

## SAEED ABDULLAH

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2017 – **Assistant Professor**  
College of Information Sciences and Technology  
Penn State University

## EDUCATION

2011 – 2017 **Doctor of Philosophy, Information Science, Cornell University**  
2009 – 2011 **Master of Science, Computer Science, University of Vermont**  
2003 – 2007 **Bachelor of Science, Computer Science & Engineering,  
Bangladesh University of Engineering & Technology**

## PUBLICATIONS

### JOURNAL ARTICLES

- 2024 J20 **Conversational Agents in Palliative Care: Potential Benefits, Risks, and Next Steps**  
Yael Schenker, SAEED ABDULLAH, Robert Arnold, and Kathryn Schmitz  
*Journal of Palliative Medicine*  
DOI: [10.1089/jpm.2023.0534](https://doi.org/10.1089/jpm.2023.0534)
- 2023 J19 **Designing voice interfaces to support mindfulness-based pain management**  
Sanjana Mendu, Sebrina Doyle Fosco, Stephanie Lanza, and SAEED ABDULLAH  
*DIGITAL HEALTH*  
DOI: [10.1177/20552076231204418](https://doi.org/10.1177/20552076231204418)
- J18 **Busting the one-voice-fits-all myth: Effects of similarity and customization of voice-assistant personality**  
Eugene Snyder, Sanjana Mendu, S. Shyam Sundar, and SAEED ABDULLAH  
*International Journal of Human-Computer Studies*  
DOI: [10.1016/j.ijhcs.2023.103126](https://doi.org/10.1016/j.ijhcs.2023.103126)
- J17 **Technology Based Supportive Care for Metastatic Breast Cancer Patients**  
Kathryn Schmitz, Beth Kanski, Brett Gordon, Maxime Caru, Monali Vasakar, Cristina Truica, Ming Wang, Shawna Doerksen, Abby Lorenzo, Renate Winkels, Ling Qiu, and SAEED ABDULLAH  
*Supportive Care in Cancer*  
DOI: [10.1007/s00520-023-07884-3](https://doi.org/10.1007/s00520-023-07884-3)

- J16 **Preliminary Evaluation of a Conversational Agent to Support Self-management of Individuals Living with PTSD: An Interview Study with Clinical Experts**  
Hee Jeong Han, Sanjana Mendu, Beth K Jaworski, Jason E Owen, and SAEED ABDULLAH  
*JMIR Formative Research*  
DOI: [10.2196/45894](https://doi.org/10.2196/45894)
- J15 **Women with metastatic breast cancer don't just follow step-count trends, they exceed them: An exploratory study**  
Maxime Caru, SAEED ABDULLAH, Ling Qiu, Bethany Kanski, Brett Gordon, Cristina Truica, Monali Vasakar, Shawna Doerksen, and Kathryn Schmitz  
*Breast Cancer Research and Treatment*  
DOI: [10.1007/s10549-023-06980-6](https://doi.org/10.1007/s10549-023-06980-6)
- J14 **Addressing metastatic individuals everyday: Rationale and design of the nurse AMIE for Amazon Echo Show trial among metastatic breast cancer patients**  
Brett Gordon, Ling Qiu, Shawna Doerksen, Bethany Kanski, Abigail Lorenzo, Cristina Truica, Monali Vasekar, Ming Wang, Renate Winkels, SAEED ABDULLAH, and Kathryn Schmitz  
*Contemporary Clinical Trials Communications*  
DOI: [10.1016/j.conctc.2023.101058](https://doi.org/10.1016/j.conctc.2023.101058)
- 2022 J13 **Financial technologies (FinTech) for mental health: The potential of objective financial data to better understand the relationships between financial behavior and mental health**  
Johnna Blair, Jeff Brozena, Mark Matthews, Thomas Richardson, and SAEED ABDULLAH  
*Frontiers in Psychiatry*  
DOI: [10.3389/fpsy.2022.810057](https://doi.org/10.3389/fpsy.2022.810057)
- J12 **Alexa as an Active Listener: How Backchanneling Can Elicit Self-Disclosure and Promote User Experience**  
Eugene Cho, Nasim Motalebi, S. Shyam Sundar, and SAEED ABDULLAH  
*Proceedings of the ACM on Human-Computer Interaction (PACM HCI)*  
DOI: [10.1145/3555164](https://doi.org/10.1145/3555164)
- J11 **Overcoming Clinician Technophobia: What We Learned from Our Mass Exposure to Telehealth During the COVID-19 Pandemic**  
Andrew Sherrill, Christopher Wiese, SAEED ABDULLAH, and Rosa Arriaga  
*Journal of Technology in Behavioral Science*  
DOI: [10.1007/s41347-022-00273-3](https://doi.org/10.1007/s41347-022-00273-3)
- J10 **Understanding Design Approaches and Evaluation Methods in mHealth Apps Targeting Substance Use: Protocol for a Systematic Review**

Sahiti Kunchay, Ashley N Linden-Carmichael, Stephanie T Lanza, and SAEED ABDULLAH  
*JMIR Research Protocols*  
 DOI: [10.2196/35749](https://doi.org/10.2196/35749)

