Challenges and Opportunities for Cognitive Science in Higher Education

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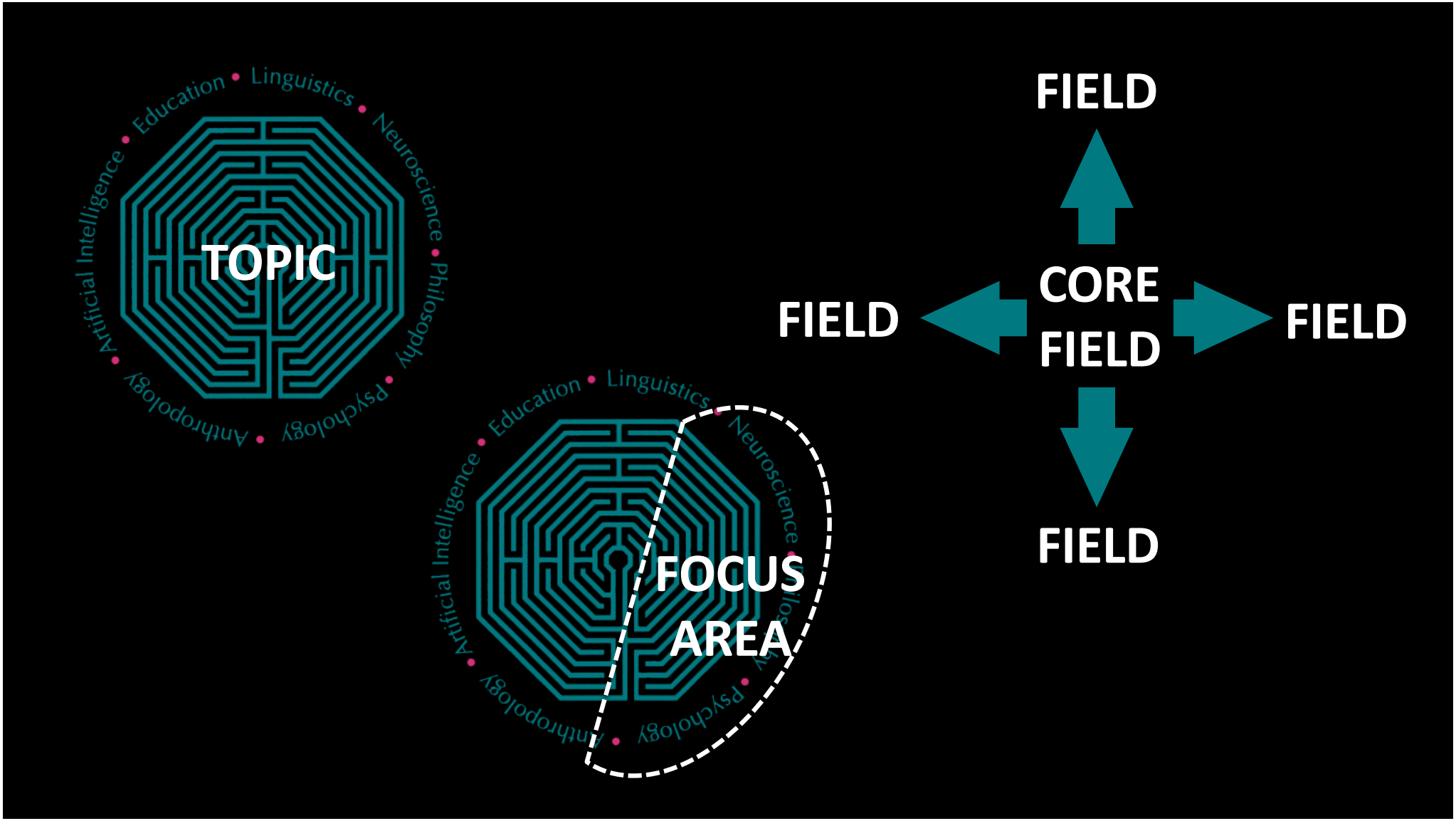
PRINCETON UNIVERSITY

Program in Cognitive Science

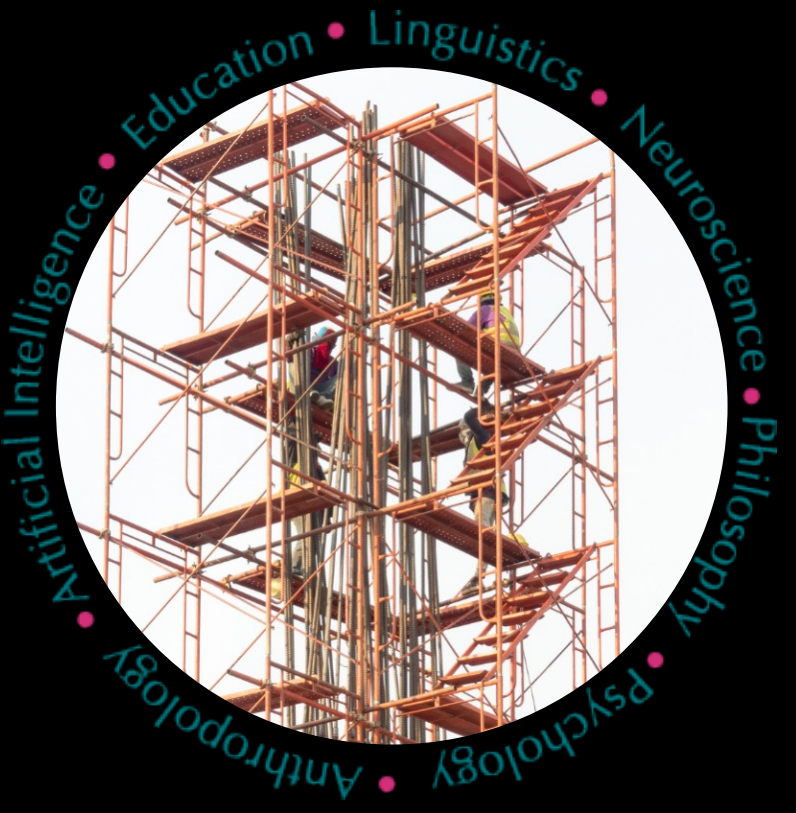
Challenge & Opportunity #1:
How to be interdisciplinary in a disciplinary world

