GARVEY INSTITUTE
for BRAIN HEALTH SOLUTIONS
4th Annual Meeting

MARCH 7, 2025

Garvey Institute for
Brain Health Solutions

UW Medicine

Housekeeping

- No food or drink in Orin Smith Auditorium

- Meeting is being recorded. Slides and materials will be made available online.

- Parking will be validated – get your coupon from the check-in desk

1. Insert the parking ticket you received when you first arrived
2. Scan the QR code on your parking coupon
3. Garage arm will lift, exit garage
4. If the arm fails to lift, please use the call button located on the machine

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Agenda

9:30 – 9:40	Introduction and Overview
9:40 – 9:50	Welcome remarks from Dean Tim Dellit, MD
9:50 – 10:45	Celebrating 5 years of Improving Brain Health
10:45 – 11:00	Break
11:00 – 11:30	Artificial intelligence and brain health – a conversation with Tim Althoff, PhD, MS
11:30 – 12:00	We want to hear from you: visioning session
12:00 – 1:00	Lunch and 'Innovation Stations'
1:00 – 2:00	Looking Ahead: the next 5 years

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Garvey Institute for Brain Health Solutions

Foundational gift, Fall 2019

Put together the best minds in the Pacific Northwest to do three things:

- Improve the lives of individuals and families living with brain health and mental health problems today

- Discover better treatments for tomorrow

- Inspire and support the next generation of scientists and health care professionals caring for our families

Mike and Lynn Garvey
Garvey Institute for Brain Health Solutions

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Thanks to our
Community Advisory Board

Craig Cole

Rita Egrari

Joe Whittinghill

Ken Worzel

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Institute Staff
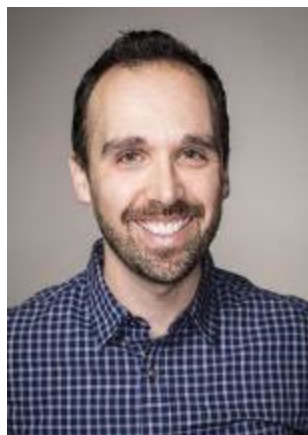
Jürgen Unützer

Becky Sladek

Andie Uomoto

Mary Pyper

Jed Thompson

Kyreston Jones

Semhar Abraha

Technical support from

Annelie Ingvarsson

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Faculty Advisors

Addictions
- Jonathan Buchholz, MD
- Seema Clifasefi, PhD, MSW
- Susan Ferguson, PhD
- Ray Hsiao, MD
- Mary Larimer, PhD
- Michael McDonell, PhD
- Joe Merrill, MD
- John Neumaier, MD, PhD
- Myra Parker, JD, MPH, PhD
- Marco Pravetoni, PhD
- Richard Ries, MD
- Andrew Saxon, MD
- Seema Clifasefi, PhD
- Mark Sullivan, MD, PhD

Brain Health Education
- Heidi Combs, MD
- Anna Ratzliff, MD, PhD
- Mark Sullivan, MD, PhD
- John Neumaier, MD, PhD

Brain health and cognitive aging
- Barak Gaster, MD, FACP
- Tom Grabowski, MD
- Jeff Iliff, PhD
- Thabele (Bay) Leslie-Mazwi, MD
- John Neumaier, MD, PhD
- Elaine Peskind, MD
- Patrick Raue, PhD
- Michael Schrift, DO
- Mark Snowden, MD, MPH
- Michael V. Vitiello, PhD

Technology and Brain Health
- Trevor Cohen, MBChB, PhD, FACMI
- Anind Dey, PhD, MS
- Amelia Dubovsky, MD
- David Dunner, MD
- Charles Engel, MD, MPH
- Brad Felker, MD
- Kevin Hallgren, PhD
- Ryan Kimmel, MD
- Sarah Kopelovich, PhD
- John Neumaier, MD, PhD
- Michael Schrift, DO
- Jaime Snyder, PhD
- William Solan, MD

Trauma
- Michele Bedard-Gilligan, PhD
- Jesse Fann, MD, MPH
- John Fortney, PhD
- Jeanne Hoffman, PhD
- Kristen Lindgren, PhD
- Tracy Simpson, PhD
- Elaine Peskind, MD

Adolescent and young adult mental health
- Jason Kilmer, PhD
- Elizabeth McCauley, PhD
- Laura Richardson, MD, MPH
- Carol Rockhill, MD, PhD, MPH
- Ann Vander Stoep, PhD
- Larry Wissow, MD, MPH

