2011-2012 Workshops & Conferences

October 2011 Workshop: Philosophy of Information

Workshop Objectives

The overall objective of this workshop is to study some of the open questions within philosophy of information.

Interest in the philosophy and meaning of information goes back half a century but has rapidly increased recently with many new directions of research into the meaning, quantification and measures of information and complexity as well as a vast range of applications across the scientific spectrum.

In this conference we will focus on just one aspect of the philosophy of information: the different techniques to measure information and to identify meaningful information. Various definitions (of meaningful information) have been proposed in the recent past: sophistication, effective complexity, computational depth, self-dissimilarity and facticity. At a first glance these definitions seem to cover various aspects of the same domain. If, for example, one defines meaningful information in terms of a balance between ad hoc and structural information in a dataset then this definition automatically has consequences for self dissimilarity, the effective complexity, the facticity and the computational depth of the set. A natural question is what are the exact relations between these various definitions, and whether it is possible to reduce these concepts into one (or more) central concept/s. Another interesting question is which kind of processes in nature and society creates meaningful information: evolution, game playing, stock exchange, etc.

This one day conference will address these basic questions and will explore recent advances in the philosophy of information and its potential applications.

Conference Topics

Measuring information
How to define and quantify meaningful information
What natural (or behavioral) processes create meaningful information?

Program Committee

Pieter Adriaans (U. Amsterdam) – Co-Chair
Duncan Foley (New School for Social Research and Santa Fe Inst.)
Amos Golan (American U.) – Co-Chair
Esfandiar (Essie) Maasoumi (Emory)
Confirmed Speakers

Pieter Adriaans (U. Amsterdam)
Luis Antunes (Porto U., Portugal)
Ariel Caticha (SUNY Albany)
J. Michael Dunn (Indiana U. Bloomington)
Luciano Floridi (Oxford U. and U. Hertfordshire)
Duncan Foley (New School for Social Research and Santa Fe Institute)
David Oliver

Workshop Program

8:00-9:00 AM Registration

9:00-9:10 AM Welcoming Remarks
Peter Starr (American U.)

9:10-9:20 AM Info-Metrics and Workshop's Objectives
Amos Golan (American U)

9:25-10:10 AM Session I
Chair: Nathan Harshman (American U.)
"The Quantum Origin of New Information"
David Oliver (Meadows of Dan, Virginia, USA)

10:15-11:00 AM Session II
Chair: Anthony F. Beavers (U. of Evansville)
"Information Closure and the Sceptical Objection"
Luciano Floridi (Oxford U. and U. Hertfordshire)

11:00-11:15 AM Coffee break

11:15-12:00 PM Session III
Chair: Robin Lumsdaine (American U.)
“Contradictory Information: Better than Nothing”
J. Michael Dunn (Indiana U. Bloomington)

12:00-1:00 PM Lunch

1:00-2:30 PM - Session IV
Chair: Éric Renault (Brown)
"Facticity and the quest for meaningful information"
Pieter Adriaans (U. Amsterdam)
"Notes on facticity and effective complexity"
Duncan Foley (New School for Social Research and Santa Fe Inst.) and David Oliver (Meadows of Dan, Virginia, USA)

2:30-3:15 PM Session V
Chair: Robert Lerman (American U., Urban Institute)
“Information and Entropy in a Bayesian Framework”
Ariel Caticha (SUNY Albany)

3:15-3:45 PM Coffee break

3:45-4:30 PM Session VI
Chair: Richard Scheines (Carnegie Mellon)
"Useful Information"
Luis Antunes (Porto U., Portugal)

4:30-4:45 PM Coffee break

Moderator: Pieter Adriaans (U. Amsterdam)
Anthony F. Beavers (U. of Evansville)
Luciano Floridi (Oxford U. and U. Hertfordshire)
Aidan Lyon (UMD)
Brian Ziebart (Carnegie Mellon U)

6:15 -7:30 PM Reception

October 2011 Workshop papers and additional materials can be found on the workshop webpage: http://www.american.edu/cas/economics/info-metrics/workshop/workshop-2011-fall.cfm
November 2011 Workshop: Information Theory and Shrinkage Estimation

The conference is jointly hosted by the Info-Metrics Institute and North Carolina State University. The co-chairs are Mehmet Caner (NCSU), Amos Golan (AU), and Peter Phillips (Yale).

