



The Summer School is designed for Ph.D. students, post-doctoral research fellows and early career scholars from a variety of disciplines and approaches within the human, social and cognitive sciences.

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Joining the Summer School, participants there is the possibility to present an original contribution within a poster session format (preferably somehow Bayesian-related), which will be evaluated for the best poster prize! This is not mandatory but can be a great opportunity for all the students.

In order to ease the teacher-students contact, only a maximum of 25 participants will be admitted.

The Summer School will be held from Monday June 3rd to Saturday 7th, 2019, University of Verona, Italy

Lecturers:

- *Karl J. Friston (University College of London – UK)*
- *Rosalyn Moran (King’s College London – UK)*
- *Richard Morey (Cardiff University – UK)*
- *Marco Tullio Liuzza (“Magna Graecia” University of Catanzaro – Italy)*
- *Daniele Romano (University of Milano-Bicocca – Italy)*
- *Michele Scandola (University of Verona – Italy)*

Summer school directors: Valentina Moro & Michele Scandola

Further information at the website: <http://sites.hss.univr.it/bayeshsc/>

Deadline for applications is April 15, 2019.

Each application must be in English and should include 1) a short CV – max two pages; 2) a motivation letter (max 500 words); 3) – optional but recommended – an abstract (max 350 words) concerning the poster you intend to present at the summer school.

Applications should be sent at bayeshsc2019@ateneo.univr.it

Further information at <http://sites.hss.univr.it/bayeshsc/>

Participants will be selected based on participants' CV, motivation letter, poster abstract, research interests, and balance within the group regarding gender and geographical origin. Incomplete applications and applications presented in languages other than English will not be considered. Notification of decisions will be sent to applicants via email by the end of April 2019.

Participation fees:

- Students and Ph.D. students: 300 €
- Post-docs and researchers: 400 €

The Fee includes only the costs for the summer school, while accommodation and transportation are excluded.

Deadline for applications is April 15, 2019.

Day 1 (Monday) 3 June

| Time | Topic | Teacher(s) |
|---------------|---|---|
| 8:30 – 9:30 | Registration | |
| 9:30 – 9:45 | Welcome greetings | Prof. Valentina Moro |
| 9:45 – 11:00 | Introduction to the Bayesian logic for statistical analysis | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |
| 11:00 – 11:20 | Coffee break | |
| 11:15 – 13:00 | Introduction to the Bayesian logic for statistical analysis | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |
| 13:00 – 14:00 | Lunch break | |
| 14:00 – 15:00 | The <i>brms</i> package | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |
| 15:00 – 15:30 | Coffee break | |
| 15:30 – 18:00 | Hands-on Workshop | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |

Day 2 (Tuesday) 4 June

| Time | Topic | Teacher(s) |
|---------------|--|---------------------|
| 9:00 – 10:30 | 'Bayesian updating in the brain: analytical approaches in behavioural designs. An implementation example from 'Dynamics of attentional selection under conflict: toward a rational Bayesian account.', Yu, Dayan & Cohen'. | Prof. Rosalyn Moran |
| 10:30 – 10:40 | Coffee break | |
| 10:40 – 11:30 | An introduction to Variational Bayes for Complex Models & Gradient Descent, Model fitting in Nonlinear Settings | Prof. Rosalyn Moran |
| 11:30 – 13:00 | Predictive Codes in the Brain & Emergence from Variational Bayes | Prof. Rosalyn Moran |
| 13:00 – 14:00 | Lunch break + Poster Session | |
| | SOCIAL EVENTS (check the website) | |

Day 3 (Wednesday) 5 June

| Time | Topic | Teacher(s) |
|---------------|--|---------------|
| 9:00 – 11:00 | Basic Bayesian ideas and model comparison | Richard Morey |
| 11:00 – 11:20 | Coffee break | |
| 11:20 – 13:00 | Bayesian analysis using <i>BayesFactor</i> | Richard Morey |
| 13:00 – 14:00 | Lunch break + Poster Session | |
| 14:00 – 15:00 | Practical <i>BayesFactor</i> in your analysis pipeline | Richard Morey |
| 15:00 – 15:30 | Coffee break | |
| 15:30 – 18:00 | Hands-on workshop | Richard Morey |

Day 4 (Thursday) 6 June

| Time | Topic | Teacher(s) |
|---------------|--|---|
| 9:00 – 11:00 | Writing your own Bayesian Model: JAGS and STAN (first part) | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |
| 11:00 – 11:20 | Coffee break | |
| 11:20 – 13:00 | Hands-on Workshop | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |
| 13:00 – 14:00 | Lunch break | |
| 14:00 – 15:00 | Writing your own Bayesian Model: JAGS and STAN (second part) | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |
| 15:00 – 15:30 | Coffee break | |
| 15:30 – 18:00 | Hands-on Workshop | Michele Scandola – Marco Tullio Liuzza – Daniele Romano |

Day 5 (Friday) 7 June

| Time | Topic | Teacher(s) |
|---------------|--|-------------------|
| 9:00 – 11:00 | Dynamic Causal Modelling: an introduction (first part) | Karl J. Friston |
| 11:00 – 11:20 | Coffee break | |
| 11:20 – 13:00 | Dynamic Causal Modelling: Bayesian Fusion (second part) | Karl J. Friston |
| 13:00 – 14:00 | Lunch break + Poster Session | |
| 14:00 – 15:00 | The Bayesian Brain: Self-evidencing (third part) | Karl J. Friston |
| 15:00 – 15:30 | Coffee break | |
| 15:30 – 18:00 | The Bayesian Brain: Active Inference | Karl J. Friston |