- 2021 J09 **A Query Conundrum: The Mental Challenges of Using a Cognitive Assistant**  
 Torsten Maier, SAEED ABDULLAH, Christopher McComb, and Jessica Menold  
*SN Computer Science*  
 DOI: [10.1007/s42979-021-00621-9](https://doi.org/10.1007/s42979-021-00621-9)
- 2020 J08 **“It Didn’t Sound Good with My Cochlear Implants”: Understanding the Challenges of Using Smart Assistants for Deaf and Hard of Hearing Users**  
 Johnna Blair and SAEED ABDULLAH  
*Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*  
 DOI: [10.1145/3432194](https://doi.org/10.1145/3432194)
- 2018 J07 **Sensing Technologies for Monitoring Serious Mental Illnesses**  
 SAEED ABDULLAH and Tanzeem Choudhury  
*IEEE Multimedia — Special Issue on New Signals in Multimedia*  
 DOI: [10.1109/MMUL.2018.011921236](https://doi.org/10.1109/MMUL.2018.011921236)
- J06 **Personalized stress monitoring: a smartphone-enabled system for quantification of salivary cortisol**  
 Elizabeth Rey, Aadhar Jain, SAEED ABDULLAH, Tanzeem Choudhury, and David Erickson  
*Personal and Ubiquitous Computing*  
 DOI: [10.1007/s00779-018-1164-z](https://doi.org/10.1007/s00779-018-1164-z)
- 2017 J05 **Semi-Automated Tracking: A Balanced Approach for Self-Monitoring Applications**  
 Eun Kyoung Choe, SAEED ABDULLAH, Mashfiqui Rabbi, Edison Thomaz, Daniel Epstein, Matthew Kay, Felicia Cordeiro, Gregory Abowd, Tanzeem Choudhury, James Fogarty, Bongshin Lee, Mark Matthews, and Julie Kientz  
*IEEE Pervasive Computing*  
 DOI: [10.1109/MPRV.2017.18](https://doi.org/10.1109/MPRV.2017.18)
- 2016 J04 **Development and Evaluation of a Smartphone-Based Measure of Social Rhythms for Bipolar Disorder**  
 Mark Matthews, SAEED ABDULLAH, Geri Gay, and Tanzeem Choudhury  
*Assessment (ASM)*  
 DOI: [10.1177/1073191116656794](https://doi.org/10.1177/1073191116656794)

- J03    **Automatic detection of social rhythms in bipolar disorder**  
 SAEED ABDULLAH, Mark Matthews, Ellen Frank, Gavin Doherty, Geri Gay,  
 and Tanzeem Choudhury  
*Journal of the American Medical Informatics Association (JAMIA)*  
 DOI: [10.1093/jamia/ocv200](https://doi.org/10.1093/jamia/ocv200)
- 2015    J02    **Mobile Behavioral Sensing for Outpatients and Inpatients With Schizophrenia**  
 Dror Ben-Zeev, Rui Wang, SAEED ABDULLAH, Rachel Brian, Emily Scherer,  
 Lisa Mistler, Marta Hauser, John Kane, Andrew Campbell, and Tanzeem Choudhury  
*Psychiatric Services*  
 DOI: [10.1176/appi.ps.201500130](https://doi.org/10.1176/appi.ps.201500130)
- 2014    J01    **Tracking Mental Well-Being: Balancing Rich Sensing and Patient Needs**  
 Mark Matthews, SAEED ABDULLAH, Geri Gay, and Tanzeem Choudhury  
*IEEE Computer*  
 DOI: [10.1109/MC.2014.107](https://doi.org/10.1109/MC.2014.107)
- CONFERENCE PAPERS
- 2024    C24    **Supportive Fintech for Individuals with Bipolar Disorder: Financial Data Sharing Preferences to Support Longitudinal Care Management**  
 Jeff Brozena<sup>†</sup>, Johnna Blair<sup>†</sup>, Thomas Richardson, Mark Matthews, Dahlia Mukherjee, Erika Saunders, and SAEED ABDULLAH  
*CHI Conference on Human Factors in Computing Systems*  
 Acceptance rate: 26.3% • DOI: [10.1145/3613904.3642645](https://doi.org/10.1145/3613904.3642645)  
<sup>†</sup>: equal contribution
- 2023    C23    **Differential Privacy enabled Dementia Classification: An Exploration of the Privacy-Accuracy Trade-off in Speech Signal Data**  
 Suhas BN, Sarah Rajtmajer, and SAEED ABDULLAH  
*INTERSPEECH*  
 DOI: [10.21437/Interspeech.2023-575](https://doi.org/10.21437/Interspeech.2023-575)
- C22    **Knowing How Long a Storm Might Last Makes it Easier to Weather: Exploring Needs and Attitudes Toward a Data-driven and Preemptive Intervention System for Bipolar Disorder**  
 Johnna Blair, Dahlia Mukherjee, Erika Saunders, and SAEED ABDULLAH  
*CHI Conference on Human Factors in Computing Systems*  
 Acceptance rate: 28.39% • DOI: [10.1145/3544548.3581563](https://doi.org/10.1145/3544548.3581563)
- C21    **Motivation to Use Fitness Application for Improving Physical Activity Among Hispanic Users: The Pivotal Role of Interactivity and Relatedness**

Maria Molina, Emily Zhan, Devanshi Agnihotri, SAEED ABDULLAH, and Pallav Deka

*CHI Conference on Human Factors in Computing Systems*

Acceptance rate: 28.39% • DOI: [10.1145/3544548.3581200](https://doi.org/10.1145/3544548.3581200)

