ICIC Data Analysis Workshop 2018

Welcome

ICIC
Imperial Centre
for Inference & Cosmology

Science & Technology
Facilities Council
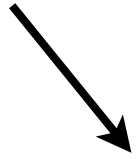
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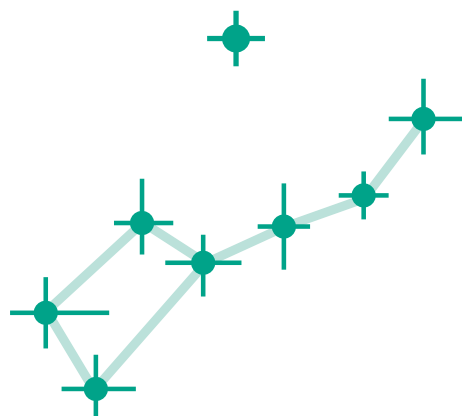
Course Team

Alan Heavens

Andrew Jaffe

Daniel Mortlock
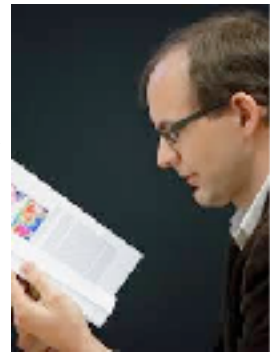
Elena Sellentin

Roberto Trotta

Demonstrators:
Jonathan Pritchard
Harry Mootoovaloo
Tom Binnie

ICIC

Admin team:
Paula Consiglio
Dion Kordopati
Louise Hayward

Meeting Code of Conduct

The organizers are committed to making this meeting productive and enjoyable for everyone, regardless of gender, sexual orientation, disability, physical appearance, body size, race, nationality or religion. We will not tolerate harassment of participants in any form.

Please follow these guidelines:

1 Behave professionally and positively. Harassment and sexual, sexist, racist, or exclusionary comments or jokes are not appropriate. Harassment includes sustained disruption of talks or other events, inappropriate physical contact, sexual attention or innuendo, deliberate intimidation, stalking, and photography or recording of an individual without consent. It also includes offensive comments related to gender, sexual orientation, disability, physical appearance, body size, race or religion.

2 All communication should be appropriate for a professional audience including people of many different backgrounds.

3 Be kind to others. Do not insult or put down other attendees.

Participants asked to stop any inappropriate behaviour are expected to comply immediately. Attendees violating these rules may be asked to leave the meeting at the sole discretion of the organizers. Any participant who wishes to report a violation of this policy is asked to speak, in confidence, to Elena Sellentin (elena.sellentin@posteo.de) or Alan Heavens (a.heavens@imperial.ac.uk) 07752 848113.

Logistics and events

- I/O: Tea/coffee/lunch, toilets, fire exits

- Wifi: Use eduroam, or connect to The Cloud, and go to https://www.skywifi.cloud

- Breakfast in Beit Hall 7-10 a.m. (Workshop starts at 9.15)

- Events:

- Monday: 6 p.m. Reception, Blackett Lab. Level 8 Common Room and Roof

- Tuesday:

  - 5:30 p.m. Short talk by Geraint Harker (VP Research, Winton Capital)

  - 6:30 p.m. Barbecue, Queen's Lawn

- Wednesday: Free evening

- Thursday:

  - Sessions will be in The Royal School of Mines, LT 1.31.

  - 1 p.m. Public engagement lunch (Roberto Trotta). Optional.

  - End of Workshop 4 p.m.

