

A message from the Editor

I would like to take this opportunity to thank all the members of BAS who have contributed to this issue of the newsletter.

I would like to stress that we do encourage you to submit or request articles that you feel would benefit our general readership and will do anything to try to accommodate requests to get them published in the next issue.

I hope you enjoy reading this edition of the newsletter. Have a good summer and I will hopefully see you in Spain in October for the BAS Annual Meeting.

Regards

BAS Secretary

secretary@britishandrology.org.uk

Chairman's Report

Times of Change

Over the last couple of years the BAS committee has been trying to give the society something of a facelift, by which I mean that we are striving to improve our act as a nationally respected scientific and learned society and to draw attention to the latest advances in the sciences related to andrology. Following the success of the 2006 annual meeting in Leeds which focused on advances in spermatogenesis research, the 2007 meeting was hosted by GlaxoSmithKline, and therefore slanted towards reproductive toxicology. This topic attracted delegates from other pharmaceutical companies, who we now need to maintain as active members. As a completely new venture for the BAS, we decided to organise the 2008 meeting in Spain, jointly with the Spanish Society for Animal Reproduction. This meeting will focus on scientific topics such as epigenetics and sperm-oviduct interactions, that are of obvious relevance to BAS members, but which have not featured much in our programmes before. The Spanish society is very enthusiastic about this joint meeting and I would strongly urge as many BAS members as possible to register; it will be good scientific value, and no

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doubt knowing the Spanish, good social values as well.

One of the important roles for a scientific society is to provide expert comments and advice to government when needed. As such, the BAS, together with other fertility societies, has been involved in the preparation of new guidelines for semen donation. I am especially grateful to Allan Pacey and Iwan Lewis-Jones for their input into this process. As the BAS membership includes people such as me who are not involved in human clinical work, we obviously rely on key members to provide specialist advice when needed. Through our involvement with the Bioscience Federation (www.bsf.ac.uk/default.htm) we also contribute to their broader consultations; recent ones have included topics such as the merits or otherwise of open-access publication (where the authors pay to have their papers published, and anyone can then access them for nothing) and biosecurity.

We also decided to institute a new award this year in recognition of andrologists who we consider to have made outstanding contributions to the field. We have done this by inaugurating the Setchell award, in honour of Brian Setchell who was the main founder of BAS and who would himself be a worthy recipient. However, by awarding the first medal to Professor Paul Watson, I believe we have managed to honour two people for the price of one (good value for the society). We haven't quite managed to obtain a physical medal yet, but hopefully we will be able to present the design in the next newsletter and on the website (which has also undergone a transformation).

I would like to acknowledge the enthusiastic support of my colleagues on the BAS committee who have worked hard towards the continuing and growing success of the BAS.

Professor Bill Holt
Chairman

An Adventure in Andrology

Professor Paul Watson



When Alireza asked me to write about my career as an andrologist, I found myself reflecting on what I could say about myself. I do not consider that I have a particularly prominent career; nonetheless, I realise I have found the subject of andrology in its widest sense sufficient to fascinate me for over 40 years. I suppose that qualifies me to offer a few reflections!

My introduction to andrology came during an intercalated year of physiology in the midst of my veterinary training in 1966. There I was introduced to the academic science of male reproduction, and the basic descriptions of the male contribution to reproductive physiology. What struck me at the time was how much was unknown, and also how little was being researched. Whereas the female was considered really interesting and attracted much research, the male was regarded as not worth people's attention since it was really pretty straightforward. I think my interest was aroused and, as I qualified as a vet, I asked my physiology professor, one Professor Amoroso, to recommend me a lab where I could study male aspects of reproduction.

For several months we envisaged going to Stockholm, New York, Rio de Janeiro, Sydney or Cambridge. In the end, we went to Sydney where I was introduced to the national experimental animal, the sheep, and spent three and a half happy years studying the cryopreservation of semen, and that is the subject to which I have devoted the remainder of my career. This journey has led me to explore some fascinating intellectual paths, to meet some interesting people, and to visit some marvellous regions of the world. Perhaps it is only the academic career that allows one to develop a topic of interest, to travel extensively and to be included in a select international group of "experts". In fact, the Sydney PhD examination system, involving two eminent international experts as examiners, gets one known. My own examiners, Jim Hancock and Bill Pickett, consequently knew of my work, and followed my progress to my subsequent advantage.

During my post-graduate studies, my supervisor travelled to America to meet Peter Mazur who had developed a general theory of causes of cryopreservation damage which was demonstrable in simple-shaped cells like blood cells. When my supervisor returned, we discussed how we might investigate the theory with spermatozoa. After much pondering it was shelved as too hard owing to the shape of sperm cells! I was to return to this some 20 years later.