- 2022 C20 **Privacy Sensitive Speech Analysis Using Federated Learning To Assess Depression**  
Suhas BN and SAEED ABDULLAH  
*The IEEE International Conference on Acoustics, Speech, & Signal Processing (ICASSP)*  
Acceptance rate: 45% • DOI: [10.1109/ICASSP43922.2022.9746827](https://doi.org/10.1109/ICASSP43922.2022.9746827)
- 2021 C19 **Assessing effectiveness and interpretability of light behaviors in smart speakers**  
Sahiti Kunchay and SAEED ABDULLAH  
*Conversational User Interfaces*  
Acceptance rate: 29% • DOI: [10.1145/3469595.3469610](https://doi.org/10.1145/3469595.3469610)
- 2020 C18 **Alexa as Coach: Leveraging Smart Speakers to Build Social Agents that Reduce Public Speaking Anxiety**  
Jinping Wang, Hyun Yang, Ruosi Shao, SAEED ABDULLAH, and S. Shyam Sundar  
*CHI Conference on Human Factors in Computing Systems*  
Acceptance rate: 24.31% • DOI: [10.1145/3313831.3376561](https://doi.org/10.1145/3313831.3376561)
- ★ C17 **Will Deleting History Make Alexa More Trustworthy? Effects of Privacy and Content Customization on User Experience of Smart Speakers**  
Eugene Cho, S. Shyam Sundar, SAEED ABDULLAH, and Nasim Motalebi  
*CHI Conference on Human Factors in Computing Systems*  
Acceptance rate: 24.31% • DOI: [10.1145/3313831.3376551](https://doi.org/10.1145/3313831.3376551)  
HONORABLE MENTION (TOP 5% OF SUBMISSIONS)
- 2018 C16 **AlertnessScanner: What Do Your Pupils Tell About Your Alertness**  
Vincent Tseng, SAEED ABDULLAH, Jean Costa, and Tanzeem Choudhury  
*Conference on human-computer interaction with mobile devices and services (MobileHCI)*  
Acceptance rate: 24.5% • DOI: [10.1145/3229434.3229456](https://doi.org/10.1145/3229434.3229456)
- C15 **Understanding Challenges in Prehabilitation for Patients with Multiple Chronic Conditions**  
Haining Zhu, Zachary Moffa, Xiyang Wang, SAEED ABDULLAH, Juxihong Julaiti, and John Carroll  
*Pervasive Health*  
Acceptance rate: 24% • DOI: [10.1145/3240925.3240959](https://doi.org/10.1145/3240925.3240959)

- 2016 C14 **Cognitive Rhythms: Unobtrusive and Continuous Sensing of Alertness Using a Mobile Phone**  
 SAEED ABDULLAH, Elizabeth Murnane, Mark Matthews, Matthew Kay, Julie Kientz, Geri Gay, and Tanzeem Choudhury  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*  
 Acceptance rate: 23% • DOI: [10.1145/2971648.2971712](https://doi.org/10.1145/2971648.2971712)
- C13 **Shining (Blue) Light on Creative Ability**  
 SAEED ABDULLAH, Mary Czerwinski, Gloria Mark, and Paul Johns  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*  
 Acceptance rate: 23% • DOI: [10.1145/2971648.2971751](https://doi.org/10.1145/2971648.2971751)
- C12 **CrossCheck: Toward passive sensing and detection of mental health changes in people with schizophrenia**  
 Rui Wang, Min Aung, SAEED ABDULLAH, Dror Ben-Zeev, Rachel Brian, Andrew Campbell, Tanzeem Choudhury, Marta Hauser, John Kane, Michael Merrill, Emily Scherer, and Vincent Tseng  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*  
 Acceptance rate: 23% • DOI: [10.1145/2971648.2971740](https://doi.org/10.1145/2971648.2971740)
- ★ C11 **Mobile manifestations of alertness: Connecting biological rhythms with patterns of smartphone app use**  
 Elizabeth Murnane, SAEED ABDULLAH, Mark Matthews, Matthew Kay, Julie Kientz, Geri Gay, Tanzeem Choudhury, Dan Cosley  
*Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)*  
 Acceptance rate: 23.5% • DOI: [10.1145/2935334.2935383](https://doi.org/10.1145/2935334.2935383)  
 BEST PAPER AWARD (TOP 2 PAPERS)
- C10 **Detecting and Capitalizing on Physiological Dimensions of Psychiatric Illness**  
 Mark Matthews, SAEED ABDULLAH, Geri Gay, and Tanzeem Choudhury  
*Conference on Physiological Computing Systems (PhyCS)*  
 DOI: [10.5220/0005952600980104](https://doi.org/10.5220/0005952600980104)
- 2015 C09 **Social (Media) Jet Lag: How Usage of Social Technology Can Modulate and Reflect Circadian Rhythms**  
 Elizabeth Murnane, SAEED ABDULLAH, Mark Matthews, Tanzeem Choudhury, and Geri Gay  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*  
 Acceptance rate: 23% • DOI: [10.1145/2750858.2807522](https://doi.org/10.1145/2750858.2807522)
- C08 **In Situ Design for Mental Illness: Considering the Pathology of Bipolar Disorder in mHealth Design**  
 Mark Matthews, Stephen Volda, SAEED ABDULLAH, Gavin Doherty, Tanzeem

Choudhury, Sangha Im, and Geri Gay  
*Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)*  
 Acceptance rate: 27% • DOI: [10.1145/2785830.2785866](https://doi.org/10.1145/2785830.2785866)

C07 **Collective Smile: Measuring Societal Happiness from Geolocated Images**  
 SAEED ABDULLAH, Elizabeth Murnane, Jean Costa, and Tanzeem Choudhury  
*Conference on Computer Supported Cooperative Work & Social Computing (CSCW)*  
 Acceptance rate: 28% • DOI: [10.1145/2675133.2675186](https://doi.org/10.1145/2675133.2675186)

C06 **MoodLight: Exploring Personal and Social Implications of Ambient Display of Biosensor Data**  
 Jaime Snyder, Mark Matthews, Jacqueline Chien, Pamara Chang, Emily Sun, SAEED ABDULLAH, and Geri Gay  
*Conference on Computer Supported Cooperative Work & Social Computing (CSCW)*  
 Acceptance rate: 28% • DOI: [10.1145/2675133.2675191](https://doi.org/10.1145/2675133.2675191)