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Investigators

Opening remarks from Tim Dellit, MD

CEO, UW MEDICINE

EXECUTIVE VICE PRESIDENT FOR MEDICAL AFFAIRS

PAUL G. RAMSEY ENDOWED DEAN

UW SCHOOL OF MEDICINE

Celebrating 5 years of Improving Brain Health and Mental Health

JURGEN UNUTZER MD, MPH, MA

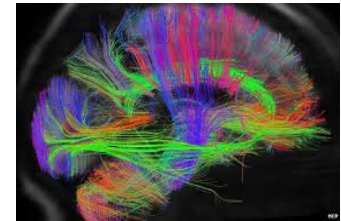DIRECTOR, GARVEY INSTITUTE FOR BRAIN HEALTH SOLUTIONS

PROFESSOR AND CHAIR, UW DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES

The Brain 101

3 pounds (2% of body weight). 75 % Water. Uses ~ 20 % of our body's energy.

- ~100 billion neurons (nerve cells)
- ~100 billion glia (support cells)
- ~100 trillion connections
- Complex circuitry (connectome) - modified until our mid 20s
  - by far the most complex organ we have.

Healthy brains help us

- Process information
- Create consciousness & experiences
- Create memories
- Solve problems
- Control our thoughts, feelings, behaviors, action & speech
- Shape who we are (personality)

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Common mental health problems

- e.g., depression, anxiety, PTSD

- addiction

Severe mental illnesses

- e.g., autism, schizophrenia, bipolar disorder

Degenerative brain diseases
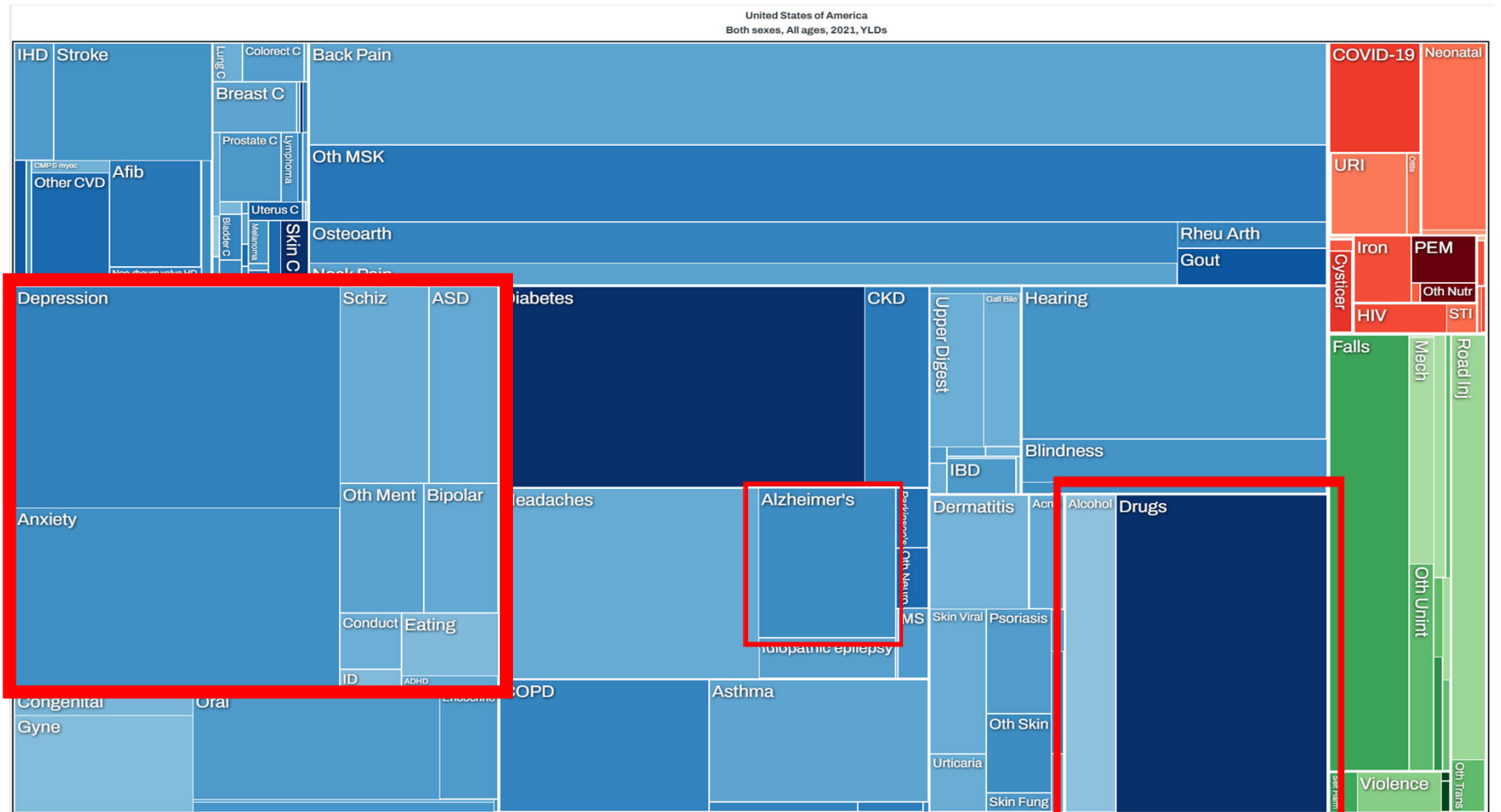
- e.g., dementia (Alzheimer's)

