

**A Special Issue on the Epididymis
&
Proceedings of the Fourth Workshop on the
Epididymis (Epid IV)**

December 4-7, 2006, Chatel-Guyon, France

Guest Editors for this Issue

Dr Trevor G. Cooper

Advisory Board member, *Asian Journal of Andrology*
Institute of Reproductive Medicine of the University, Münster, Germany

Dr Barry T. Hinton

Advisory Board member, *Asian Journal of Andrology*
Department of Cell Biology, University of Virginia Health System, VA, USA

Dr Joël R. Drevet

Epididymis & Sperm Maturation team, CNRS UMR6547, Université Blaise Pascal,
Clermont2, Aubière cedex, France

*·Preface·***A Special Issue on the Epididymis &
The Proceedings of the Fourth Workshop on the Epididymis (Epid IV)**

Joël R. Drevet, Barry T. Hinton, Trevor G. Cooper

The Fourth Epididymis (Epid IV) Workshop was held between December 4th and 7th 2006 in Chatel-Guyon, France. This was the first European venue for these workshops following Epid III held in Charlottesville, Virginia, USA in 2002, Epid II held in Newcastle, Australia in 1998 and a one-day meeting (later named Epid I) in Hong Kong, China in 1992. The 2006 meeting was organised by Drs Joël R. Drevet (Aubière, France) and Trevor G. Cooper (Münster, Germany) and was a satellite meeting of the Fourth European Congress of Andrology (ECA2006) which followed in Toulouse (France) from December 8th to 10th. Epid IV was attended by 90 basic science researchers from 14 countries. The hotel accommodation was adjacent to the meeting hall and the meeting proved an equal distraction to the lure of the Casino in the same building! Posters were viewed from the beginning to the end of the workshop and frequent coffee breaks were organised among them to facilitate scientific exchange. In these hospitable conditions old acquaintances were revived and new friendships made.

The meeting started with an introductory lecture given by Russell Jones (Newcastle, Australia) on comparative epididymology and was followed by 8 sessions of 4 to 5 presentations each (see the programme below for a detailed list of speakers) in which various aspects of epididymal physiology were covered: sperm maturation and storage, cellular and gene expression activities of the epididymal epithelium, recent advances in global approaches of the epididymal transcriptome and proteome as well as the presentation of some putative epididymal contraceptive targets. The last session of the programme was devoted to research carried out on the human epididymis and most of the speakers in this session were also invited speakers at the ECA2006 meeting. A session was also devoted to presentations given by young investigators who were selected from the 36 poster abstracts received. The final lecture was given by David Hamilton (Mineapolis, MA, USA) on December 7th. As he could not attend the meeting, he provided it as a video presentation. His talk entitled "The ~Omes are coming!" illustrated what, from his point of view, would be epididymal research in the 21st century. During the meeting the site of the next epididymis workshop was discussed. Drs P. S. Cuasnicú (Argentina) and M. C. W. Avellar (Brazil) stepped forward to propose the idea that South America could host the next Epididymis workshop in 2010.

Most of the speakers agreed to produce a manuscript of their presentations that are collected in this Special Issue of the *Asian Journal of Andrology*.

Speakers of the Fourth Epididymis Workshop and talk titles:**Session: Comparative Epididymology**

Russell C. Jones (Newcastle, Australia): The epididymis plays a significant role in sperm competition

Session: Sperm Maturation and Storage

Susan Hall (Chapel Hill, NC, USA): Characterisation and functions of beta-defensins in the the epididymis

Hiro Takano (Sapporo, Japan): Sperm atomic force microscopy/Proteins

Roy Jones (Cambridge, UK): FRAP analyses of spermatozoa

Srinivasan Vijayaraghavan (Kent, OH, USA): Development of mechanisms of sperm motility

Session: Epididymal Epithelium

Robert Sullivan (Laval, Quebec, Canada): Epididymosomes are involved in the acquisition of new sperm proteins during epididymal transit