2014 C05 **Towards Circadian Computing: “early to bed and early to rise” makes some of us unhealthy and sleep deprived**  
 SAEED ABDULLAH, Mark Matthews, Elizabeth Murnane, Geri Gay, and Tanzeem Choudhury  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*  
 Acceptance rate: 20% • DOI: [10.1145/2632048.2632100](https://doi.org/10.1145/2632048.2632100)

2012 C04 **Towards Population Scale Activity Recognition: A Framework for Handling Data Diversity**  
 SAEED ABDULLAH, Nicholas Lane, and Tanzeem Choudhury  
*AAAI Conference on Artificial Intelligence*  
 Acceptance rate: 26% • DOI: [10.5555/2900728.2900849](https://doi.org/10.5555/2900728.2900849)

2011 C03 **An Epidemic Model for News Spreading on Twitter**  
 SAEED ABDULLAH and Xindong Wu  
*Conference on Tools with Artificial Intelligence (ICTAI)*  
 Acceptance rate: 23% • DOI: [10.1109/ICTAI.2011.33](https://doi.org/10.1109/ICTAI.2011.33)

2009 C02 **Evolving Multilayer Neural Networks using Permutation free Encoding Technique**  
 Anupam Das and SAEED ABDULLAH  
*Conference on Artificial Intelligence (ICAI)*  
 Acceptance rate: 23%

2008 C01 **Permutation Free Encoding Technique for Evolving Neural Networks**  
 Anupam Das, Shohrab Hossain, SAEED ABDULLAH, and Rashed Ul Islam

*International Symposium on Neural Networks (ISNN)*

Acceptance rate: 23% • DOI: [10.1007/978-3-540-87732-5\\_29](https://doi.org/10.1007/978-3-540-87732-5_29)

#### BOOK CHAPTERS

- 2021      B02      **Ubiquitous computing for person-environment research: Opportunities, considerations, and future directions**  
Sumer Vaid, SAEED ABDULLAH, Edison Thomaz, and Gabriella Harari  
*Measuring and Modeling Persons and Situations*  
DOI: [10.1016/B978-0-12-819200-9.00020-X](https://doi.org/10.1016/B978-0-12-819200-9.00020-X)
- 2017      B01      **Circadian Computing: Sensing, Modeling, and Maintaining Biological Rhythms**  
SAEED ABDULLAH, Elizabeth Murnane, Mark Matthews, and Tanzeem Choudhury  
*Mobile Health: Sensors, Analytic Methods, and Applications*  
DOI: [10.1007/978-3-319-51394-2\\_3](https://doi.org/10.1007/978-3-319-51394-2_3)

#### WORKSHOP PAPERS & ABSTRACTS

- 2024      W23      **Managing Finances for Persons Living with Dementia: Current Practices and Challenges for Care Partners**  
Ling Qiu<sup>†</sup>, Johnna Blair<sup>†</sup>, and SAEED ABDULLAH  
*Late-Breaking paper at the CHI Conference on Human Factors in Computing Systems*  
Acceptance rate: 33.88% • DOI: [10.1145/3613905.3650809](https://doi.org/10.1145/3613905.3650809)  
<sup>†</sup>: equal contribution
- 2023      W22      **Fintech for Psychological and Financial Resilience: Determinants of Financial Data Sharing Behavior for Individuals with Bipolar Disorder**  
Jeff Brozena, Johnna Blair, Thomas Richardson, Mark Matthews, Dahlia Mukherjee, Erika Saunders, and SAEED ABDULLAH  
*Designing for and Reflecting upon Resilience in Health and Wellbeing workshop at DIS*
- W21      **Designing to Support Longitudinal Financial Management and Resilience for Persons Living with Dementia and their Care Partners: Identifying User Needs and Challenges**  
Ling Qiu, SAEED ABDULLAH  
*Designing for and Reflecting upon Resilience in Health and Wellbeing workshop at DIS*



- W20 **Designing for and Reflecting upon Resilience in Health and Wellbeing**  
Xinning Gui, Yuhan Luo, Xianghua Sharon Ding, SAEED ABDULLAH, Emma Dixon, Shaowen Bardzell  
*Designing Interactive Systems (DIS)*  
DOI: [10.1145/3563703.3591456](https://doi.org/10.1145/3563703.3591456)
- W19 **Supportive Data-Driven Financial Technologies for Individuals with Serious Mental Illnesses**  
Johnna Blair, Jeff Brozena, Mark Matthews, Thomas Richardson, Dahlia Mukherjee, Erika Saunders, and SAEED ABDULLAH  
*WISH Symposium at CHI Conference on Human Factors in Computing Systems*  
In press
- W18 **Impulsive Spending and Finance Management in Bipolar Disorder: Technology as both a Problem and Potential Solution**  
Thomas Richardson, Johnna Blair, Jeff Brozena, Mark Matthews, Dahlia Mukherjee, Erika Saunders, and SAEED ABDULLAH  
*Annual Conference of the International Society for Bipolar Disorders*
- W17 **Automatic Classification of Dementia Using Text and Speech Data**  
Hee Jeong Han, Suhas B. N., Ling Qiu, and SAEED ABDULLAH  
*Multimodal AI in Healthcare. Studies in Computational Intelligence*  
DOI: [10.1007/978-3-031-14771-5\\_29](https://doi.org/10.1007/978-3-031-14771-5_29)
- 2022 W16 **Comparing Two Delivery Modes Of A Supportive Care Platform For Metastatic Breast Cancer Patients**  
Brett Gordon, SAEED ABDULLAH, Shawna Doerksen, Abigail Lorenzo, Bethany Kanski, Ling Qiu, Kathryn Schmitz  
*Medicine & Science in Sports & Exercise*  
DOI: [10.1249/01.mss.0000879068.43957.d0](https://doi.org/10.1249/01.mss.0000879068.43957.d0)
- 2021 W15 **PTSDialogue: Designing a Conversational Agent to Support Individuals with Post-Traumatic Stress Disorder**  
Hee Jeong Han, Sanjana Mendu, Beth K Jaworski, Jason E Owen, and SAEED ABDULLAH  
*Mental health: Sensing & Intervention (MHSI) workshop at UbiComp*  
DOI: [10.1145/3460418.3479332](https://doi.org/10.1145/3460418.3479332)
- W14 **Voice Assistants for Speech Therapy**  
Ling Qiu and SAEED ABDULLAH  
*Mental health: Sensing & Intervention (MHSI) workshop at UbiComp*  
DOI: [10.1145/3460418.3479336](https://doi.org/10.1145/3460418.3479336)

