

Beyond Shannon—The Structure & Meaning of Information

Attendees



Monday, 6 May 2019

Tuesday, 7 May 2019

Wednesday, 8 May 2019

University of Amsterdam

University of Amsterdam

University of Amsterdam

Venue: Institute for Advanced Study

Venue: Institute for Advanced Study

Venue: Institute for Advanced Study

Co-Organizers

Institution

Email

Peter Sloot	IAS, UVA	p.m.a.sloot@uva.nl
Jim Crutchfield	CSC, UC Davis	chaos@ucdavis.edu
Rick Quax	IAS, UVA	R.Quax@uva.nl
Ryan James	CSC, UC Davis	rgjames@ucdavis.edu
Jeff Emenheiser	CSC, UC Davis	jemenheiser@ucdavis.edu
Participants		
Randy Beer	Indiana U	rdbeer@indiana.edu
Jan de Boer	UVA	J.deBoer@uva.nl
Alfons Hoekstra	UVA	A.G.Hoekstra@uva.nl
Kristian Lindgren	Chalmers	kristian.lindgren@chalmers.se
Sarah Marzen	MIT	marzen.sarah@gmail.com
Fernando Rosas	Imperial College	f.rosas@imperial.ac.uk
Christian Schaffner	UVA	c.schaffner@uva.nl
Greg Ver Steeg	ISI, USC	gregv@isi.edu
Hector Zenil	Karolinska Inst	hector.zenil@algorithmicnaturelab.org

8:30 AM Coffee, tea, juice, and snacks
 Organizers: **Welcome**
What's the Problem?
Introductions all around
Charge to participants:
 What questions are in need of answers?

8:30 AM Coffee, tea, juice, and snacks
Technical Contexts
 Information theory frameworks, roadblocks?
Kristian Lindgren: Information in Statistical Physics

8:30 AM Coffee, tea, juice, and snacks
Structure of Information Processing
 How can information be processed by a system?
Sarah Marzen: Information in the Brain
Jeff Emenheiser: Directionality of Interpretations

10:30 AM Coffee break
11:00 AM Jim Crutchfield: Nouveau Cybernetics?
Ryan James: Road to Multivariate Information Theory

10:30 AM Coffee break
Hector Zenil: Algorithmic Information Theory
Jeff Emenheiser: Partial Information Decomposition

10:30 AM Coffee break
Others/Open discussion

Noon:30 Lunch

Lunch

Lunch

1:00 PM
1:30 PM Ryan James: Road to Multivariate Information Theory
Contexts
 Uses of an interpretable theory of multivariate information?

Structure of Information Storage
 How can information be stored by a system?
Rick Quax: Synergy
Fernando Rosas:
 Ψ ID: Decomposing integrated information

Contexts (reprise)
 Reflections on workshop (Up to half hour each)
Randy Beer
Peter Sloot
Alfons Hoekstra

3:00 PM Randy Beer: A Brief History of Partial Information

Coffee break

Coffee break
Wrapping Up

3:30 PM Coffee break

Coffee break
Greg ver Steeg: Applications in Machine Learning

Jeff Emenheiser: Summary
 Discussion

4:00 PM
Peter Sloot/Alfons Hoekstra
IAS Causality Competition?
5:00 PM
Adjourn

Ryan James: Mapping the Simplex

Looking forward:
 Planning
 Collaborations?
 Journal special issue?

6:30 PM Group Dinner
In de Waag, Nieuwmarkt 4, 1012 CR Amsterdam

Adjourn
Dinner: Own recognizance

Adjourn
Dinner: Own recognizance
Day Four: Collaborations, spontaneously structured