Challenges

- Few universities have cognitive science departments, and even those that do often rely on many courses within related departments to create a full curriculum
- The field of cognitive science is broad and heterogenous, and it’s valuable to support this heterogeneity in research directions and educational trajectories


Artificial Intelligence
Education
Linguistics
Neuroscience
Philosophy
Psychology
Anthropology
TOPIC
FOCUS AREA
FIELD
FIELD
CORE FIELD
FIELD
FIELD

“Scaffold” Model



PRINCETON UNIVERSITY

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Program in Cognitive Science

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Funding

- Graduate Student Research Funding
- Undergraduate Research Support
- Undergraduate Senior Thesis Research
- Undergraduate Summer Research Fellowship

Open "https://cogsci.princeton.edu/funding" in a new tab

Music and Language

2021-2022 Spring

HUM 230

CGS 230

PSY 209

MUS 229

DISTRIBUTION AREA:
EC

GRADING BASIS:
Graded A-F, P/D/F, Audit

INSTRUCTORS:

- Adele E. Goldberg
- Elizabeth H. Margulis

Description:

Music and language offer unique pathways into studying the human mind. This interdisciplinary course explores the parallels and differences between music and language by investigating their functions and structures, as well as the variety found in each across the globe. We will examine how both past experiences and cognitive processes shape perception in real time. Through a variety of interdisciplinary readings, guest lecturers, and hands-on activities, the course aims to highlight current lively debates and provide students with the background and tools needed to study the relationship between music and language from multiple perspectives.

Sample Reading List:

- Cox, A., *Music and Embodied Cognition Listening*
- Sacks, Oliver, *Musicophilia: Tales of music and the brain*
- Patel, Ani, *Music, Language and the Brain*

Systems

2024-2025 Fall

PSY 243

CGS 243

DISTRIBUTION AREA:
CD or EC

GRADING BASIS:
na, npdf

INSTRUCTORS:
- Asif A. Ghazanfar

Description:

One way to understand the various patterns and processes in our world is to think of them as "systems". There's a lot of talk about systems ("blame the system"; or "don't hate the player, hate the game"), but less understanding about how systems actually work. We will bridge this knowledge gap by learning about what human-made systems have in common, how they respond to change and why it is difficult to change them in predictable ways. To do this, we'll explore the tensions among laws and policing, gift-giving and capitalism, creativity and technology. Throughout, we will reflect on the roles of race, culture, economic status and history.

Sample Reading List:

Unlocking the Science of Human Nature

2024-2025 Spring

PSY 333

CHV 300

CGS 333

DISTRIBUTION AREA:

EC or SA

GRADING BASIS:

Graded A-F, P/D/F, Audit

INSTRUCTORS:

- Molly J. Crockett

Description:

Scientists and humanists study "human nature" from radically different perspectives. This course explores interdisciplinary ways of tackling the gnarly problem of understanding ourselves. We'll grapple with questions like: Is human nature fundamentally good or evil? Is this even a sensible question to ask? How do technology and culture impact human morality and the ways we study it? What can AI tell us about human nature? Students will learn how to critically evaluate research examining the porous boundaries between self and society, and to think imaginatively about what the scientific method can reveal about humans- now and in the future.

Sample Reading List:

See instructor for complete list.

NATURAL & ARTIFICIAL MINDS

CHILLOQUIUM

Interdisciplinary NAM for all audiences

Dr. Yael Niv

(NEU/PSY)

&

Dr. Ben Eysenbach

(COS)

in a moderated conversation about

Interdisciplinary Perspectives on Reinforcement Learning

Reinforcement learning & decision-making behaviors of natural & artificial minds

RSVP here

tinyurl.com/chilloquium25

Thursday
March 6th

4:30 - 6 pm

Robertson Hall
002

NATURAL & ARTIFICIAL MINDS

CHILLOQUIUM

Interdisciplinary NAM for all audiences

Dr. Adam Elga

(PHI)

&

Dr. Jaime Fernández Fisac

(ECE)

in a moderated conversation about

Interdisciplinary Perspectives on Decision Making in Risks and Collaboration

RSVP here

tinyurl.com/chilloquium2

Thursday
April 24th

4:30 - 6 pm

Bendheim
House

Thank you!

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