - Designed lab manuals, video tutorials, data collection forms, and study flyers
  - Submitted requisitions for lab purchases, spend authorizations, and expense reports (Workday)
  - Scheduled all meetings and wrote meeting minutes

#### **Student Research Assistant**

April 2022 – May 2023

*The Ohio State University Department of Family Medicine, Columbus, OH*

Primary Investigator: Maryanna Klatt, PhD

- Consented and collected clinical data for a brief mindfulness intervention study for pre-operative patients
- Collected data for Mindfulness in Motion Program for a healthcare workers using Oura Rings to track HRV
- Completed systematic reviews using Covidence and scoping reviews with Web of Science
- Produced visual media for PODS Grant, MIM Program app, and formal presentations at conferences
- Transcribed structured interviews of first responders (EnVivio)

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## **TECHNICAL SKILLS**

**Quantitative & Analysis:** R, SPSS, MATLAB, UNIX/Bash, FSL, SPM12, MarsBaR, fMRIprep, ENIGMA HALFpipe, EEGLAB, GIMME, Neuroimaging, Neuroinformatics (SLURM/HPC)

**Research Tools:** ActiView, Neuro Behavioral Systems Presentation Software, REDCap, EMA, IHIS, Qualtrics, MoviSens, Zotero, EnVIVO, Excel

**Clinical Tools:** MADRS, MINI, CAPS-5, SCID, NIH Toolbox, Pavlovia

**Neuropsychological Tests:** WASI-II Matrix Reasoning Task, Rey Auditory Verbal Learning Task (RAVLT), Parametric Go/No-Go (PGNG), Balloon Analogue Response Task (BART), Dimensional Change Card Sort, Picture Sequence Memory, Oral Reading Recognition

**EEG Tasks:** “Doors” Reward Task, Flankers ERN Task, Neutral Predictable Unpredictable (NPU) Threat Task, Emotion Regulation Task, Auditory LTP Task

**fMRI Tasks:** Emotional Face Assessment Task (EFAT), “Words” Task, Neutral Predictable Unpredictable (NPU) Threat Task, Rumination Induction Task

## CERTIFICATIONS

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EMBARK Psychedelic-Assisted Therapy for Major Depression, CAPS-5 Training Certification (U.S. Department of Veterans Affairs), Integrated Health Information System (IHIS), MRI Safety Training Levels 1 & 2, CITI Program Certifications (Human Subjects Protection, Responsible Conduct of Research)

## COMMUNITY ENGAGEMENT & VOLUNTEERING

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### **Columbus Free Clinic**, Program Coordinator

*Helped adapt MBCT into a community-based program for patients with limited access to healthcare. (2024, October)*

### **Mental Health Expo**, Volunteer

*The James Cancer Hospital and Solove Research Institute, Columbus, OH (2024, May)*

### **Black Men's Wellness 5k Run**, Volunteer

*Livingston Park, Columbus, OH (2024, August)*

## STUDENT ORGANIZATIONS

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### **Philosophy Club**, Columbus, OH

August 2020 – May 2023

*Title: President*

Held weekly meetings to discuss philosophical theories, papers, media, and engaged in spirited debates with professors and graduate students. Invited professors from different departments to present and organized social events for club members.

### **Buckeye Fusion All-Female Competitive Dance Team**, Columbus, OH

September 2019 – May 2022

*Title: Lead Dancer*

OSU inter-collegiate dance team. Choreography and music combined several dance forms including contemporary, hip-hop, bhangra, South Indian, Bollywood, and classical dance.

### **Neuro-Law**, Columbus, OH

January 2021 – October 2021

*Title: Vice-President*

Held bi-weekly meetings to discuss topics at the intersection of neuroscience, law, public policy and philosophy.

### **BRAIN OSU**, Columbus, OH

August 2020 – September 2021

*Title: Board Member*

Brains Raising Awareness In Neuroscience. Promoted awareness about neurological diseases and raised money for those affected by traumatic brain injuries. Volunteered and organized fundraisers and outreach programs.

## RELEVANT COURSEWORK

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Introduction to fMRI, Memory and Cognition, Abnormal Psychology, Advanced Behavioral Neuroscience, Cognitive Neuroscience, Hormones and Behavior, Cellular and Molecular Neuroscience, Structure and Function of the Nervous System, Research Methods, Data Analysis in Psychology