- W13 **Nurse AMIE: Using Smart Speakers to Provide Supportive Care Intervention for Women with Metastatic Breast Cancer**  
Ling Qiu, Bethany Kanski, Shawna Doerksen, Renate Winkels, Kathryn H.Schmitz, and SAEED ABDULLAH  
*Late-Breaking paper at the CHI Conference on Human Factors in Computing Systems*  
Acceptance rate: 39% • DOI: [10.1145/3411763.3451827](https://doi.org/10.1145/3411763.3451827)
- W12 **Using Tweets to Assess Mental Well-being of Essential Workers During the COVID-19 Pandemic**  
Johnna Blair, Chi-Yang Hsu, Ling Qiu, Shih-Hong Huang, Ting-Hao (Kenneth) Huang, and SAEED ABDULLAH  
*Late-Breaking paper at the CHI Conference on Human Factors in Computing Systems*  
Acceptance rate: 39% • DOI: [10.1145/3411763.3451612](https://doi.org/10.1145/3411763.3451612)
- W11 **Context-Specific Usability Measures for Voice Assistants**  
Sanjana Mendu, S. Shyam Sundar, and SAEED ABDULLAH  
*“Let’s Talk About CUIs: Putting Conversational User Interface Design Into Practice” workshop at the CHI Conference on Human Factors in Computing Systems*
- 2020 W10 **Opportunities for Collaborative Clinical Work: Predicting Relapse Onset in Bipolar Disorder from Online Behavior**  
Johnna Blair, Erika Saunders, Dahlia Mukherjee, and SAEED ABDULLAH  
*Pervasive Health*  
DOI: [10.1145/3421937.3421947](https://doi.org/10.1145/3421937.3421947)
- W09 **WatchOver: using Apple watches to assess and predict substance co-use in young adults**  
Sahiti Kunchay and SAEED ABDULLAH  
*Mental health: Sensing & Intervention (MHSI) workshop at UbiComp*  
DOI: [10.1145/3410530.3414373](https://doi.org/10.1145/3410530.3414373)
- 2019 W08 **Investigating Users’ Perceptions of Light Behaviors in Smart-Speakers**  
Sahiti Kunchay, Shan Wang, and SAEED ABDULLAH  
*Conference on Computer Supported Cooperative Work & Social Computing (CSCW)*  
DOI: [10.1145/3311957.3359479](https://doi.org/10.1145/3311957.3359479)
- W07 **Can Alexa be your Therapist? How Back-Channeling Transforms Smart-Speakers to be Active Listeners**  
Nasim Motalebi, Eugene Cho, S Shyam Sundar, and SAEED ABDULLAH  
*Conference on Computer Supported Cooperative Work & Social Computing (CSCW)*  
DOI: [10.1145/3311957.3359502](https://doi.org/10.1145/3311957.3359502)

- W06    **Understanding the Needs and Challenges of Using Conversational Agents for Deaf Older Adults**  
 Johnna Blair and SAEED ABDULLAH  
*Conference on Computer Supported Cooperative Work & Social Computing (CSCW)*  
 DOI: [10.1145/3311957.3359487](https://doi.org/10.1145/3311957.3359487)
- 2018    W05    **Conversational agents to provide couple therapy for patients with PTSD**  
 Nasim Motalebi and SAEED ABDULLAH  
*WellBeCoach: Smart Coaching Solutions for Health & Wellbeing workshop at Pervasive Health*  
 DOI: [10.1145/3240925.3240933](https://doi.org/10.1145/3240925.3240933)
- W04    **Supporting Constructive Mental Health Discourse in Social Media**  
 Johnna Blair and SAEED ABDULLAH  
*Design4Diversity workshop at Pervasive Health*  
 DOI: [10.1145/3240925.3240930](https://doi.org/10.1145/3240925.3240930)
- 2016    W03    **Assessing mental health issues on college campuses: preliminary findings from a pilot study**  
 Vincent Tseng, SAEED ABDULLAH, Michael Merrill, Min Aung, Franziska Wittleder, and Tanzeem Choudhury  
*Mental health: Sensing & Intervention (MHSI) workshop at UbiComp*  
 DOI: [10.1145/2968219.2968308](https://doi.org/10.1145/2968219.2968308)
- 2015    W02    **Towards circadian computing: a sensing & intervention framework for body clock friendly technology**  
 SAEED ABDULLAH  
*Doctoral Colloquium at UbiComp*  
 DOI: [10.1145/2800835.2801657](https://doi.org/10.1145/2800835.2801657)
- W01    **Biological rhythms and technology**  
 Mark Matthews, Erin Carroll, SAEED ABDULLAH, Jaime Snyder, Matthew Kay, Tanzeem Choudhury, Geri Gay, Julie Kientz  
*CHI Conference on Human Factors in Computing Systems*  
 DOI: [10.1145/2559206.2559230](https://doi.org/10.1145/2559206.2559230)