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The costs of mental health and addiction problems

- Common
  - Mental health / addiction problems affect nearly half of the world's population at some point.
  - ~ 1 million Washingtonians
  - 50 % present by age 14; 75 % present by age 24

- Leading cause of disability
  - 5 times more disability than diabetes or heart disease
  - 15 times more disability than cancer

- Early mortality

  In the US: a death from suicide or drug overdose every 5 minutes.

  More than deaths from car crashes or the Vietnam war.

  Individuals with severe mental illness have their life spans reduced by 15-30 years.

- High financial costs

  Employers: absenteeism, presenteeism, reduced productivity, staff turnover

  Governments: disability, homelessness, criminal justice involvement

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UW Institute for Health Metrics and Evaluation (2024):
Years lived with disability (YLD)

United States of America
Both sexes, All ages, 2021, YLDs

Mission & Vision

Garvey Institute for Brain Health Solutions

Treating and preventing disabling brain disorders from birth through old age

The mission of the GIBHS is to **improve the health for millions of people at risk for and affected by mental health, substance use, and other brain health disorders**.

We see a future where we can **prevent** disabling brain disorders through effective interventions from birth through old age and where those affected by mental health and substance use disorders receive effective **treatment**, enabling all of us to live healthy and productive lives.

https://gibhs.psychiatry.uw.edu

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The first five years.

People

Programs

Places

Policy

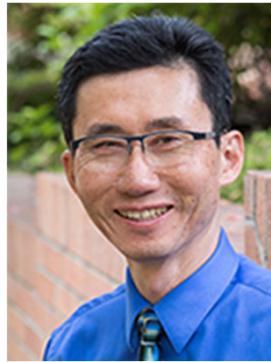Garvey Institute for
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Meet our endowed professors

Randall Espinoza, MD
Garvey Family Endowed Professorship for Technology and Brain Health

Jesse Fann, MD, MPH
Mark N. Tabbutt Endowed Professorship for Education in Brain Health

Thomas J Grabowski, MD
Tim B. Engle Endowed Professorship for Brain Health Innovations

Rebecca Hendrickson, MD, PhD
Denise L. Tabbutt Endowed Professor for Trauma and Brain Health

Marco Pravetoni, PhD
Rick L. Seaver Endowed Professorship for Brain Wellness

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New faculty searches supported by the Institute
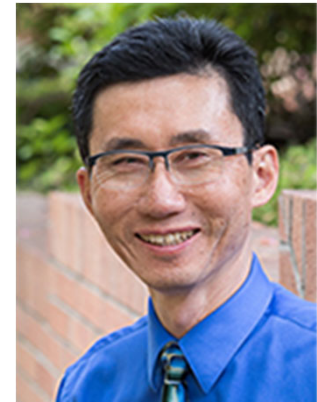
New Endowed Chairs and Professorships:

❖ Nicole K. Engle Endowed Professor for Addiction Medicine

❖ Warner Schaie Endowed Chair in Cognitive Aging*

    *supported by a generous endowment from Warner Schaie PhD and Sherry Willis PhD

Early career Clinician Scientists with expertise in

❖ Neuromodulation and Interventional Psychiatry

❖ Technology / Artificial Intelligence in Behavioral Health Care

❖ Mental Health and the Law

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Clinician Scientist Training Program

Jesse Fann, MD, MPH
Director, CSTP

- Clinician Scientists are an important 'bridge' from research to clinical practice, making sure that the things we study in our labs will work in the 'real world' and can be rapidly translated into clinical practice.