"my courage deserted me and I cursed the day I said I would come"

My move to the Zoological Society of London in 1973 as a Ford Foundation post-doctoral fellow resulted in my widening my interests to encompass a range of species. It was there I met Bill Holt, our present Chairman of the BAS, and to explore the possibilities of cryopreservation of semen for conservation. I organised the first international conference on artificial breeding in non-domestic species and it was the start of the Zoo's role in conservation ventures which Bill and others have pursued to great success in subsequent years. The modern terminology is Genetic Resource Banking, and our jointly edited book, *Cryobanking the Genetic Resource: Wildlife Conservation for the future?* was published in 2001.

I joined the staff of the Royal Veterinary College in a rather unusual way. I had got to know the department during my post-doc years through helping with teaching, and then one of the lecturers was sadly killed in the Paris air disaster in 1974. I applied for his vacant post and was short-listed and appointed. It allowed me to continue working with the Zoo and to pursue the contacts I had in the London area, one of whom, Jim Hancock, was already at the College. By this stage I had developed my own lines of research and began to explore differences between species. This led me to become interested in cold shock, a phenomenon by which sperm of certain species are damaged by sudden cooling above 0°C. I was invited to give a conference review address on this subject to the Society for Low Temperature Biology which forced me to focus on unknown aspects. I have found frequently that having to prepare a review of a subject provokes critical thinking that leads to new ideas for grant applications and research. In fact, two of my better and more productive ideas for research, that of calcium and its role in cold shock and cryopreservation damage, and that of the cooling induced premature capacitation-like state of spermatozoa came to me through preparing reviews.

It was about this time that discussions were taking place to start the British Andrology Society, of which I was a founder member. We were a select group of some 20 people and naturally we did not aspire to such a grand title as the Society now has – we chose British Andrology Group which, as Trevor Cooper has recalled, represented in its acronym what we all work with – the contents of the scrotum or BAG!

During the next phase of my career I wrote several reviews and began to get invitations to international conferences. While these are very gratifying to receive, it is only later in the lead up to the trip that one realises what one has let oneself in for! I think the one I remember with terror was the American Society of Andrology in New Orleans. What a proud moment to receive such an invitation and to visit such a memorable city! It was as I entered the darkened hall and glimpsed the size of the audience that I wished the floor would open up. There must have been 2000 andrologists assembled to hear my presentation! As the lights came up and I gazed on the sea of faces arrayed in front of me, my courage deserted me and I cursed the day I said I would come. Needless to say, it all went off quite smoothly and I didn't get tongue-tied with my slides. Actually, an audience of undergraduate students is a good training ground for giving addresses - if you can hold their interest you will certainly be able to hold the interest of fellow scientists.

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I had the good fortune about the end of the 1980s to have an invitation to spend a summer vacation with Roy Hammerstedt and Rupert Amann (who had been in Bill Pickett's department) in Penn State University. There I discovered the wonders of flow cytometry which was then quite new in biology. I realised immediately that here at last was a way to test Peter Mazur's theory about the causes of cell damage during freezing of sperm cells. Roy and I set to test this theory and to satisfy ourselves that it did indeed apply, although there still were some unexplained questions. I had to return there the following year to finish the experiments and by then I had arranged to visit John Critser's lab in Indianapolis and work with him and Peter Mazur at Oak Ridge, Tennessee for a whole year's sabbatical leave. By then I was well into flow cytometry and this gave me the chance to develop my interests and to work on concepts of cryoinjury in sperm. We set about exploring the causes of cryoinjury, wondering if they differed from those of other cells; this was because the predictions from theory were not as good as for other cells. During this year I gained immensely from working with mathematicians, engineers, biophysicists and learned how much different disciplines can complement one another.

The premature capacitation-like state of cooled or frozen spermatozoa has provided a rich source of ideas to explore.

We have finally demonstrated some of the differences

between capacitated and cooled cells and my

Australian colleagues have begun to explore how seminal plasma might protect against these changes.

My own research running alongside these ideas has branched to considering what happens to sperm in

the female tract and the role of the oviduct in sperm

maturation before fertilisation. As many will now know the oviduct seems to play an essential role in controlling the final

stages of sperm development prior to progressing to the site of fertilisation, and in selecting those sperm which will constitute the fertilising cohort. We and others have suggested that it may play a more subtle selective role and that this may be part of

post-copulatory sperm selection between males after polyandrous mating.

In 1995 I was awarded the Marshall Medal of the Society for the Study of Reproduction for my contributions to my subject, and late last year, the committee of the British Andrology Society chose me as the first recipient of the Brian Setchell Medal for outstanding contribution to Andrology.