#### POSTERS & DEMOS

- 2023    P13    **Development of a Voice Interface to Support Mindfulness Practice for Individuals with Chronic Pain**  
 Sanjana Mendu, Sebrina Doyle Fosco, Stephanie Lanza, and SAEED ABDULLAH

- 2022      P12      **Dementia Diagnosis using Text and Speech Data**  
Hee Jeong Han, Suhas BN, Ling Qiu, and SAEED ABDULLAH  
*ICDS Fall 2022 Symposium: Data Science, AI, and a Sustainable, Resilient, and Equitable Future*
- P11      **ACOUSTICS : Automatic classification of subjects with dementia and healthy controls using text transcriptions and speech data**  
Hee Jeong Han, Suhas BN, Ling Qiu, and SAEED ABDULLAH  
*Health Intelligence (W3PHIAI-22) Workshop at the AAAI Conference on Artificial Intelligence*
- 2015      P10      **Automatic detection of social rhythms in bipolar disorder via smartphone**  
Ellen Frank, SAEED ABDULLAH, Mark Matthews, and Tanzeem Choudhury  
*American College of Neuropsychopharmacology (ACNP)*
- P09      **Circadian Computing: Towards bodyclock friendly technology**  
SAEED ABDULLAH  
*Human Computer Interaction Consortium Workshop (HCIC)*
- P08      **SAINT: a scalable sensing and inference toolkit**  
Mashfiqui Rabbi, Thiago Caetano, Jean Costa, SAEED ABDULLAH, Mi Zhang, and Tanzeem Choudhury  
*Workshop on Mobile Computing Systems and Applications (ACM HotMobile)*
- 2014      P07      **Towards circadian computing: “early to bed and early to rise” makes some of us unhealthy and sleep deprived**  
SAEED ABDULLAH, Mark Matthews, Elizabeth Murnane, Geri Gay, and Tanzeem Choudhury  
*Intel Science and Technology Center for Pervasive Computing (ISTC-PC)*
- P06      **Circadian Computing: Towards bodyclock friendly technology**  
SAEED ABDULLAH  
*Human Computer Interaction Consortium Workshop (HCIC)*
- 2013      P05      **Developing a smartphone app to monitor mood, social rhythms, sleep and social activity: technology to support effective management of bipolar disorder**  
Ellen Frank, Mark Matthews, Tanzeem Choudhury, Steve Volda, and SAEED ABDULLAH  
*American College of Neuropsychopharmacology (ACNP)*

- 2013      P04      **Light, color, affect, and stress**  
Jaime Snyder, Mark Matthews, SAEED ABDULLAH, Yohan Ko, and Geri Gay  
*Society for Social Studies of Science (4S)*
- P03      **MoodRhythm: Tracking and supporting daily rhythms**  
Stephen Volda, Mark Matthews, SAEED ABDULLAH, Mengxi Chrissie Xi, Matthew Green, Won Jun Jang, Donald Hu, John Weinrich, Prashama Patil, Mashfiqui Rabbi, Tauhidur Rahman, Geri Gay, Ellen Frank, and Tanzeem Choudhury  
*Interactive demo at UbiComp*
- P02      **Clockwise: inferring chronotype and daily patterns from smartphone use**  
SAEED ABDULLAH  
*Doctoral Colloquium at UbiComp*
- 2012      P01      **Towards population scale activity recognition: a framework for handling data diversity**  
SAEED ABDULLAH, Nicholas D. Lane, and Tanzeem Choudhury  
*Intel Science and Technology Center for Pervasive Computing (ISTC-PC)*

## TEACHING

- 2021 –      **HCDD 340: Human-Centered Design for Mobile Computing**  
*College of Information Sciences and Technology, Penn State*  
Co-designed curriculum, developed syllabus, designed instruction material
- 2018 –      **IST 525: Computer Supported Cooperative Work (CSCW)**  
*College of Information Sciences and Technology, Penn State*  
Developed syllabus, designed instruction material
- 2019 – 2021      **IST 331: Foundations of Human-Centered Design**  
*College of Information Sciences and Technology, Penn State*  
Developed syllabus, designed instruction material
- 2017 – 2018      **IST 597: Computational Health: Sensing and Intervention Design**  
*College of Information Sciences and Technology, Penn State*  
Developed syllabus, designed instruction material
- 2014 – 2016      **Info 4120/6120: Ubiquitous Computing**  
*Department of Information Science, Cornell University. Instructor: Tanzeem Choudhury*

Delivered a guest lecture on Circadian Computing and led a lab session on mobile programming

- Spring, 2012    **CS/Info 2300: Intermediate design and programming for the web**  
*Department of Information Science, Cornell University. Instructor: Carl Lagoze.*  
Led lab teaching sections and covered some lectures
- Fall, 2012    **CS 4300: Information retrieval**  
*Department of Information Science, Cornell University. Instructor: Paul Ginsberg.*  
Tutored students and graded assignments
- Spring, 2011    **CS 224: Algorithm design & analysis**  
*University of Vermont. Instructor: Byung Lee*  
Covered some lectures, tutored students, and marked assignments
- Fall, 2010    **CS 32: Puzzles, games and algorithms**  
*University of Vermont. Instructor: Robert Snapp*  
Led lab sessions and marked assignments
- CS 204: Database system**  
*University of Vermont. Instructor: Byung Lee*  
Covered some lectures, tutored students, and marked assignments
- Spring, 2010    **CS 222: Computer architecture**  
*University of Vermont. Instructor: Alan Ling*  
Tutored students and marked assignments
- CS 195: Computer science for geo-spatial technologies**  
Instructor: Alison Pechenick  
Developed and marked assignments
- Fall, 2009    **CS 201: Operating systems**  
*University of Vermont. Instructor: Alan Ling*  
Covered some lectures, tutored students, and marked assignments
- CS 243: Theory of computation**  
*University of Vermont. Instructor: Alan Ling*  
Tutored students and marked assignments