- 19 trainee research awards to residents, psychology interns and postdoctoral fellows at UW Medicine.

- Program awardees for the third round of funding will be announced in April.

11 Residents

7 Fellows

1 Psych Intern

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Training physicians in 'Brain Health': Behavioral Neurology and Neuropsychiatry Fellowship

- Collaboration between Departments of Neurology and Psychiatry and Behavioral Sciences

- Neurologists and psychiatrists working together to diagnose and treat patients with complex behavior problems.

Inaugural fellows: Kelania Jimenez, MD (psychiatry) and Sung Ji, MD, PhD (neurology)

Michael Schrift, DO, MA, FANPA
Program Director

Michael Persenaire, MD
Associate Program Director

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Garvey Institute Center for Neuromodulation

- Opened in April 2024 at UWMC Northwest Center for Behavioral Health and Learning

- Helping individuals with serious mental illness who have not benefited from standard treatments such as medication or psychotherapy

- Initial therapies include Electroconvulsive Therapy and Transcranial Magnetic Stimulation

- Blends top-notch clinical care and innovative research

- Offers cutting edge training for future mental health professionals

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New Research Programs

Center for Novel Therapeutics in Addiction Psychiatry

Mission: to improve our understanding of the safety and efficacy of therapy facilitated by psychedelic compounds

- Psychedelic substances (naturally occurring and / or synthetic)
- Used to treat depression, PTSD, anxiety, substance use disorders
- Enrolling participants in psilocybin clinical trial in March 2025

Nathan Sackett, MD, MS

Center for Medication Development for Substance Use Disorders and Overdose

Mission: to discover, develop and commercialize novel medications for the prevention and treatment of substance use disorders through the development of vaccines, antibody-based strategies and small molecules

- Develop and test new medications for substance use disorders in preclinical labs and translate these into treatments for humans

Marco Pravetoni, PhD

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Family and Caregiver Training and Support (FACTS)Program: engaging and supporting family and caregivers

- Help patients, families, and caregivers 'navigate' health care system

- Involve and support families and caregivers in the care of their loved ones and in teaching our trainees.

- Support the resilience and long-term health of patients, families and caregivers

Mollie Forrester, MSW, LICSW
Director, Patient and Family Experience

FACTS website and pilot training on communications skills launched September 2024

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Garvey Institute Innovation Grants

