

Philosophy & Neuroscience @The Gulf UI

Due to our beachfront locale and extended lunch, morning and afternoon breaks, the recommended conference attire is causal (American) beachwear.

All sessions will be held in **EMERALD COAST ROOM** (Tower building, second floor). If your room is on the *lobby side* of the hotel, take the elevator down to the 2nd floor, and walk across to the Tower Building to avoid lobby traffic.

Schedule of Talks

THURSDAY, SEPTEMBER 28

8:00-8:30am Conference room open, coffee, beverages, light breakfast foods

8:30-8:40am Welcome remarks, thank-yous. John Bickle and Nedah Nemati

Session 1: Does the Brain Compute? Part One 8:40-9:50am

8:40-9:10am **Thomas Polger** (Philosophy, University of Cincinnati), **Philosophy Keynote Lecture**, “Color vision and the four-color-map problem, revisited”

9:10-9:30am **Alessandra Buccella** (Philosophy, SUNY Albany), “Brains, algorithms and the aims of computational cognitive neuroscience”

9:30-9:50am **Natalia Castelo Branco Matos** (Neuroscience, Yale University), “Visual illusions in fruit flies and humans indicate shared computational goals”

9:50-10:20am **Morning Break** (coffee, beverages, light snacks)

Session 2: Does the Brain Compute? Part Two 10:20-11:50am

Submitted Symposium: Computational neuroscience and non-computational alternatives

Symposium Overview

Computational neuroscience appeals to heterogeneous accounts of computation. These range from classical cognitivist (e.g., Church-Turing) to far more liberal accounts (e.g., reinforcement). While variety can be the spice of life, the current state of “computation” in neuroscience raises substantial concerns that include lack of consensus within and between disciplines and the exclusion of viable noncomputational approaches. This symposium aims to critically examine the notion of “computationalism” in computational neuroscience and suggest alternatives. The overarching goal of this symposium is to make progress towards unpacking both the descriptive and normative roles of computationalism in neuroscience and to offer alternatives.

Luis Favela (Philosophy, University of Central Florida) and **Michael Silberstein** (Philosophy, Elizabethtown College, Pennsylvania), “Neural (titular) computation”

Luiz Pessoa (Psychology, University of Maryland, College Park), “The brain as a distributed, entangled system”

Brian Odegaard (Psychology, University of Florida), “Computational modeling of multisensory integration: Pros, cons, and suggestions for future progress”

Randall Beer (Cognitive Science, Neuroscience, Informatics, Computing and Engineering, Indiana University, Bloomington), “Understanding the mechanisms of behavior from the (evolutionary) ground up”

11:50am-1:50pm **Lunch Break**

Session 3: Neuroscience of Memory 1:50pm-3:00pm

1:50-2:20pm **Paul Frankland** (Program in Neurosciences and Mental Health, Hospital for Sick Children, Toronto, Canada), **Keynote Neuroscientist Lecture**, “The neurobiology of engrams

2:20-2:40pm **Gregory Johnson** (Philosophy, Mississippi State University), “Repetition and memory: A case of confirmation in cognitive psychology and neurobiology”

2:40pm-3:00pm **Sarah Robins** (Philosophy, and Institute for Integrative Neuroscience, Purdue University), “What neuroscientists think about what engrams must be like”

Session 4: Neuroscience of Consciousness 3:05-3:45pm

3:05-3:25pm: **Benjamin Kozuch** (Philosophy, University of Alabama), “Visual consciousness is too informationally rich for the PFC to be an NCC”

3:25-3:45pm: **Marco Nathan** (Philosophy, University of Denver) and **Elizabeth Stoll** (Western Institute for Advanced Study, Denver, Colorado), “Reframing the problem of consciousness for the age of neuroscience”

3:45-4:15pm **Afternoon Break** (Beverages and light snacks available)

Session 5: Methodological Issues in Neuroscience, Both Narrow and Broad 4:15pm-5:55pm

4:15-4:35pm **Haixin Dang** (Philosophy, University of Nebraska, Omaha) and **Zina Ward** (Philosophy, Florida State University), “Neuroimaging, many-analyst studies, and permissive evidence”

4:35-4:55pm **Juan Garrido-Wainer** (Philosophy, Universidad Alberto Hurtado, Santiago, Chile), “The development of electrophysiological tools for the simultaneous and separable recording of neural assemblies: An infra-experimental analysis”

