

*“Statistics without science is incomplete;
Science without statistics is imperfect”*

Mardia

HINSLEY HALL, LEEDS



UNIVERSITY OF LEEDS

Conference Opened By
Sir Alan Langlands

Vice Chancellor, University of Leeds

After Dinner Speaker

Professor Sheena Radford FRS

Director, Astbury Centre for Structural
Molecular Biology

Key speakers

Fred Bookstein
University of Vienna and
University of Washington

Clive Bowman
University of Oxford

Charlotte Deane
University of Oxford

Ian Dryden
University of Nottingham

Wally Gilks
University of Leeds

Peter Green
University of Bristol

Colin Goodall
AT&T

Thomas Hamelryck
University of Copenhagen

Stephan Huckemann
Universität Göttingen

Peter Jupp
University of St Andrews

John Kent
University of Leeds

Arnab Laha
Indian Institute of
Management

Kanti Mardia
University of Leeds and
University of Oxford

Steve Marron
University of North
Carolina at Chapel Hill

Cristina Rueda
Universidad de Valladolid

Leeds Annual Statistical
Research Workshop (LASR)
30 June – 2 July 2015

Geometry-Driven Statistics and its Cutting Edge Applications

Celebrating four decades of
Leeds statistical workshops

“In the occasion of the 40th anniversary of LASR, a
quote by Antoine de Sainte-Exupery came
to my mind...

*‘One man may hit the mark, another blunder; but
heed not these distinctions. Only from the alliance
of the one, working with and through the other, are
great things born.’*

...and I think this is a very good description of what
LASR fosters, year after year!”

Anna Tramontano, University of Rome
“La Sapienza”

LASR 2015 sponsored by **WILEY** UNIVERSITY OF LEEDS



Organised by the Department of Statistics, School of Mathematics,
University of Leeds

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LASR 40th ANNIVERSARY

About us

Started in 1975 as a workshop on statistical methods in geostatistics, LASR today is a well established international conference.

To mark the four decades of Leeds workshop, we decided to organise a special event in 2015 to examine the role of statistics in interdisciplinary research and showcase new, innovative methods and application in geometry-driven statistics.

LASR workshop's mission is to:

- Bring together world class scientists and statisticians
- Encourage cutting-edge interdisciplinary research
- Sustain and develop our workshops

Many of the topics addressed by the LASR Workshops are connected to the theme of geometric statistics - the interpretation of information with a geometric flavour such as:

- Spatial statistics
- Image analysis
- Shape analysis
- Bioinformatics

What they say about LASR

**Michael Levitt, 2013
Nobel Laureate**

"I had the great pleasure of attending the Leeds Annual Statistical Research meeting seven years ago (LASR 2008). I so enjoyed the informal yet scientifically rigorous atmosphere and really wanted to return as statistics is the one subject that I feel I missed growing up. I planned to come in 2014/2015 but then my plans were overturned by a December 2013 invitation to Stockholm. I hope to return to LASR, Dr Mardia and the city of Leeds soon."



L-R: David Kendall, Peter Dowd, A. Marechal and Kanti Mardia in Leeds Geostatistics Conference 1979.

Peter Green, University of Bristol:

"Congratulations to Leeds on this Ruby anniversary of their statistics research workshops! These have been landmarks of activity in our discipline throughout my entire professional career, and I have happy memories of participating over the years."

Alf Linney, University College London

"Congratulations on more than 3 decades of LASR. I have looked forward eagerly to the workshop reports and proceedings for more than a quarter of a century! They have provided a great resource, particularly in shape and multidimensional analysis, which I have drawn upon for facial analysis applied to 3D surgical planning, identification and the detection of facial expression."

Demetri Terzopoulos, UCLA

"Even though it was nearly 19 years ago, I still have very fond memories of the 1996 LASR Workshop, especially of your generous hospitality in your fascinating home and the hike near the town outside of Leeds that we all visited."



L-R: Michael Levitt (Nobel Laureate), Kanti Mardia, Fred Bookstein, and Clive Bowman in LASR 2008.

**Michael Miller,
University of Washington**

"I think fondly of the several visits I had to Leeds with Drs Mardia and Kent and Dryden. It was the early days for us in Computational Anatomy, and Shape Statistics was already going strong. I was shaped by those early visits, and the generosity of the Leeds group to young faculty and new ideas. Congratulations on this outstanding achievement."

Clive Bowman, University of Oxford

"For sure, these delightful intellectual get-togethers occur in his [Mardia] adopted town of Leeds. They feature an annually repeated Jainist metaphor of the 'blind men and the elephant' given with humour and aplomb by Kanti. They discuss Statistics. They do cover research. But they are much, much more. They are anything but quiet academic discourses."



LASR 40th ANNIVERSARY



L-R: Sir David Cox, John Kent, Kanti Mardia, and Mohammed Iqbal (Lord Mayor of Leeds) in LASR 2006.

**Sir David Cox,
University of Oxford,
University of Leeds Graduate**

"40 years is a wonderful achievement and to have kept topicality and high relevance throughout that period is remarkable indeed. Congratulations to all concerned."

Fred Bookstein, Universities of Washington and Vienna

"As I set out to write these remarks I was startled to realize that I have been coming to these early July LASR meetings for just about a quarter of a century — longer, perhaps, than anybody except John Kent and, of course, Kanti Mardia himself. I am even more startled to realize, looking backward over my CV, that all of my best statistical work over that period, without exception, has been either provoked by interactions and conversations at LASR or presented here as work in progress (even if already in print)."



L-R: Terry Speed, Philippa Burdett (PhD student), Arthur Lesk, Thomas Hamelryck, Kanti Mardia, Chris Fallaize in LASR 2010.

**Tim Cootes,
University of Manchester**

"I got a good insight into how the work we were doing on Active Shape Models related to the broader field and how we could make our approach more rigorous. In particular I think they were my first introduction to the delights of the tangent space, which gave me a much clearer idea of what was going on when shapes are aligned into a common co-ordinate system. Long may they continue."

**Terry Speed, University of Berkeley
and Walter & Eliza Hall Institute**

"Warmest congratulations to Prof Kanti Mardia and his co-organizers and helpers from over the years. You should all feel very proud of reaching this milestone of 40 years of Leeds conferences on statistical research. Your meetings have been a prominent feature of the statistical research calendar for the majority of my career, and it has been my privilege and pleasure to have participated in two of them. The careful selection of topics and speakers, the mix of regulars and newcomers in the audience and among the presenters, and the intimacy of the venue, make them very special events, ones which give everyone an enjoyable, inspirational and memorable experience. Long may they continue!"