Fund innovative ideas and projects that have the potential to

- make a **substantial impact** on brain health

- improve brain health at a **population level**

- can be **rapidly translated** into clinical care

- serve as a proof of concept that can lead to **additional funding**
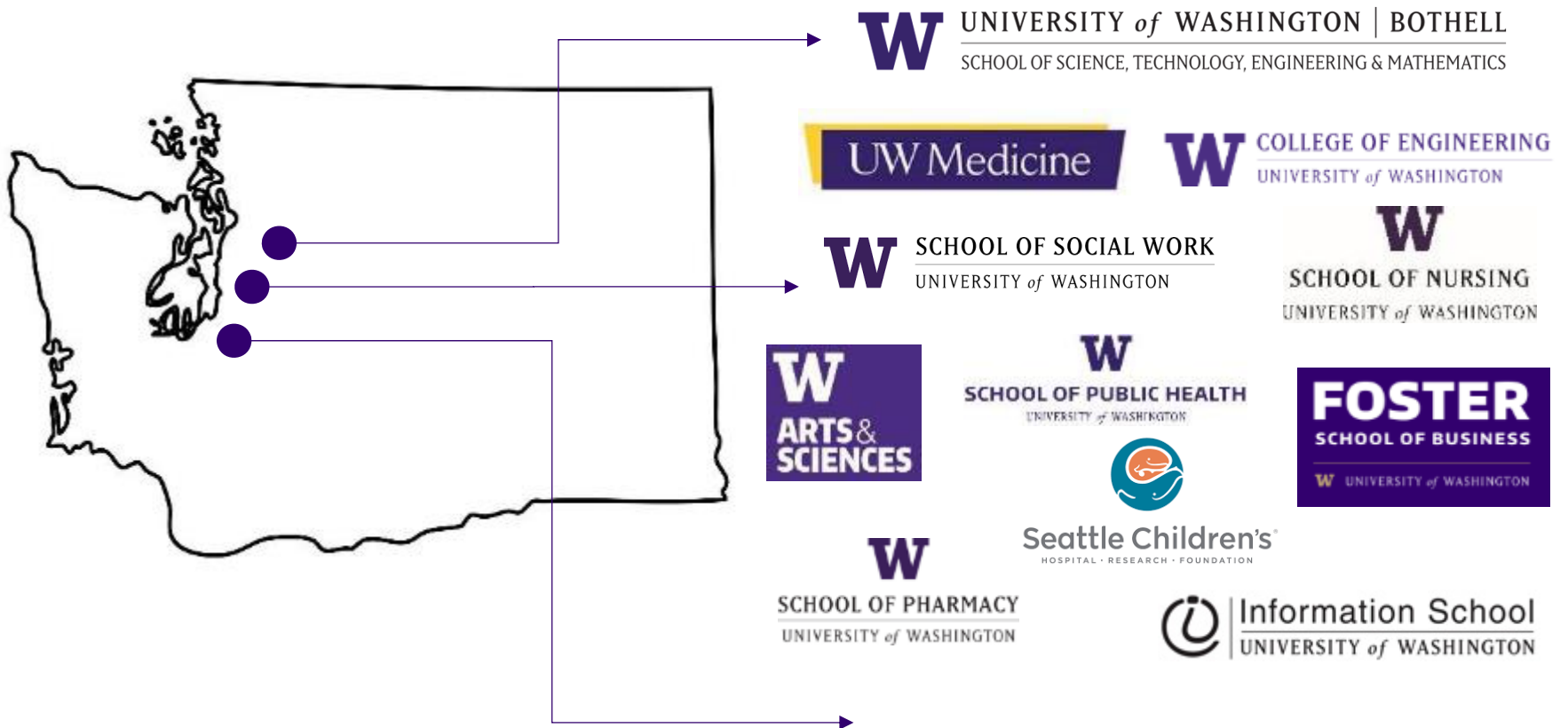
- can be accomplished with initial grants up to $100,000

58 grants awarded to 154 investigators to date

gibhs.psychiatry.uw.edu

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Garvey Innovation Grants

- **154 investigators** from all 3 UW campuses, 11 Schools and Colleges, 25 departments, and numerous local and regional partners