I was exceedingly honoured and gratified to receive both these prestigious awards. I believe the pleasure of my experiences as a research scientist has been reward enough, but to receive such an honour as the Setchell Medal from my colleagues in Andrology is a most humbling experience. Andrology is certainly adventurous, but to reach the summit with this award is a wonderful feeling!

As many of you will know I am a committed Christian and a priest in the Anglican Church. This has given me a clear guide to the ethics of research which steers me through the minefields of the rush to publish and the choice of journal. It also provides me with the obligation to reflect on the contributions of my subject to the overall welfare of the human population. In reproductive andrology, there are many examples where our work can help others, and I believe we have an obligation to strive for research and clinical practice which serves the greatest good. This has never prevented me from considering any subject for research but it has provided me with a steer from time to time. As I come to the end of my research career I can only give thanks for the people I have known who have made it both memorable and enjoyable, and urge on younger colleagues to explore your ideas to the full wherever they lead. Sometimes, the wildest of concepts turns out to be true but none will know until you test it.

Professor Paul Watson

“late last year, the committee of the British Andrology Society chose me as the first recipient of the Brian Setchell Medal”

New Members

A warm welcome to all new members of BAS!

Miss Jolene Jordaan, The Bridge Centre

Miss Charlotte Heavisides, The Bridge Centre

If you would like to join the BAS please contact our Membership Secretary Dr Alireza Fazeli

Subscriptions

Just a gentle reminder that 2008 membership subscriptions are now due.

If you haven't updated your standing order to the new fee rate you will need to do so. Please ask secretary@britishandrology.org.uk for a new standing order form.

If you pay by cheque please send this to Dr Alireza Fazeli (address details on page 12).

BAS Brian Setchell Medal

BAS Setchell Medal

In 2007 the BAS decided to inaugurate a new award that could occasionally be presented to andrologists who, in the opinion of the committee, have made significant contributions to their field. The committee decided to name the award after Professor Brian Setchell, who himself has made many distinguished contributions to the field of andrology, and who, in the mid- 1970s, was a major force in convincing the UK andrology community that it needed a society that catered specifically for the needs of specialists in all aspects of male reproductive function. In the first instance the society was known as the British Andrology Group, but then changed its name to society shortly afterwards.



For those who do not know the breadth of Brian Setchell's contributions to andrology, he has kindly provided a biographical sketch.

Biographical sketch, B.P.Setchell

Born 3 October 1931, Mullumbimby, NSW, Australia.

Bachelor of Veterinary Science, Honours class 2, University of Sydney 1953.

Veterinary Research Officer, NSW Department of Agriculture, 1953 to 1955 and 1957 to 1962

Walter and Eliza Hall Scholarship in Veterinary Science (1955 to 1957) for PhD at University of Cambridge, School of Veterinary Medicine (supervisor A.A..Wilson) on Effect of Insulin Hypoglycaemia on Cerebral Metabolism.

1962 to 1966 and 1968 to 1969. Research Scientist at CSIRO Division of Animal Physiology, Prospect, NSW collaborating with Geoffrey Waites and Hans Lindner on testicular physiology, biochemistry and endocrinology.

1966-7. Study leave at ARC Institute of Animal Physiology, Babraham Cambridge, with Jim Linzell, devising a method for perfusing the isolated testis of rams.

1969 to 1982. Scientific Officer at ARC Institute of Animal Physiology, Babraham, Cambridge.

1982 to 1996. Professor of Animal Sciences, University of Adelaide, Australia.

1986, 2002 and 2003, 2 months on each occasion. Visiting Professor, Institute of Histology and General Embryology, University of Rome, La Sapienza.

1995 Visiting Fellow, Clare Hall Cambridge, working with Azim Surani at Wellcome/CRC Institute on paternal effects on embryo development.

1998 and 2000. Nobel and STINT Fellowships at Karolinska Hospital Pediatric Endocrinology Unit.

1997 to date. Emeritus Professor University of Adelaide, from 1999 in the Department of Anatomical Sciences.

Publications

Book "The Mammalian Testis" 1978.

Annotated collection of facsimiles of important papers up to 1970 in "Male Reproduction", 1984.

Annotated translation (1973, with Harry Jocelyn) of Regnier de Graaf's two books (1668 and 1672) on anatomy of male and female reproductive organs and a translation of Enrico Sertoli's article describing the cells now bearing his name.

75 invited reviews or chapters in books, 146 original articles and 208 abstracts of papers given at scientific meetings on testis and epididymis, 24 original articles on metabolism in other organs and 5 articles on history of reproductive biology.