Sylvie Breton (Charlestown, MA, USA): New insights into the regulation of luminal acidification in the epididymis

Daniel Cyr (Montreal, Quebec, Canada): Understanding the blood-epididymis barrier. From animals to humans

Session: Epithelial Gene Expression

Gail A. Cornwall (Lubbock, TX, USA): Extracellular quality control in the epididymis and its role in fertility

Matti Poutanen (Turku, Finland): Identification of novel epididymal proteins

Kishiya Suzuki (Nashville, TN, USA): Epididymis-specific lipocalin promoter

Ken Roberts (Mineapolis, MA, USA): Structure and function of epididymal protein CRISP-1

Session: Epithelial Regulation

Bernard Robaire (Montreal, Quebec, Canada): Androgenic regulation of novel genes in the epididymis
Barry T. Hinton (Charlottesville, VA, USA): Tubular morphogenesis of the developing Wolfian/epididymal duct
Miles Wilkinson (Houston, TX, USA): *Rhox* homeobox genes and the epididymis
Fabrice Saez (Aubière, France): Oxysterol/Liver X receptors and epididymal epithelium physiology

Session: Rodent Epididymis Transcriptome/Proteome: Global Approaches

Daniel Johnston (Collegeville, PA, USA): Segmental analysis of rat/mouse epididymal proteome
Terry T. Turner (Charlottesville, VA, USA): Efferent duct ligation induces dedifferentiation in segments of the rat epididymis

Session: Epididymal Contraceptive Targets

John Aitken (Newcastle, Australia): Mouse epididymal sperm proteome
Patrick Vernet (Aubière, France): GPX5: a target for male fertility?
Ulrich Gottwald (Berlin, Germany): HE6 (GPR64) as a target for male fertility: assets and drawbacks
Patricia S. Cuasnicú (Buenos Aires, Argentina): Evidence for the participation of cysteine-rich secretory proteins (CRISP) in fertilization

Session: Epithelium-Sperm Interactions

Trevor G. Cooper (Münster, Germany): Sperm-osmolyte interactions

Session: Selected Trainee Oral Presentations

Adam Raymond (Atlanta, GA, USA): Defective epididymal epithelial integrity in SED-1-null mice
Clémence Belleannée (Tours-Nouzilly, France): Purification and identification of sperm surface proteins related to sperm maturation
Yuan C. Zhou (Shanghai, China): RNAi *in vivo* knock-down of rat epididymis-specific HongrES1 expression causes sperm capacitation defect and reduced fertility
Anton Krutskikh (London, UK): Targeted disruption of the *RNase10* gene in mouse results in loss of sperm adhesiveness and severe male subfertility

Session: The Human Epididymis

Jean Louis Dacheux (Tours-Nouzilly, France): Human epididymal proteome
Monika Jacob (Bochum, Germany): Human epididymal development
Åbe Lundwall (Malmö, Sweden): A locus on chromosome 20 encompassing genes that are highly expressed in the epididymis
Ursula Habenicht (Berlin, Germany) (Presented by U. Gottwald): Public-private partnership and its role for developing new contraceptive strategies

Group photo of Epid IV



The Epididymis IV organizers would like to thank the following sponsors for providing support for Epid IV:

British Andrology Society (BAS), Carl Zeiss Microscopy, Centre National De La Recherche Scientifique (CNRS)
Contraceptive Research & Development Program (CONRAD), Conseil General Du Puy De Dome, Conseil Regional D' Auvergne
Ernst Schering Research Foundation (ESRF), European Academy of Andrology (EAA), French Society of Andrology (SALF)
French Ministry of Higher Education, International Society of Andrology (ISA)
Institut National De La Recherche Agronomique (INRA), Clermont-Ferrand City Hall, The Lalor Foundation, Inc .
Blaise Pascal, Clermont2 University (UBP), Wyeth-Ayerst, Inc.