**Workshop Objectives**

Interest in shrinkage estimators goes back half a century but has rapidly increased recently with many new directions of research that cover a vast range of applications in different disciplines. Ongoing research on information-theoretic estimation and inference methods is similarly interdisciplinary, involving information theory, engineering, mathematical statistics, econometrics and the natural sciences.

Modern shrinkage estimators like adaptive Lasso and Bridge methods are penalized estimators with various penalty designs. These methods assist in model selection, oracle efficient estimation and provide substantial computational advantages. In these respects they may be viewed as methods that utilize information better than existing techniques. They have been found to be particularly helpful in large dimensional systems where shrinkage can deliver sparse estimation, sparsivity in the limit, and improved finite sample performance. The range of applications is vast and includes microeconometric models of labor supply, time series econometric applications to economic growth, aggregate cointegrated systems, and market wide financial volatility, social interaction network estimation, and gene selection in biology.

This one day conference will address these various themes, the inter-connections between shrinkage estimation methodology and info-metrics, and explore recent advances in shrinkage methods and applications.

**Workshop Topics**

- Shrinkage Estimators and Info-Metrics
- Regularization Methods and Info-Metrics
- Model Discovery and Info-Metrics

**Program Committee**

- **Mehmet Caner** (NC State U) – Co-Chair
- **Amos Golan** (American U) – Co-Chair
- **George Judge** (UC Berkeley)
- **Robin Lumsdaine** (American U)
- **Peter Phillips** (Yale) – Co-Chair
- **Eric Renault** (Brown)
Keynotes Speakers

Andrew Barron (Yale)
Victor Chernozhukov (MIT)
Harrison Zhou (Yale)

Other Confirmed Speakers

Mehmet Caner (NCSU)
Marine Carrasco (Montreal)
Bruce Hansen (Wisconsin)
George Judge (UC Berkeley)
Eric Renault (Brown)
Song Song (UC Berkeley)
Pascale Valery (HEC-Montreal)
Liao Zhipeng (UCLA)

Workshop Program

8:00-9:00 AM Registration
9:00-9:10 AM Welcoming Remarks
Amos Golan (American U)

9:10-9:25 AM Conference Opener and Objectives
Amos Golan (American U)
Peter Phillips (Yale)

“Least Squares After Model Selection”
Chair: Teddy Seidenfeld (Carnegie Mellon)

9:55-10:05 AM Discussion Harrison Zhou (Yale)

10:10-11:00 AM Session I: Shrinkage Estimators in Econometrics
Chair: Eric Renault (Brown)
1. Liao Zhipeng (UCLA) and Peter C.B. Phillips (Yale)
   “Automated Estimation of Vector Error Correction Models”
Discussion: Mehmet Caner (NCSU)
2. Mehmet Caner (NCSU) and Michael Fan (NCSU)
“A near minimax risk bound: adaptive lasso with heteroskedastic data in instrumental variable selection”
Discussion: Liao Zhipeng (UCLA)

11:00-11:15 AM Coffee break

11:15 AM-12:05 PM Session II: Regularization
Chair: Essie Maasoumi (Emory U.)
1. Marine Carrasco (Montreal) and Neree Noumon (Montreal)
“Optimal Portfolio Selection using Regularization”
Discussion: Pascale Valery (Montreal)
2. Jean Marie Dufour (HEC Montreal) and Pascale Valery (HEC-Montreal)
“Wald type tests when rank conditions fail: a smooth regularization approach”
Discussion: Marine Carrasco (Montreal)

12:10-1:00 PM Lunch

1:00-2:05 PM - Session III: High Dimensional Covariances
Chair: Aman Ullah (UC Riverside)
1. Invited Talk: Harrison Zhou (Yale)
“High-Dimensional Covariance Structure Estimation”
Discussion: Victor Chernozhukov (MIT)
2. Song Song (UC Berkeley)
“Dynamic large spatial covariance matrix estimation in application to semiparametric model construction via variable clustering; the SCE approach”
Discussion: Andrew Barron (Yale)

2:10-3:30 PM Session IV: New Estimators Via Information Theory
Chair: Marine Carrasco (Montreal)
1. Bruce Hansen (Wisconsin) “Generalized Shrinkage Estimators”
Discussion: Essie Maasoumi (Emory U.)
2. Jonathan B. Hill (UNC-CH) and Eric Renault (Brown)
“GMM with Tail Trimming”
Discussion: Amos Golan (American U.)

