### (provisional) Program empg 2022

**Monday, September 5**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:20-8:30</td>
<td>Opening</td>
</tr>
<tr>
<td>8:30-9:30</td>
<td><strong>Keynote</strong>(^{1})</td>
</tr>
<tr>
<td>9:30-10:30</td>
<td><strong>Knowledge Structures I</strong></td>
</tr>
<tr>
<td>10:30-11:00</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:00-12:40</td>
<td><strong>Measurement, Scaling and Psychophysics</strong></td>
</tr>
<tr>
<td>12:40-14:00</td>
<td>Lunch Break</td>
</tr>
<tr>
<td>14:00-15:20</td>
<td><strong>Models of Cognition and Decision Making I</strong></td>
</tr>
<tr>
<td>15:20-15:50</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>15:50-17:10</td>
<td><strong>Psychometrics</strong></td>
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\(^{1}\) Twenty years of modeling multisensory integration

**Hans Colonius**

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**Knowledge Structures I**

Chair: ?

- Assessment-based correct rates in learning spaces
  **Jürgen Heller**

- On the empirical indistinguishability of skill maps in competence based knowledge space theory
  **Andrea Spoto & Luca Stefanutti**

- Relational characterization of a problem space and the (in)transitivity of human problem solving
  **Luca Stefanutti**

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**Measurement, Scaling and Psychophysics**

Chair: ?

- Context-Independence and Freedom of Choice are equivalent: A general proof
  **Ehtibar N. Dzhafarov**

- Semiorders and continuous Scott-Suppes representations. Debreu’s Open Gap Lemma with a threshold. Applications
  **Asier Estevan**

- Models of unforced choice
  **Víctor H. Cervantes & Aaron S. Benjamin**

- Estimating the mapping from objective to subjective representations based on both choices and response time
  **Quentin Gronau, Matt Palmer, Jim Sauer, Adam Osth, & Andrew Heathcote**

- Using phase-space graphs to represent eye-movement dynamics: insights from chaos theory
  **Mariagrazia Benassi, Sara Giovagnoli, Matteo Orsoni, & Sara Garofalo**

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**Models of Cognition and Decision Making I**

Chair: ?

- Cognitive models for the wisdom of crowds with spatial knowledge extension
  **Lauren E. Montgomery & Michael D. Lee**

- Combined modelling of reinforcement learning and decision process
  **Steven Miletic, Nick Stevenson, Birte U. Forstmann, & Andrew Heathcote**

- Measuring individual-level semantic representations
  **Samuel Aeschbach, Rui Mata, & Dirk U. Wulff**

- A neural Bayesian method for estimating complex dynamic models of cognition
  **Lukas Schumacher, Andreas Voss, Ullrich Köthe, & Stefan T. Radev**

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**Psychometrics**

Chair: ?

- Mixing CFA and EFA to handle data heterogeneity
Niccolo’ Cao, Antonio Calcagnì, & Livio Finos

On the identifiability of 3 and 4 parameters Item Response Theory models from the perspective of Knowledge Space Theory
Stefano Noventa, Sangbeak Ye, Augustin Kelava, & Andrea Spoto

Calibrating item parameters for Rasch model under the KST-IRT framework
Sangbeak Ye & Stefano Noventa

Bayesian networks and Jensen-Shannon divergence for item selection
Matteo Orsoni, Marco Scutari, Luca Tarasi, Vincenzo Romei, & Mariagrazia Benassi

17:10-18:10 Poster Session

Cultural differences in risk semantics revealed through language embeddings
Zoe Horlacher, Rui Mata, & Dirk U. Wulff

Data bottlenecks in the cognitive development of inductive generalisation
Oghenetekevwe Kwakpovwe & Frank Mollica

Exploration of a potential relationship between N200 peak-latency and visual encoding time
Christopher Pinier & Michael D. Nunez

Semantic accounts of risk perception
Zakir Hussain, Rui Mata, & Dirk U. Wulff

New measures of multisensory integration in reaction times based on relative entropy
Hans Colonius & Adele Diederich

Gamification as a means to improve data quality in the stop-signal task?
Michelle C. Donzellaz, Andrew Heathcote, Tahirra Kucina, Lindsay Wells, & Dora Matzke

A bibliometric look at the Bayesian and Frequentist trends in mathematical psychology and psychometrics
Andrea Zagaria & Luigi Lombardi

Updating the structure of a Bayesian network. From empirical evidence to graphical structure through stochastic independencies
Luigi Burigana

Natural language processing for cognitive analysis of emotions
Gustave Cortal, Alain Finkel, Patrick Paroubek, & Lina Ye

Feature-rich multiplex lexical networks as cognitive models of early language learning
Salvatore Citraro, Michael S. Vitevitch, Giulio Rossetti, & Massimo Stella

Tuesday, September 6

8:30-9:30 Keynote

New results in General Recognition Theory
F. Gregory Ashby

9:30-10:30 Knowledge Structures II
Chair: ?