Project	PI
ADDICTIONS	
Improving opioid use disorder treatment using contingency management via mHealth	Mark Duncan, Kevin Hallgren, Matt Iles-Shih
Innovative training for suicide prevention in addiction treatment settings	Richard Ries
ARTIFICIAL INTELLIGENCE	
Developing an artificial intelligence digital navigator system to support patients' use of technology-based interventions	Dror Ben-Zeev
Optimizing telemental health with live artificial intelligence clinical scaffolding and feedback	Justin Tauscher, Dror Ben-Zeev
Using Natural Language Processing to risk-stratify inpatient psychiatry conflict and violence	Taylor "Mac" Black
Making generative AI safe for people with mental health conditions	Tim Althoff
Using Large Language Models to identify video platform interactions indicating suicide risk	Trevor Cohen
Evaluating large language models in conveying determinants of mental health	Xinyi Zhou,Tim Althoff
COGNITIVE AGING	
Using neurocomputational modeling to track memory decline	Andrea Stocco
Remote assessment of cognitive aging and mental health in older African Americans during COVID-19	Debby Tsuang
Validating a non-invasive imaging method to measure astroglial water transport in brain health and disease	Deidre Jansson, Jeff Iliff
Synthesizing position emission tomography (PET) data from MRI using deep learning	Hesamoddin Jahanian
Using deep learning to diagnose Alzheimer's disease and predict its progression	Linda Shapiro
Empowering caregivers of persons with Lewy Body Dementias using a virtual peer-to-peer intervention	Oleg Zaslavsky, Annie Chen
COMMUNITY INTEGRATION	
Strengthening financial literacy for people living with serious mental illness	Katherine Anne Comtois, Rebecca Sladek
Improving treatment strategies and clinical outcomes in patients with first-episode psychosis and substance use disorders	Matt Iles-Shih, John Eun
Developing a hospital-based engagement program for Alcohol Use Disorder	Tessa Steel
Partnering with patients to re-envision psychiatric hospitalization and discharge	Wanda Pratt
PARTNERSHIPS	
Development of an mHealth support specialist for early psychosis caregivers in Washington State	Benjamin Buck
Implementing contingency management in a supportive housing context to promote resident well-being	Bryan Hartzler
Partnering with the Quinault Indian Nation to develop a community-based contingency management intervention	Claire Simon
Partnering with community pharmacies to enhance access to long-acting injectable antipsychotics in Washington State	Clayton English
Training psychiatry residents in complex communication skills for working with clients and their supports	Dana Dieringer
Adopting a lifespan approach for ADHD management	Doug Russell
Coach up the coaches: extending the reach of mental health professionals in sport settings	Emily Kroshus
Establishing a direct clinical – law enforcement partnership to address dementia crisis intervention across WA state	Kimiko Domoto-Reilly
Assessing need and acceptability of a family intervention for individuals with Opioid Use Disorder	Mandy Owens
Pilot of an inpatient Family Bridger Model to support families with loved ones who experience psychosis	Maria Monroe-DeVita, Akansha Vaswani-Bye
Family and Caregiver Training and Support (FACTS) pilot	Mollie Forrester, Anna Ratzliff
Evaluation and dissemination of the TRANSforming Families: Embracing Change with Teens	Nicole Kahn
TECHNOLOGY	
Leveraging peer mentor texting to support maternal wellbeing in the perinatal period	Amritha Bhat
Improving diagnostic imaging to guide treatment of neuroinflammation	Caleb Stokes
Developing a digital platform to deliver family intervention for psychosis	Chieh Cheng, Sarah Kopelovich
Deploying a texting intervention for psychosis: from research to real-world practice	Dror Ben-Zeev
Using technology to scale Caring Contacts and reduce suicide	Katherine Anne Comtois
Improving patient-focused, population-informed care in clinical neurosciences	Sean Mooney
Discovery of conversational best practices in online mental health support	Tim Althoff
Quantifying socio-cognitive deficits to optimize schizophrenia treatment	Trevor Cohen
Leveraging artificial intelligence to improve digital mental health interventions	Trevor Cohen
Opioid prescription and use following traumatic brain injury	Amy Starosta
TRAUMA	
Harnessing the ECHO Model to help Washingtonians with Traumatic Brain Injury (TBI)	Jennifer Erickson
Improving access to cognitive rehabilitation treatment following mild traumatic brain injury	Kathleen Pagulayan
Improving resilience and recovery from traumatic events using the ECHO model	Kristen Lindgren, Michele Bedard-Gilligan
Testing online platforms to identify patients with persistent post-COVID symptoms	Rebecca Hendrickson, John Oakley
Does the microbiome play a role in adverse outcomes following mTBI and PTSD?	Rebecca Hendrickson, Kathleen Pagulayan, Abigail Schindler
Noninvasive tracking of intracranial pressure to improve care of traumatic brain injury	Robert Bonow
YOUTH AND YOUNG ADULTS	
Developing a pediatric telebehavioral health consultation model for emergency departments	Brooke Rosen
Using teen Mental Health First Aid to address mental health inequity among school youth	Chieh Cheng
Addressing suicide risk in primary care to reduce youth suicide	Denise Chang, Sarah Danzo
Developing a cannabis intervention for young adults with psychosis	Denise Walker
Optimizing mental health first-aid programming for sport coaches	Emily Kroshus
Reducing barriers to accessing mental health care using a web-based program for young adults	Jennifer Cadigan
Monitoring mood symptoms in young adults at-risk for bipolar disorder	Joseph Cerimele
Decreasing engagement and transmission of suicide-related content on TikTok	Katherine Anne Comtois, Molly Adrian, Keyne Law
Expanding access to adolescent depression care by non-specialists with a digital intervention	Jessica Jenness, Laura Richardson, Sarah Danzo
Adapting a resilience intervention for youth athletes	Sara PD Chrisman
Improving mental health in adolescents and young adults with long COVID through exercise	Sara PD Chrisman, Payal Patel
Identifying and treating loneliness in young adults in primary care	Sebastian Tong, Kari Stephens