3:30-3:45 PM Coffee break
3:45-4:15 PM - Invited Talk: Andrew Barron (Yale)
"Statistical Risk Reduction by Combining or Selecting Models"
Chair: Robin Lumsdaine (American U)

4:15-4:25 PM Discussion: Song Song (UC Berkeley)

4:25-5:00 PM - Short Presentation/Poster Session

Chair: Peter Phillips (Yale)
a. Peter Exterkate (CREATEES, Aarhus University)
"Nonlinear forecasting with many predictors using kernel ridge regression"
b. Enrique Pinzon-Garcia (Wisconsin)
“Linear Regression with a large number of weak instruments using post l-1 penalized estimator”
c. Chu An Liu (Wisconsin)
"A Plug-In Averaging Estimator for Regressions with Heteroskedastic Errors"
d. Shi Zhentao (Yale)
“Estimation of High Dimensional Structural Model”
e. Jerome Krief (LSU)
“Instrumental Nonparametric Estimation Under Conditional Moment Restrictions: A Nonlinear Tikhonov Approach”
f. Anders Bredahl Kock (CREATEES and Aarhus University)
"Oracle Efficient Variable Selection in Random and Fixed Effects Panel Data Models"

5:00-5:15 PM - Coffee break

5:15-6:15 PM - Round Table – Information Theory and Shrinkage Estimation

Moderator: Mehmet Caner (NCSU)
Bill Greene (NYU)
Nick Kiefer (Cornell)
Robin Lumsdaine (American U.)
Essie Maasoumi (Emory U.)
Peter Phillips (Yale)
Eric Renault (Brown)
Aman Ullah (UC Riverside)

6:15 -7:30 PM – Reception

November 2011 Workshop papers and additional materials can be found on the workshop webpage: http://www.american.edu/cas/economics/info-metrics/workshop/workshop-2011-november.cfm
March 2012 Workshop: Information and Econometrics of Networks

Workshop Objectives

The two-day conference is supported by the Journal of Applied Econometrics and will be organized jointly by Professors Amos Golan of American University and Essie Maasoumi of Emory University. Social and economic networks are everywhere: from Facebook to the more complex global financial network or to networks connecting economic agents or to other complex and dynamic economic networks. The study of these networks is crucial for both academics and policy makers and presents a host of new theoretical and econometric challenges. This conference will concentrate on studying the information and econometrics of networks. The conference organizers encourage submissions of papers on any topic within this overall theme with a particular emphasis on the list below.

Workshop Topics

Info-Metrics and Networks
Spatial Econometrics
Information in Networks
Factor Dependence
Empirical Analysis of Social and Economic/Financial Networks
Financial Networks and Risk
Complex Networks

Program Committee

Anil Bera (U Illinois, Urbana-Champaign)
Amos Golan (American U.), Co-Chair
Robin Lumsdaine (American U.)
Esfandiar (Essie) Maasoumi (Emory), Co-Chair
Michael J. Stutzer (U. Colorado-Boulder)

Confirmed Speakers

Marco Avellaneda (NYU)
Larry Blume (Cornell)
Ethan Cohen-Cole (U. Maryland)
Rama Cont (Columbia)
Steven N. Durlauf (U. Wisconsin, Madison)
Craig Friedman (S&P)
Michael Gordy (Federal Reserve Board)
Jiawei Han (U. Illinois at Urban-Champaign)
Peter Robinson (London School of Economics)
Dan Rockmore (Dartmouth)
Michael J. Stutzer (U. Colorado-Boulder)
David Wolpert (NASA)
Program

Friday, March 30

8:30-9:30 Registration

9:30-9:35 AM Welcoming Remarks
Peter Starr (Dean of College of Arts & Sciences, American U)

9:35-10:00 AM Info-Metrics and Workshop's Objectives
Amos Golan (American U)

10:00-12:00 PM SESSION I: Info-Metrics, Systemic Risk and Finance - I

Session Organizer – Michael J. Stutzer

Chair: Duncan Foley (New School for Social Research and Santa Fe Inst.)
1. Entropy in Financial Network Contagion Research Michael J. Stutzer (U. Colorado)
2. Systemic Risk and Network Formation in the Interbank Market Ethan Cohen-Cole (U. Maryland)
3. Contagion and systemic risk in interbank networks Rama Cont (Columbia)
4. Trading Networks Celso Brunetti (Federal Reserve Board)