4:55-5:15pm **Christopher Hoyt** (Philosophy and Religion, Western Carolina University), “How speculative neuro-psychological theories misrepresent perspective as science: A Wittgensteinian critique”

5:15-5:35pm **Lua Koenig** (Neuroscience Institute, New York University Medical Center) and **Laura Gradowski** (History and Philosophy of Science, University of Pittsburgh), “Expectation and imagination in scientific inquiry”

5:35-5:55pm **Alok Srivastava** (Independent Researcher, San Francisco, California), “Neurophysiologists are tinkerer-naturalists in their ways of holding and figuring out phenomena: Two case studies”

FRIDAY, SEPTEMBER 29

8:00-8:30am Conference room open, coffee, beverages, light breakfast foods available

Session 6: Neuroscience and New Mechanism: For and Against 8:30-9:50am

8:30-8:50am **Paul Kelly** (Philosophy, University of Wisconsin, Madison), “Dynamical models, scientific understanding and explanatory unification”

8:50-9:10am **J.P. Gamboa** (History and Philosophy of Science, University of Pittsburgh), “Ongoing neural mechanisms of cognition”

9:10-9:30am **Dan Burnston** (Philosophy and Neuroscience Institute, Tulane University), “Collaborative modeling in neuroscience: Lessons for the philosophy of scientific models”

9:30-9:50am **Mark Couch** (Philosophy, Seton Hall University), “An argument-based account of mechanistic explanation in neuroscience”

9:50-10:20am **Morning Break** (coffee beverages, light snacks available)

Session 7: Brain Evolution 10:20am-12:20pm

*This session sponsored by a generous gift from the
Presidential Scholars in Neuroscience and Society Program, Columbia University.*

10:20-10:50am **Barbara Finlay** (Psychology, Cornell University), **Keynote Neuroscientist Lecture**, “The cortex as a Rorschach blot for cognitive scientists, computational theorists and evolutionary biologists alike”

10:50-11:20am **Darcy Kelley** (Biological Sciences, Neurobiology and Behavior, Columbia University), **Keynote Neuroscientist Lecture**, “Thinking about neural circuit architectures that support acoustic communication; evolutionary guiderails”

11:20-11:50am **Nedah Nemati** (Presidential Scholar in Neuroscience and Society, Columbia University) and **Maria Tosches** (Biological Sciences, Columbia University), “Studying an evolving cortex”

11:50-12:20pm **Georg Striedter** (Neurobiology and Behavior, University of California Irvine), **Keynote Neuroscientist Lecture**, “Clever birds and complex brains: Cell types and circuits in evolution”

12:20-2:20pm **Lunch Break**

Session 8: Evolution, Cognition and Development 2:20-4:30pm

2:20-2:50pm **Alan Love** (Philosophy and Center for Philosophy of Science, University of Minnesota), **Philosophy Keynote Lecture**, “Character identity mechanisms versus deep homology in neuroarchitecture”

2:50–3:10pm **Carrie Figdor** (Philosophy, University of Iowa), “Lessons from neuroscience for the evolution of cognition”

3:10-3:30pm **Gregory Kohn** (Psychology, University of North Florida), “The contingent animal: Does neuroscience and ethology still need innateness?”

3:30-3:50pm **Mateusz Kostecki** (Knapska Laboratory, Nencki Institute of Experimental Biology, Polish Academy of Sciences) “Try learning first: On the cost of “instinctive” behaviors”

3:50-4:10pm **Elyse Purcell** (Philosophy, SUNY Oneonta), “Disorder, antifragility and the evolutionary advantage of social defeat in human and animal minds”

4:10-4:30pm **Valarie Hardcastle** (Vice President for Health Innovation, Northern Kentucky University), “Entangled Brains and the Experience of Pains”

4:30-5:00pm **Afternoon Break** (beverages, light snacks available)

Session 9: Neuroscience, Cognitive Ontology and Functions 5:00–6:40

5:00-5:20pm **Vincent Bergeron** (Philosophy, University of Ottawa, Canada), “Assigning functions to brain structures: How teleology gets in the way”

5:20-5:40pm **Trey Boone** (Philosophy, Duke University), “Neural degeneracy and multiple realizability”

5:40-6:00pm **Caitlin Mace** (History and Philosophy of Science, University of Pittsburgh), “Negotiating ascription of content to neural activity”

6:00-6:20pm **Joe McCaffrey** (Philosophy, University of Nebraska, Omaha), “Does neural contextualism imply holism?”