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Website: https://gibhs.psychiatry.uw.edu
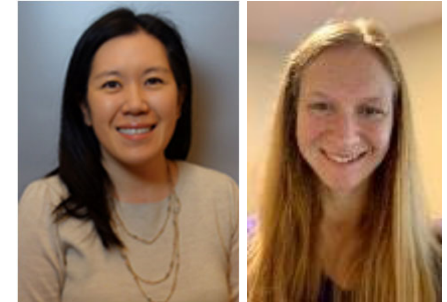
Lunch time: Innovation Stations

Becky Sladek, Kate Comtois
Strengthening financial literacy for people living with serious mental illness

Kevin Hallgren
Smart phone contingency management for methamphetamine use

Mandy Owens
Family intervention for individuals with Opioid Use Disorder

Denise Chang, Sarah Danzo
Addressing suicide risk in primary care to reduce youth suicide

Mollie Forrester, Anna Ratzliff
Family and Caregiver Training and Support (FACTS) Program Pilot

Andrea Stocco
Modeling of memory decline for improved evaluation of mild cognitive impairment

Rick Ries
Innovative training for suicide prevention in addiction treatment settings

Wanda Pratt, Anastasia Schaadhardt
Partnering with Patients to re-envision psychiatric hospitalization and discharge

Innovation Grants: return on investments

Initial investment

Publications in scientific journals

Conference presentations

Grant applications for new research

Opportunities for trainees

Brain health awareness via news stories

New collaborations (public & private)

Improved care for patients and families/caregivers

Over **5x** return on investment in additional federal and state funding

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Garvey Innovation Grants

$4.5M INVESTED → $30M NEW FUNDING AWARDED

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Innovation Grants – community impact

Draft trifold resource for Washington law enforcement
Project Lead: Kimiko Domoto-Reilly, MD

AI-supported tool for cognitive reframing
Project Lead: Tim Althoff, PhD

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Break

Tim Althoff, PhD

**Jean-Loup Baer Associate Professor,
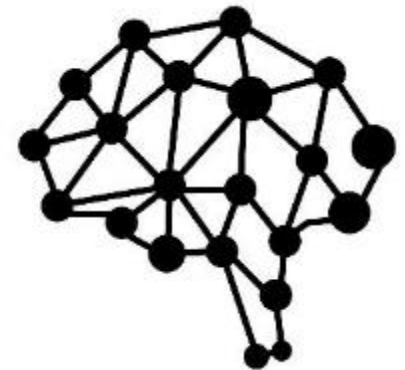Allen School of Computer Science & Engineering**

- Research focused on foundational AI and human-AI interaction capabilities to help improve mental health care access and outcomes.

- Prior work directly improved mental health services utilized by over ten million people and informed federal policy.

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AI to improve Brain Health and Mental Health

A conversation with Tim Althoff PhD, Associate Professor of Computer Science

- You are a computer scientist. What got you interested in working on mental health? What does your team do in this area?

- How do you think computers can help us reach and help more people in need?

- What are computers and AI particularly good at? Can you give an example?

- What about training clinicians, family members, and others in the area of behavioral health?

- What are some of the risks, caveats, and unintended consequences that we should be paying attention to?

- In the news, we hear about chat bots encouraging users to commit harmful acts - what safeguards do we need for these tools?

For all: what could brain health and mental health care supported by AI look like in 10 years?

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Share your ideas

Crowdsourcing activity

Step 1: Fill out the card with your ideas – this is anonymous

Step 2: Pass cards around the room

Step 3: Read the card in your hand, rate the idea from 1 to 5

Repeat Step 2 and 3 for two additional rounds

We will collect the cards and share top scoring ideas after lunch

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1. If you had $1 million, what big idea to improve brain health would you recommend?

2. What first step would you take to get started?

Rater 1	___ / 5
Rater 2	___ / 5
Rater 3	___ / 5
Total	___ / 15

Crowdsourcing activity

Go to
pigeonhole.at

Enter passcode
GIBHS

Lunch and Innovation Stations

RETURN AT 1:00PM

The next 5 years

Your ideas …

Results from crowdsourcing activity

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Looking ahead: the next 5 years

People

Programs

Places

Policies

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Faculty searches supported by the Institute

Endowed Chairs and Professorships:

❖ Nicole K. Engle Endowed Professor for Addiction Medicine

❖ Warner Schaie Endowed Chair in Cognitive Aging

Early career clinician scientists with a focus on

❖ Neuromodulation and Interventional Psychiatry

❖ AI tools in Behavioral Health Care

❖ Mental Health and the Law

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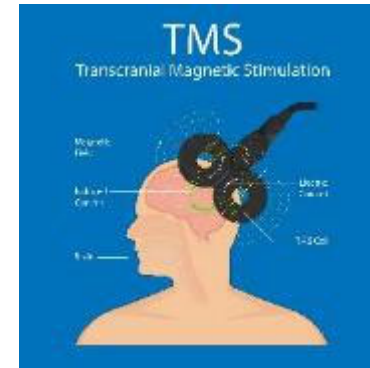Brain Health Solutions

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Training programs

Grow and support

- Clinician Scientist Training Program
- Neuropsychiatry and Behavioral Neurology Fellowship

New fellowship program:

- Neuromodulation and Interventional Psychiatry

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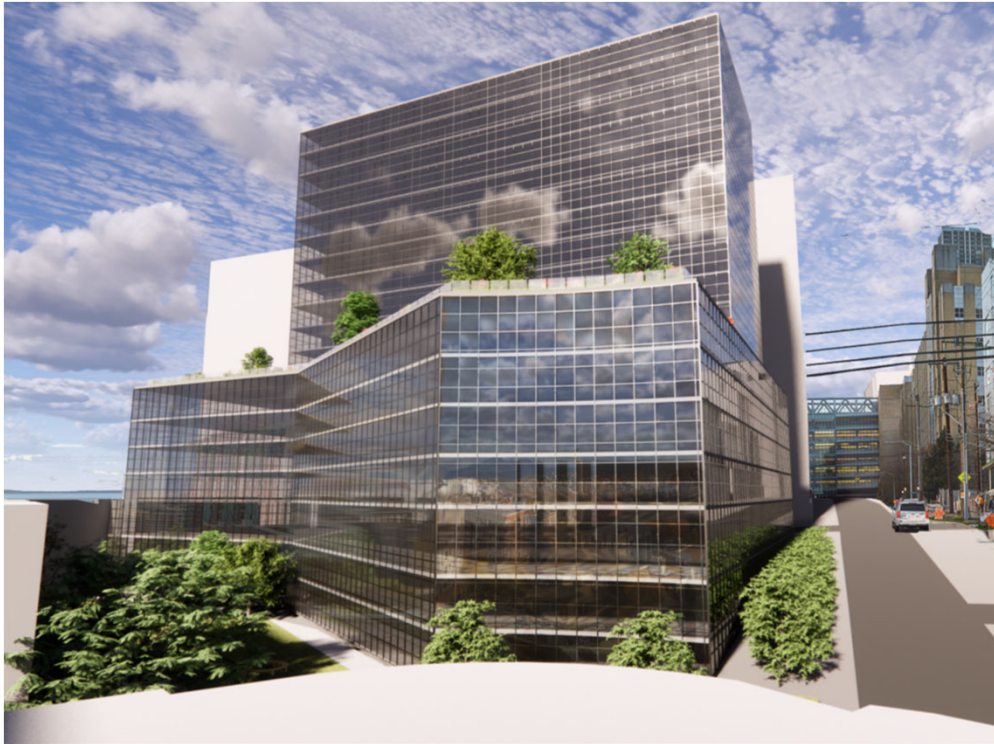UW Medicine

Opportunities for new partnerships

- UW Neuroscience & Washington Initiative for Neuroscience

  - Planning grant from Washington Research Foundation (WRF)

- UW School of Law

  - Civil Commitment
  - Joint clinic
  - Training and support of first responders and law enforcement personnel

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New Spaces: Harborview – 9ᵗʰ and Alder

Innovation Clinic

Simulation Training Program

Therapeutic Community

We are exploring the development of a **model therapeutic community** for adults who are living with chronic brain health and mental health disorders in Washington State.

Therapeutic communities have developed around the country and around the world, with **well documented measures of success.**

They can provide a **safe and structured setting** where residents and staff work, live, and play together, empowering residents on their road to recovery

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Raising Washington

Only **one in five** women in need of help receives effective mental health care during the peripartum period

We are exploring an ambitious partnership to **provide perinatal mental health and parenting support** for women giving birth in Washington to improve the lives and futures of women, children, and families across the state.

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THANK YOU!
Garvey Family

Advisory board members, faculty advisors, search committee members, Innovation grantees, Institute staff, advancement colleagues

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