12:10-1:00 PM SESSION II: Network Groups and Econometrics

Chair: Robin Lumsdaine (American U)

1:00-2:00 PM Lunch

2:00-3:15 PM SESSION III: Economic and Decision Networks

Chair: Robert Lerman (American U and Urban Institute)
1. Linear Social Network Models, Steven N. Durlauf (U. Wisconsin), Lawrence Blume, William Brock, and Rajshri Jayaraman
2. Main Street vs. Wall Street: A Comparison of Views Robin Lumsdaine (American U) and Rogier J.D. Potter van Loon (Erasmus U)

3:15-3:30 PM Coffee Break
3:30-4:30 PM Session IV: Social Networks
Chair: Anil Bera (U. Illinois)
1. Identification and Estimation of Social Interactions through Variation in Equilibrium Influence Mikko Packalen (University of Waterloo)
2. A Social Interactions Model with Endogenous Friendship Formation and Selectivity Chih-Sheng Hsieh and Lung-Fei Lee (Ohio State University)
3. A Structural Model of Segregation in Social Networks Angelo Mele (Johns Hopkins)
4. The Role of Reciprocation in Social Network Formation, with an Application to Blogging, Alexia Gaudeul (Friedrich Schiller University) and Caterina Giannetti (University of London)

4:30-4:40 PM Coffee Break

4:40-6:10 PM Session V: Complex and Information Networks
Chair: Aman Ullah (UC Riverside)
1. Complex Systems and Economics -- A Network Theoretic Approach Daniel N. Rockmore (Dartmouth)
2. Unawareness, Information Theory, and Multiagent Influence Diagrams David Wolpert (Santa Fe Inst. and Information Sciences Group, Los Alamos National Laboratory)

6:15-7:45 PM Reception

Saturday, March 31

9:00-10:00 AM SESSION VI: Info-Metrics, Systemic Risk and Finance - II
Session Organizer – Michael J. Stutzer
Chair: Michael J. Stutzer (U. Colorado)
1. Finding diverse and manageable sets of plausible yet severe financial system scenarios Craig Friedman (S&P)
2. Credit Default Swaps and Systemic Risk Andreea Minca (Cornell)
3. Strategic Behavior and Endogenous Risk of Contagion in a Financial Network: A Network Formation Game Pallavi Baral (Indiana University)

10:05-10:50 AM SESSION VII: Financial and Social Networks
Chair: Dennis Glennon (OCC)
1. Market Microstructure Implications of Financial Networks Naomi Boyd (West Virginia University), Abel Rodriguez (University of California Santa Cruz), Brenda Betancourt (University of California-Santa Cruz)
2. Economic Links and Counterparty Risk: The Network Determinants of Credit Spreads Daniel Signori (Simon Fraser University) and Ramazan Gencay (Simon Fraser University)
3. Point Process Modeling for Directed Interaction Networks Patrick J. Wolfe joint work with Patrick Perry, NYU (University College London, Harvard University)
10:50-11:10 AM Coffee Break

11:10-12:00 PM SESSION VIII: Complex Information Networks - II
Chair: Nathan Harshman (American U)
1. Mining Heterogeneous Information Networks: Do We Need New Metrics? Jiawei Han, (U. Illinois at Urbana-Champaign)

12:00-1:00 PM - Lunch

1:00-1:45 PM SESSION IX: Economic and Financial Networks - Applications
Chair: Simon Sheng (American U.)
1. Nonparametric Analysis of Two-Sided Markets Senay Sokullu (University of Bristol)
2. Endogenous Response to the Interbank Loan 'Network Tax': Stability and Efficiency José Pedro Fique (Universidade do Porto, Portugal)
2. A Model of Endogenous Extreme Events Loran Grady Chollete (University of Stavanger)

1:45-3:30 PM Round Table – Info-Metrics: Information Processing across the Sciences
Moderator: Robin Lumsdaine (American U)
Anil Bera (U Illinois)
Duncan K. Foley (New School for Social Research and Santa Fe Inst.)
Nicholas Kiefer (Cornell U)
M. Hashem Pesaran (Cambridge and U. of Southern California)
Michael Stutzer (U Colorado)

March 2012 Workshop papers and additional materials can be found on the workshop webpage: http://www.american.edu/cas/economics/info-metrics/workshop/workshop-2012-spring.cfm