6:20-6:40pm **Michael De Vivo** (Philosophy, Florida State University), “Neurocognitive ontology: The case of skilled motor cognition”

SATURDAY, SEPTEMBER 30

8:00-8:30am Conference room open, coffee, beverages, light breakfast foods available

Session 10: Ethical and Social Implications of Recent Neuroscience 8:30-10:30am

8:30-9:00am **Carl Gillett** (Northern Illinois University), **Philosophy Keynote Lecture**, “A neuroscientific argument for nihilism and its lessons”

9:00-9:30am **Cédric Brun** (Philosophy Department, Bordeaux Montaigne University, team leader of NeHuS team (Neuroscience, Humanities and Society), CNRS-University of Bordeaux Research Institute for Neurodegenerative Diseases) and **Marie Penavayre** (previously Post-doctoral Fellow, Institute for Neurodegenerative Diseases, NeHuS team, now pursuing a career outside Academia), “The explanatory power of neurostimulation studies on criminal behavior”

9:30-9:50am **Rayan Magsi** (Neurology, University of Toledo) and **Nina Atanasova** (Philosophy, University of Toledo, and Cleveland State University), “My brainstem is dead. But am I?”

9:50-10:10am **Maximiliana Rifkin** (Philosophy, CUNY Graduate Center), “Explicating scientific notions of gender identity”

10:10-10:30am **Patrick Hopkins** (Philosophy, Millsaps College and Psychiatry and Behavioral Science, University of Mississippi Medical Center), “On the evolutionary variety of artificial psychologies”

10:30-11:00am **Morning Break** (coffee, beverages, light snacks available)

Session 11: Reconsidering the Hodgkin-Huxley Model (Again!) 11:00-12:20pm

11:00-11:30am **James Bower** (Simulating being a 19th-century landed gentry scientist at: Hill Creek Farms, Ashland, Oregon) **Keynote Neuroscientist Lecture**, “Hodgkin and Huxley: Misunderstood by biologists and misrepresented by physicists”

11:30-12:00am **Kenneth Aizawa** (Philosophy, Rutgers University, Newark), **Philosophy Keynote Lecture**, “Hodgkin and Huxley and the limits of explanation”

12:00-12:20pm **John Bickle** (Philosophy and Religion, and Shackouls Honors College, Mississippi State University; Advanced Biomedical Education, University of Mississippi Medical Center), “Hodgkin’s and Huxley’s own assessment of their “quantitative description” of nerve membrane current”

12:20-2:20pm **Lunch Break**

Session 12: Cognitive Neuroscience 2:20-4:10pm

2:20-2:50pm **David Redish** (Neuroscience, University of Minnesota), **Keynote Neuroscientist Lecture**, “Decision making systems in mammalian brains”

2:50-3:10pm **David Barack** (Philosophy, University of Pennsylvania), “A neurodynamical alphabet”

3:10-3:30pm **Zoe Drayson** (Philosophy, University of California, Davis), “Neural mechanisms of linguistic prediction: Some philosophical implications”

3:30-3:50pm **Stephan Pohl** (Philosophy, New York University), “Empirical desiderata for representation in cognitive neuroscience”

3:50-4:10pm **Pietro Pasquinucci** (Theoretical Philosophy, FINO-Northwestern Italian Philosophy Consortium), “The constitution of the spatial world: Place cells, cognitive spaces and the phenomenological theory of perception”

4:10-4:40pm **Afternoon Break** (beverages, light snacks available)

Session 13: Idealization in Neuroscience 4:40-5:20pm

4:40-5:00pm **Eric Hochstein** (Philosophy, University of Victoria, Canada), “Integration without integrated models or theories”

5:00-5:20pm **Gabriel Severino** (Cognitive Science, Indiana University, Bloomington), “Theory-experiment dialogs: How idealized modeling can inform our experiments”

Session 14: Other Minds (/Brains?) 5:20-6:00pm

5:20-5:40pm **Sebastian Purcell** (Philosophy, SUNY Cortland), “Did the Aztecs advance a modular mind thesis?”

5:40-6:00pm **Nina van Rooy** (Philosophy, Duke University), “Does GPT Have Theory of Mind? Attributing Emergent Cognitive Capacities to Large Language Models”

Closing remarks 6:00-6:10pm

John Bickle Thanks, Looking Ahead with DSPNW, and a Request