



University of  
**Leicester**

Department of  
Engineering

Bioengineering  
Research Group

# Digital Signal Processing in Cardiovascular Research Day

Tuesday 15th December 2009  
9:00 to 17:00

Fielding Johnson South wing  
New Lecture Theatre

£200 First Place Poster.  
and Prizes for 2<sup>nd</sup> and 3<sup>rd</sup>

7 December Deadline Submission

Free Registration Email

Taher Biala ([tb93@le.ac.uk](mailto:tb93@le.ac.uk))

Federico Cardona ([fc59@le.ac.uk](mailto:fc59@le.ac.uk))

Anita Ahmad ([aa384@le.ac.uk](mailto:aa384@le.ac.uk))

$$\frac{\partial}{\partial \theta} \int_{R_n} T(x) f(x, \theta) dx = \int_{R_n} \frac{\partial}{\partial \theta} T(x) f(x, \theta) dx$$
$$\frac{\partial}{\partial a} \ln f_{a, \sigma^2}(\xi_1) = \frac{(\xi_1 - a)}{\sigma^2} f_{a, \sigma^2}(\xi_1) = \frac{1}{\sqrt{2\pi\sigma}} \exp\left(-\frac{(\xi_1 - a)^2}{2\sigma^2}\right)$$
$$T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) dx = M\left(T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L(\xi, \theta)\right)$$
$$T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln L(x, \theta)\right) \cdot f(x, \theta) dx = \int_{R_n} T(x) \left(\frac{\partial}{\partial \theta} \ln L(x, \theta)\right) f(x, \theta) dx$$
$$MT(\xi) = \frac{\partial}{\partial \theta} \int_{R_n} T(x) f(x, \theta) dx = \int_{R_n} \frac{\partial}{\partial \theta} T(x) f(x, \theta) dx$$
$$\left(\frac{\xi_1 - a}{\sigma^2}\right) \frac{\partial}{\partial \theta} \ln f_{a, \sigma^2}(\xi_1)$$



# Digital Signal Processing in Cardiovascular Research Day 2009

**15 December 2009**

Fielding Johnson South Wing  
New Lecture Theatre

Organised by the Department of Engineering  
(Bioengineering Research Group)

8.30 Registration for Poster session

**Morning Session**

Chaired by **Dr Fernando S. Schlindwein**

9.00-9.15 Welcome by: - Professor Helen Atkinson  
(Head of Engineering Research)

9.15-9.45 Assistant Professor Luca Mainardi (Politecnico di Milano, Italy.)  
***"Signal processing in atrial fibrillation: a multiscale perspective"***

10.00-10.45 Dr. G. D. Clifford (University of Oxford, U.K.)  
***"Cardiac Variability - Issues in Monoparameterization, Missing Data  
& Nonstationarity"***

10.45-12.00 Coffee break and poster session One

12.00-12.30 Professor T. G. Robinson (University of Leicester, U.K.)  
***"Cerebrovascular Autoregulation: Clinically Relevant?"***

12.30-1.15 Professor Marek Malik (University of London, U.K.)  
**"QT/RR relationship".**

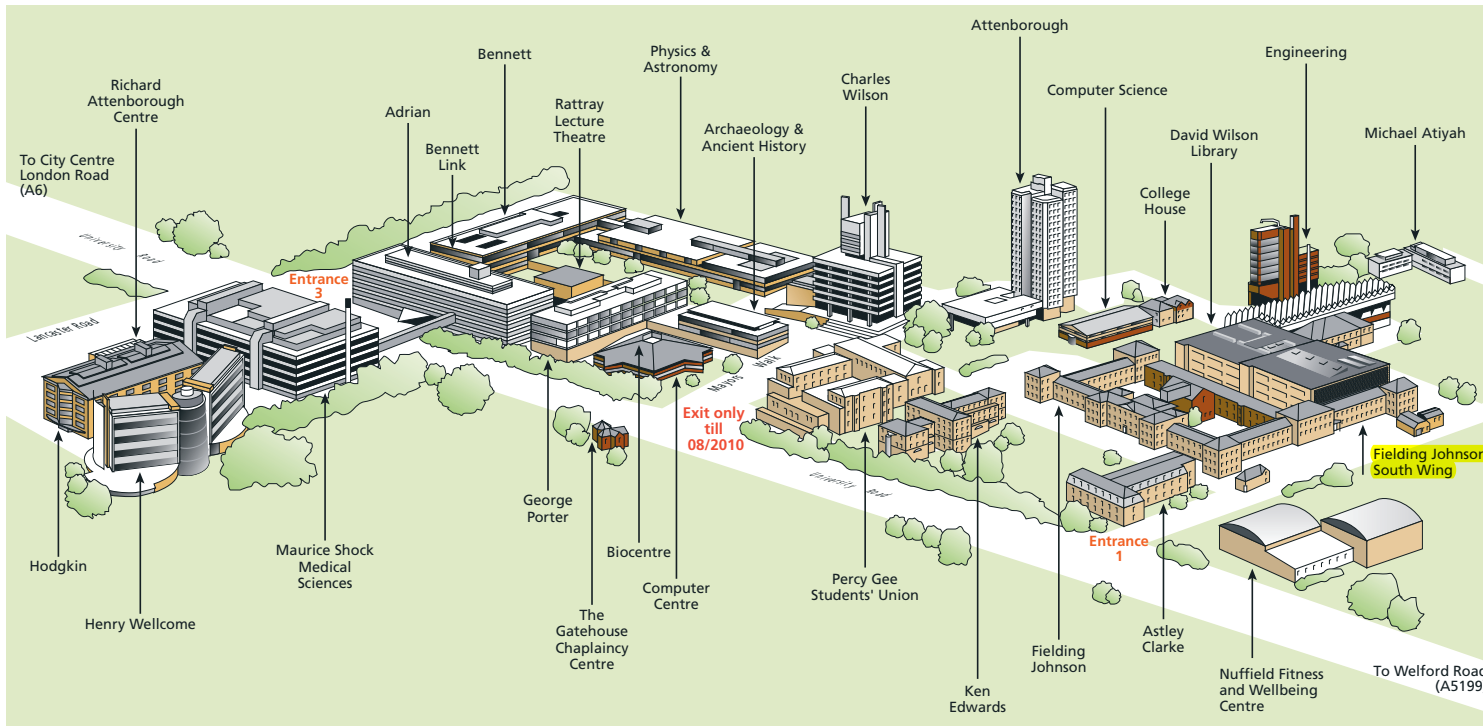
1:15 - 2.30 Lunch and Poster Session Two

