

Unraveling the Neurobiology of Empathy and Compassion: Implications for Treatments for Brain Disorders and Human Well-Being

A Virtual Workshop

Monday, May 19, 2025: 11:00 am – 3:00 pm ET

Wednesday, May 21, 2025: 11:00 am – 3:00 pm ET

Objectives

- Consider the various definitions and measurements of empathy and compassion across fields.
- Examine evidence on the underlying neurobiological mechanisms of empathy and compassion, their evolutionary origin, and their role in brain functionality, including in cases of brain disorders.
- Explore how factors such as genetics, environment, social interactions, and psychological states influence the development and expression of empathy and compassion.
- Discuss how different treatments (e.g., behavioral and pharmacological) for brain disorders affect empathy and compassion.
- Consider how understanding the neurobiological mechanisms of empathy and compassion may be applied in other domains such as healthy workforce practices.

Program At-A-Glance

- **Day 1 (May 19)**
 - Welcome & Introductory Remarks
 - Workshop Overview
 - Keynote Presentation: The Importance of Empathy and Compassion
 - **Session 1:** Pre-Clinical Models Relevant to Empathy and Compassion
 - **Session 2:** Human Development of Empathy and Compassion Across the Lifespan
 - Concluding Remarks
- **Day 2 (May 21)**
 - Welcome & Day 1 Recap
 - **Session 3:** Brain Disorders Affected by Empathy and Compassion and Potential Therapeutic Treatments
 - **Session 4:** Real-World Impacts of Empathy & Compassion
 - **Session 5:** Workshop Reflections & Future Opportunities
 - Concluding Remarks

MONDAY, MAY 19, 2025

11:00am Introductory Remarks

Frances Jensen, University of Pennsylvania, *Forum on Neuroscience and Nervous System Disorders Co-chair*

Deanna Barch, Washington University in St. Louis, *Forum on Neuroscience and Nervous System Disorders Co-chair*

11:05am Workshop Overview

Walter Koroshetz, National Institute of Neurological Disorders and Stroke, *Workshop Co-chair*

Gentry N. Patrick, University of California San Diego, *Workshop Co-chair*

11:10am Keynote Presentation: The Importance of Empathy and Compassion

Claus Lamm, University of Vienna

11:30am Keynote Presentation: Moderated Panel and Audience Q&A

Moderator: Richard Davidson, University of Wisconsin-Madison & Center for Healthy Minds, *Planning Committee Member*

11:40am Session 1: Pre-Clinical Models Relevant to Empathy and Compassion

Objective:

- Examine recent discoveries in pre-clinical models that elucidate the biological underpinnings of empathy/compassion like behaviors across species.
- Highlight common mechanisms that are conserved between and across animal models and humans.
- Discuss what is known about the evolutionary significance of empathy/compassion-like behaviors.
- Discuss the limitations and opportunities of utilizing pre-clinical models to study empathy and compassion.

11:40am Session Overview

Andrew Breeden, National Institute of Mental Health, *Planning Committee Member*

11:45pm Speaker Presentations

Monique Smith, University of California San Diego

Weizhe Hong, University of California Los Angeles

Steve Chang, Yale University

Valeria Gazzola, Netherlands Institute for Neuroscience

12:25pm Moderated Panel and Audience Q&A

1:05pm BREAK

1:15pm Session 2: Human Development of Empathy and Compassion Across the Lifespan

Objectives:

- Examine which developmental periods and factors (e.g., genetic, environmental) may be important for childhood and adulthood development of empathy and compassion.
- Discuss which brain areas are critical for empathy and compassion and how these regions change across developmental periods.
- Explore how social interactions (e.g., with parents, friends, schoolmates) and social context (e.g., war, severe deprivation, and cults) can affect the development of empathy and compassion.

1:15pm Session Overview

Jessica Stern, Pomona College, *Planning Committee Member*

1:20pm Keynote Lecture: The Development of Compassionate Altruism

Felix Warneken, University of Michigan

1:40pm Speaker Presentations

Tobias Grossmann, University of Virginia

Ruth Feldman, Reichman University

Zach Gottlieb, Talk with Zach

Patricia Lockwood, University of Birmingham

2:20pm Moderated Panel and Audience Q&A

2:50pm Day 1 Concluding Remarks

Walter Koroshetz, National Institute of Neurological Disorders and Stroke,
Workshop Co-chair

Gentry N. Patrick, University of California San Diego, *Workshop Co-chair*

3:00pm Adjourn Day 1

WEDNESDAY, MAY 21, 2025

11:00am **Review of Day 1 and Preview of Day 2**

Walter Koroshetz, National Institute of Neurological Disorders and Stroke,
Workshop Co-chair

Gentry N. Patrick, University of California San Diego, *Workshop Co-chair*

11:05am **Session 3: Brain Disorders Affected by Empathy and Compassion and Potential Therapeutic Treatments**

Objectives:

- Examine how empathy and compassion may be impacted in various psychiatric, neurological, and neurodevelopmental disorders.
- Highlight case studies of potential therapeutic treatments (e.g., behavioral and pharmacological) for brain disorders affected by empathy and compassion.

11:05am **Session Overview**

Abigail Marsh, Georgetown University, *Planning Committee Member*

11:10am **Speaker Presentations**

Damian Milton, University of Kent

Dimana Atanassova, Radboud Universiteit

Rebecca Waller, University of Pennsylvania

Patric Gagne, Psychopathyls

Dan Karlin, MindMed

12:00pm **Moderated Panel and Audience Q&A**

12:30pm **BREAK**

12:45pm **Session 4: Real-World Impacts of Empathy & Compassion**

Objectives:

- Explore strategies and practices that can cultivate empathy and compassion.
- Discuss the impact of technology on the development of empathy and compassion.
- Examine the benefits of increased empathy and compassion for mental health, workforce satisfaction, healthcare delivery, and for society.

12:45pm **Session Overview**

Dawn Lavell Harvard, Trent University & Roots of Empathy, *Planning Committee Member*

12:50pm **Speaker Presentations**

Mary Gordon, Roots of Empathy

Sonja Raaum, University of Utah

Tor Wager, Dartmouth College

Kelli Marshall, Trent University

1:30pm **Moderated Panel and Audience Q&A**

2:10pm **Session 5: Workshop Reflections & Future Opportunities**

Objectives:

- Reflect on the themes shared across the workshop about the mechanisms of empathy and compassion.
- Discuss current barriers and opportunities for the field to move forward (e.g., cutting edge tools and technologies).

2:10pm **Session Overview**

Walter Koroshetz, National Institute of Neurological Disorders and Stroke,
Workshop Co-chair

Gentry N. Patrick, University of California San Diego, *Workshop Co-chair*

2:15pm **Themes & Future Opportunities Discussion**

Paurvi Bhatt, The Rosalynn Carter Institute for Caregivers

Nomisha Kurian, University of Warwick

William Mobley, University of California San Diego, *Planning Committee Member*

2:55pm **Concluding Remarks**

Walter Koroshetz, National Institute of Neurological Disorders and Stroke,
Workshop Co-chair

Gentry N. Patrick, University of California San Diego, *Workshop Co-chair*

3:00pm **Adjourn Day 2**