## **RESEARCH SUPPORT**

- 2023 – 2027 **Collaborative Research: FW-HTF-RL: Understanding the Ethics, Development, Design, and Integration of Artificial Intelligence Teammates in Future Mental Health Work**  
Principal Investigator at Penn State  
*National Science Foundation (total: \$1,999,957; at Penn State: \$650,000)*
- 2023 – 2025 **Financial Activity Data as an Objective Behavioral Marker in Bipolar Disorder: A Feasibility and Acceptance Study**  
Principal Investigator  
*National Institute of Mental Health (\$484,966)*
- 2022 – 2024 **Financial Wellbeing for Individuals Living with Mental Illnesses: Toward a Privacy-preserving and Data-driven Intervention Platform**  
Principal Investigator  
*Social Science Research Institute (SSRI), Penn State (\$75,000)*
- 2019 – 2023 **CRII:SCH: Designing for Supportive Accountability: Using Conversational Agents to Sustain Patient Engagement in PTSD**  
Principal Investigator  
*National Science Foundation (\$174, 818)*
- 2019 – 2021 **Nurse AMIE (Addressing Metastatic Individuals Everyday)**  
Co-Investigator  
*American Institute for Cancer Research (\$165,000)*
- 2018 – 2021 **A Real-Time Mindfulness Intervention to Control Pain: Delivery Through a Conversational Agent**  
Principal Investigator  
*Social Science Research Institute (SSRI), Penn State (\$20, 000)*
- 2018 – 2021 **Predicting Relapse Onset in Bipolar Disorder from Online Behavioral Data**  
Principal Investigator  
*Institute for CyberScience (ICS), Penn State (\$37, 500)*
- 2019 – 2020 **Watch Over: Using Apple Watches to Assess and Predict Substance Co-use in Young Adults**  
Principal Investigator  
*College of Information Sciences and Technology, Penn State (\$53, 260)*
- 2018 – 2019 **Talking to Machines: Virtual Conversational Agents for Effective Treatment Delivery in PTSD**  
Principal Investigator  
*College of Information Sciences and Technology, Penn State (\$56, 310)*

## AWARDS

- 2023 **Dean's Circle of Teaching Excellence**  
*College of Information Sciences and Technology, Penn State*  
This award recognizes "contributions to our teaching mission based on a broad definition of teaching which includes classroom teaching, mentoring of students, curriculum development, and other teaching related activities."
- 2021 **SIGCHI Development Award**  
*ACM SIGCHI*  
This award (\$3050) focused on improving inclusivity and diversity in UbiComp and ISWC conference. I developed the proposal as a scholarship co-chair of the conference.
- 2020 **Honorable Mention**  
*CHI Conference on Human Factors in Computing Systems*  
For the paper: "Will Deleting History Make Alexa More Trustworthy? Effects of Privacy and Content Customization on User Experience of Smart Speakers"
- Distinguished Master's Thesis Award**  
*Graduate School, Penn State*  
Awarded to Shan Wang (my advisee) for "excellence in master's level thesis research". Her thesis title is: "Effects of Prompt Humor Level on Behavioral Intention and Perceived Interruption: An Online Survey Study".
- 2019 **Junior Faculty Excellence Award in Research**  
*College of Information Sciences and Technology, Penn State*  
This award recognizes "innovative and outstanding research results, contributed to breakthrough and high impact research, or demonstrated the potential to solve challenging research problems".
- 2018 **Tronzo Medical Informatics Endowment**  
*College of Information Sciences and Technology, Penn State*  
The endowment supports research on issues and technologies related to medical informatics.
- 2016 – **Special recognition for outstanding reviews**  
CHI 2021  
CHI 2020  
IMWUT (February 2020)  
IMWUT (November 2019)  
IMWUT (May 2017 round)  
UbiComp 2016



- 2016 **Best Paper Award**  
*Conference on human-computer interaction with mobile devices and services (MobileHCI)*  
For the paper: Mobile manifestations of alertness: Connecting biological rhythms with patterns of smartphone app use.

**Agile Research Grant**

*Robert Wood Johnson Foundation*

Our project focusing on circadian rhythms and cognitive performance was selected as one of the five recipients in the Agile Research Project competition.

- 2013 **\$100,000 Heritage Open mHealth Challenge winner**  
*Heritage Provider Network, Open mHealth, and the University of California, Los Angeles*  
Our MoodRhythm project focusing on bipolar disorder won the Heritage Open mHealth Challenge.

**INVITED TALKS**

- 2024 **Building Better Digital Health: A Data-Driven and Human-Centered Approach**  
*Millennium Café, Penn State*

- 2023 **Talking to Machines: Designing Conversational Agents to Support Health Intervention**  
*SPSP Psychology of Media and Technology preconference*

- 2021 **Talking to Machines: Leveraging Voice Interfaces for Intervention Delivery**  
*Center for Behavioral Health and Technology, University of Virginia*

**“It Didn’t Sound Good with My Cochlear Implants”: Understanding the Challenges of Using Smart Assistants for Deaf and Hard of Hearing Users**

Johnna Blair and SAEED ABDULLAH

*National Educational Conference, Canadian Hard of Hearing Association*

- 2020 **Designing for Supportive Accountability: Using Conversational Agents to Sustain Patient Engagement in Post-traumatic stress disorder (PTSD)**  
*Advancing Health through Science Smart and Connected Health (SCH) Principal Investigator Meeting, National Science Foundation*