## Afternoon Session

Chaired by **Dr Michael Wailoo**

- 2.00-2.45 Dr. M. Salud Guillem (University Polytechnic of Valencia, Spain)  
***“Understanding Atrial arrhythmias: Contributions of signal processing.”***
- 2.45-3.15 Professor Ronney B Panerai (University of Leicester, U.K.).  
***“Modelling cerebral blood flow”***
- 3.15-3.30 Coffee and Cake.
- 3.30-4.00 Dr Mohammad Daud Khan (University hospital of leicester, U.K.)  
***“The role of DSP in Paediatric cardiology”***
- 4.00-4.30 Poster Highlights Jury and Prize Presentation.  
Professor Sarah Hainsworth (Graduate Dean) and Dr Fernando Schindwein, Taher Biala and Federico Cardona.

Free registration : please email Taher Biala ([tb93@le.ac.uk](mailto:tb93@le.ac.uk))  
Federico Cardona ([fc59@le.ac.uk](mailto:fc59@le.ac.uk))  
Anita Ahmad ([aa384@le.ac.uk](mailto:aa384@le.ac.uk))



### How to get to the University

#### ■ Train

Leicester lies on the London (St. Pancras)-Sheffield, the Birmingham-Nuneaton-Peterborough-Norwich and Stansted, and the Coventry-Nottingham-Lincoln lines. Leicester Station is on the south side of the City Centre. The University may be reached on foot in 15 minutes, by turning left outside the station, walking up London Road and then turn right along University Road. Alternatively, Arriva buses 47/48 and 80 connect the station with the University and there is also a taxi rank at the station.

#### ■ Bus

Arriva bus 47/48 from St Margaret's Bus Station and route 80 from Charles Street: see [www.arrivabus.co.uk](http://www.arrivabus.co.uk) for details.

#### ■ From the City Centre

From Market Street the University may be reached on foot in 20-25 minutes: walk down King Street and turn left along New Walk, a pleasant Georgian pedestrian way, passing the Museum and Art Gallery; until you reach University Road then turn right along University Road.

#### ■ Bicycle

The University is on National Cycle Route 63. Please refer to website for further details <http://www.sustrans.org.uk>

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**F: 0116 252 2200**

**W: [www.le.ac.uk](http://www.le.ac.uk)**

- **Adrian:** Biological Sciences
- **Archaeology and Ancient History**
- **Astley Clarke:** Economics, International Office
- **Attenborough:** Arts, Social Sciences, Film Theatre
- **Bennett:** Geography, Geology
- **Bennett Link:** Astronomy
- **Biocentre**
- **Charles Wilson:** Accommodation Office, Cafés and Restaurants, Sports Hall
- **College House:** Mathematics (Pure)
- **Computer Centre:** IT Services
- **David Wilson Library:** Accessibility Centre, Bookshop, Library, Student Development
- **Engineering**
- **Fielding Johnson:** Administration, Admissions, General Enquiries, Law

- **Fielding Johnson South Wing:** Marketing Office, AVS Print, New Lecture Theatre entrance and Ogden Lewis Seminar Suite
- **Gatehouse Chaplaincy Centre**
- **George Porter:** Chemistry
- **Henry Wellcome:** Biochemistry, Psychology
- **Hodgkin**
- **Ken Edwards:** Language Services Unit, Management (School of)
- **Computer Science**
- **Maurice Shock Medical Sciences:** Audio Visual Services, Medical School
- **Michael Atiyah:** Mathematics (Applied)
- **Percy Gee Students' Union:** Banks, Bars, Queens Hall, Shop, Student Welfare Service, Student's Union, The Venue
- **Physics and Astronomy**
- **Rattray Lecture Theatre**
- **Richard Attenborough Centre**