The transposed knowledge space
Reinhard Suck

Constructing maximally informative tests with the competence-based test development methodology
Pasquale Anselmi, Jürgen Heller, Luca Stefanutti, & Egidio Robusto

Markov solution processes: comparing alternative assumptions
Andrea Brancaccio, Debora de Chiueole, & Luca Stefanutti

10:30-11:00 Coffee Break
**Bayesian Models**

11:00-12:40

Chair: ?

Bayesian hierarchical modelling for between-subject analysis
*Niek Stevenson, Reilly J. Innes, Quentin F. Gronau, & Birte U. Forstmann*

Bayesian Informative Hypotheses and estimation to uncover interaction effects: better answers to better questions
*Sara Garofalo, Sara Giovagnoli, Matteo Orsoni & Mariagrazia Benassi*

Addressing the reliability paradox: Improving the measurement of individual differences in decision-conflict tasks
*Talira Kucina, Lindsay Wells, Ian Lewis, Kristy de Salas, Amelia Kohl, Matt Palmer, Jim Sauer, Dora Matzke, Eugene Aidman, & Andrew Heathcote*

One framework to learn them all: Amortizing Bayes’ rule
*Stefan T. Radev, Paul-Christian Bürkner, & Ullrich Köthe*

Comparing Bayesian hierarchical models of cognition via deep learning
*Lasse Elsemüller, Martin Schmuerch, Paul-Christian Bürkner, & Stefan T. Radev*

12:40-14:00 Lunch Break

**Statistical Methods I**

14:00-15:20 Chair: ?

Measuring model complexity and falsifiability using the prior predictive distribution
*Manuel Villarreal, Alexander Etz, & Michael D. Lee*

A clustering algorithm for extracting transitive preference relations from data
*Debora de Chiusole, Luca Stefanutti, & Andrea Brancaccio*

Estimation of effect heterogeneity in rare events meta-analysis
*Heinz Holling*

The impact of random forest based feature selection algorithm on accuracy of classification in psychological data mining
*Hojjatollah Farahani, Peter Watson, Parviz Azadfallah, Forough Esrafilian, Azadeh Aminoshahieh Azimi, Pantea Karimi, & Nazanin Fayazi*

15:20-15:50 Coffee Break

**Mathematical and Computational Models**

15:50-17:10 Chair: ?

Describing the dynamics of happiness with a mathematical model
*Gustavo Carrero, Joel Makin, & Peter Malinowski*

Item embeddings recover and clarify the structure of personality
*Dirk U. Wulff & Rui Mata*

Psychological embeddings: Optimally learning people’s semantic representations from free associations
*Zakir Hussain, Ben Newell, & Dirk U. Wulff*

rolog: Prolog queries from R
*Matthias Gondan & Jan Wielemaker*

17:20-18:20 Business Meeting

19:15-23:00 Conference Dinner at La Casa del Vino (with shuttle bus for transfer)

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**Wednesday, September 7**

8:30-9:30 *Keynote*

The deadly sins of psychophysical studies
*Rocio Alcalá-Quintana*
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Chair</th>
<th>Presentations</th>
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<tbody>
<tr>
<td>9:30-</td>
<td>Statistical Methods II</td>
<td>?</td>
<td>Pauci sed boni: new Item Response Theory-based procedures for shortening tests</td>
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<tr>
<td>10:30</td>
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<td>Ottavia M. Epifania, Pasquale Anselmi, &amp; Egidio Robusto</td>
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<td>Avoiding simulation mistakes: an analytic model to assess the growth of false-positive results due to data peeking practice</td>
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<td>Francesca Freuli, Stefano Noventa, Clara Rastelli, &amp; Luigi Lombardi</td>
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<td>Valid double-dipping for fMRI cluster analysis via permutation-based selective inference</td>
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<td>Angela Andreella, Jesse Hemerik, Livio Finos, Wouter Weeda, &amp; Jelle Goeman</td>
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<td>10:30-</td>
<td>Coffee Break</td>
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<tr>
<td>11:00-</td>
<td>Models of Cognition and Decision Making II</td>
<td>?</td>
<td>Using Thurstonian ranking models to find the wisdom of the crowd</td>
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<td>12:20</td>
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<td>Michael D. Lee, Nora Bradford, &amp; Heliodoro Tejeda</td>
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<td>Probabilistic choice induced by strength of preference</td>
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<td>Michel Regenwetter &amp; Daniel Cavagnaro</td>
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<td>A hybrid approach to the stop-signal paradigm</td>
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<td>Charlotte C. Tanis, Andrew Heathcote, Mark Zrubka, &amp; Dora Matzke</td>
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<td>A dynamical systems analysis of the parallel constraint satisfaction model for decision making (PCS-DM)</td>
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<td>Tillmann Nett &amp; Andreas Glöckner</td>
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<td>12:20-</td>
<td>Closing session</td>
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