ICIC

Imperial College London

South Kensington Campus
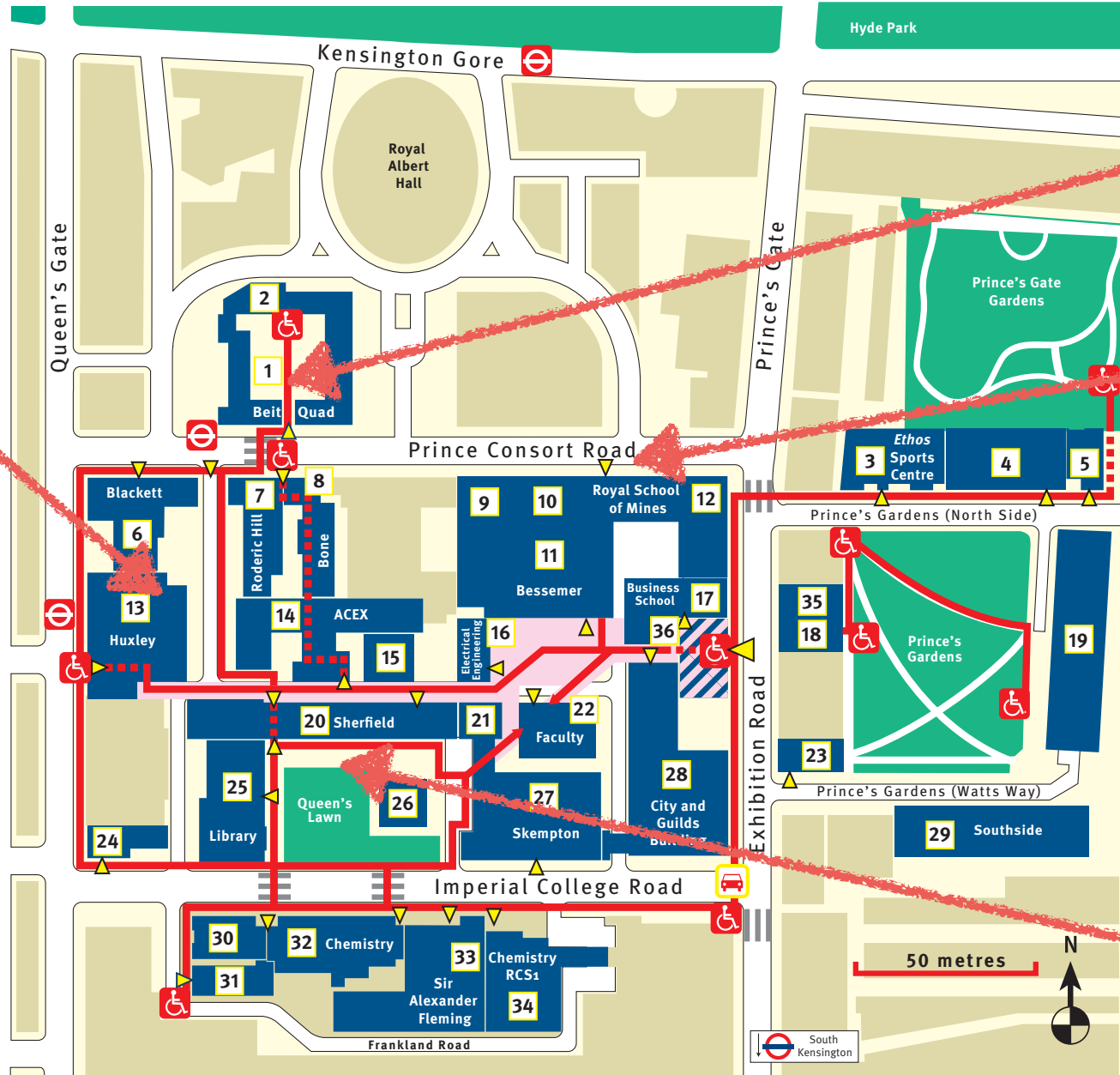
Outline of course

- **Basic principles**

- **Sampling**

  - Numerical methods (Parameter inference)

  - Markov Chain Monte Carlo (MCMC)

  - Other samplers (Gibbs, HMC)

- **Bayesian Hierarchical Models**

- **Model comparison:** Bayesian Evidence

- **Bayesian vs Frequentist**

- **Lots of Hands-on exercises**