- 2019 **Computational Health: Using HCI & Data Science Methods to Improve Health and Wellbeing**

*Dean's Advisory Board, College of Information Sciences and Technology, Penn State*

**"Alexa, I am in Pain!": A Real-Time Mindfulness Intervention for Chronic Pain Management Using Conversational Agents**

*Prevention Research Center (PRC) Day, College of Health and Human Development, Penn State*

**2018 Your phone usage reveals a lot about you: Inferring sleep and circadian disruptions from phone use patterns**

*QuantDev Brownbag Series, College of Health and Human Development, Penn State*

**Talking to Machines: Conversational Agents for Mental Health Care**

*Colloquium at UT Austin iSchool*

**Talking to Machines: Conversational Agents for Mental Health Care**

*Grand Rounds Series, Department of Psychology at Penn State*

**2016 Passive sensing of circadian rhythms for individualized models of cognitive performance**

*Health Data Exploration Project Agile Grant Series*

**2015 Cognitive rhythms: unobtrusive and continuous sensing of alertness using a mobile phone**

*Intel Science & Technology Center for Pervasive Computing (ISTC-PC)*

**2014 Supporting individuals with bipolar disorder to establish stable daily routines**

*MIT & Cornell hacking-medicine hackathon*

**PROFESSIONAL EXPERIENCE**

**2012 – 2017 Graduate Research Assistant**

*Department of Information Science, Cornell University. Supervisor: Tanzeem Choudhury*

**Fall, 2015 Research Intern**

*Microsoft Research. Supervisor: Mary Czerwinski*

Designed and developed novel system for improving creative ability

**2011 – 2012 Graduate Teaching Assistant**

*Department of Information Science, Cornell University*

- 2009 – 2011 **Graduate Teaching Assistant**  
*University of Vermont*
- 2008 – 2009 **Software Developer**  
*AfriGIS Ltd*  
Developing search engine with special focus on geographic relevance
- 2008 **Software Developer**  
*Google Summer of Code*  
Enhancing a Just-In-Time (JIT) compiler for Java to provide instruction code selection and emission for array manipulation bytecodes

## **SERVICE**

### EDITORIAL RESPONSIBILITIES

- 2022 **Topic Editor**  
*Frontiers Research Topic: “Factors Influencing User Engagement with Digital Mental Health Interventions”*
- 2021 **Topic Editor**  
*Frontiers Research Topic: “Quantitative Modeling of Psychopathology Using Passively Collected Data”*
- 2017 – 2020 **Associate Editor**  
*Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*
- 2018 **Co-Editor**  
*Special Issue of JMIR on Computing and Mental Health*

### CONFERENCE & WORKSHOP ORGANIZER

- 2016 – **Workshop on “Mental health and well-being: Sensing and intervention”**  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*
- 2023 **Designing for and Reflecting upon Resilience in Health and Wellbeing**  
*Designing Interactive Systems (DIS)*

- 2022 **Award & Recognition Committee member**  
*Computer Supported Cooperative Work & Social Computing (CSCW)*
- 2021 **Scholarship co-chair**  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*
- 2019 **Publicity co-chair**  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*
- 2014 **Workshop on “Biological rhythms and technology”**  
*CHI Conference on Human Factors in Computing Systems*

#### PROGRAM COMMITTEE MEMBER

- 2016 – **Workshop on “Mental health and well-being: Sensing and intervention”**  
*Conference on Pervasive and Ubiquitous Computing (UbiComp)*
- 2017 – 2020 **Pervasive Health**  
*EAI International Conference on Pervasive Computing Technologies for Healthcare*
- 2015 – 2018 **International Conference on Digital Health**
- 2017 **Workshop on “Tools and Algorithms for Mental Health and Wellbeing, Pain, and Distress (MHWPDP)”**  
*Affective Computing and Intelligent Interaction (ACII)*

#### ACADEMIC SERVICES

- 2022 – 2023 **Faculty Search Committee (Human-Centered Artificial Intelligence track)**  
*College of Information Sciences and Technology, Penn State*
- 2023 **HCI Faculty Annual Evaluation Committee member**  
*College of Information Sciences and Technology, Penn State*
- 2021 – 2022 **Chair of the Faculty Search Committee (Accessibility track)**  
*College of Information Sciences and Technology, Penn State*
- 2020 – 2022 **Academic Integrity Committee**  
*College of Information Sciences and Technology, Penn State*

- 2019 – **Advisory Board Member**  
*Penn State SELF (Student Engagement, Learning, and Flourishing) project*
- 2017 – **Governing Board Member**  
*Human Computer Interaction Consortium (HCIC)*
- 2017 – **Faculty advisory committee focusing on IT support for research**  
*College of Information Sciences and Technology, Penn State*
- 2018 – 2020 **Faculty Search Committee (HCD track)**  
*College of Information Sciences and Technology, Penn State*
- Graduate Recruiting Committee**  
*College of Information Sciences and Technology, Penn State*
- 2020 **Application Reviewer**  
*Nittany AI Challenge, Penn State*
- 2017 **Application Reviewer**  
*Schreyer Honors College, Penn State*
- Applicant Interviewer**  
*Millennium Scholars program, Penn State*
- 2015 **Student Volunteer**  
*Program committee meeting for Conference on Pervasive and Ubiquitous Computing (UbiComp)*
- 2013 – 2015 **Student Representative**  
*Faculty Search Committee, Department of Information Science, Cornell University*
- 2011 – 2013 **Colloquium Organizer**  
*Department of Information Science, Cornell University*
- 2011 – 2012 **Computing facilities support**  
*Department of Information Science, Cornell University*