Involvement with British Andrology Society

Member of committee (with Geoffrey Waites, John Pryor and Bill Hendry) organising the inaugural meeting of the Society in 1979.

Organiser of 1982 meeting at ARC Institute of Animal Physiology in 1982.

Extracurricular interests

Music, playing bassoon, viola or double bass in amateur orchestras or in chamber groups.

Collecting antique porcelain and silver.

Household repairs and maintenance.

BAS Travel Grant Report



BAS awards travel award to attend national and international conferences for further details visit our website, www.britishandrology.org.uk and click on travel grants! The following report is from a BAS member who was awarded a travel grant to attend:

The 34th annual conference of the International Embryo Transfer Society (IETS) Denver, Colorado, USA, 5-9th January 2008

After a fairly uneventful flight from London Heathrow to Denver International airport, Bill Holt and I arrived in the 'Mile High City' (Denver) on the 3rd of January in plenty of time for the pre-conference symposium. In fact, the 4th of January was a free day and so Bill and I embarked on a tour of the Denver area. Several things on this tour were memorable: the tour guide who told really bad jokes (yes, they were definitely worse than mine!), ancient fossilised dinosaur footprints, an amphitheatre built in the mountain between two red rocks and a quaint little town called Evergreen. However, the most irritating thing on this tour was the constant references to buffalo when in fact what we were looking at were bison. We decided on top of 'Lookout Mountain', whilst visiting the grave of the man himself, that a more appropriate name for 'Buffalo Bill' would have been 'Bison William'.

Because we'd had a free day, our jet lag had abated by the pre-conference symposium that was on the 5th of January. The title of the pre-conference symposium was 'Animal Models of Reproduction' and the first speakers of the day (Robert Wall and Robert Taft) were given the task of addressing profound questions such as 'Are animal models as good as we think?' and 'Is the mouse embryo a good model for the mouse', respectively. As ever, the answer to both questions seemed to be 'yes and no'. Other talks I enjoyed during this all day session included Stanley Leibo's 'Cryopreservation of oocytes and embryos' and Carol Keefer's 'Lessons learned from nuclear transfer (cloning)'. The former because for me Stanley Leibo's talks are always clear and educational and the latter because it really brought home to me the fact that, although several advancements have been made, so many questions still surround cloning, many of which remain unanswered. This is why, in my opinion, cloning is so interesting but I am after all very biased as my PhD days were spent analysing cloned embryos.

On the 6th of January, the main conference programme began. The theme of the conference was 'Needs' and so an array of international speakers took to the stand to give their take on the needs of embryos, students, the society, etc. The most enjoyable talks for me were: Henry Leese's 'Female reproductive tract fluids: composition, mechanism of formation and potential role in developmental origins of health and disease', the student's prize session and Janice Bahr's 'Are scientific societies serving the needs of graduate and postdoctoral students?'. Henry Leese's talk taught me a lot about what I should already know given my current area of study. I often find the students give the best talks, perhaps because they are more conscientious and a lot of the time because they are the most enthusiastic! The winner of this year's student prize was W.T. Farmer from North Carolina State University, USA with his talk and poster entitled 'Detection of antisense to Igf2r (Air) RNA in cattle'. Janice Bahr's talk gave me some new ideas how Vicky Sharp and I, as student/postdoc representatives of The British Andrology Society, can help ensure the needs of our society's students and postdocs are met.

Also, on the 6th of January I presented my poster entitled "A recently identified protein in the oviduct improves the long-term survival of ram spermatozoa during storage at 17 °C in a commercial extender" (abstract number 15). I was pleased that several delegates came up to talk to me not only about the protein of interest but also the sperm DNA fragmentation assay we've been using. Other posters from my institute that were presented at the conference included Nana Satake's "Phosphoinositide-3-kinase signalling and the control of sperm motility in the porcine oviduct" (abstract number 227) and Pilar Coy's "Species specificity of porcine sperm motility reduction by a high molecular weight fraction of oviductal fluid" (abstract number 222).

Whilst at the conference, because I am very interested in the conservation of endangered species I attended the open meeting of the Companion Animal, Non-domestic and Endangered Species (CANDES) committee. I was incredibly happy to learn that in conjunction with the IETS 2009 meeting, to be held in January in San Diego, a post-conference symposium will be run by CANDES committee. The purpose of this symposium will be to discuss the most recent advances made in applying artificial insemination techniques to CANDES and also to address what more can be done. Taxa of particular concern e.g. amphibians (at least 122 species are believed to have gone extinct within the last 20 years and 500 species are thought to be under imminent threat) will be specifically targeted for this symposium. Indeed, just recently The World Association of Zoos and Aquariums, The World Conservation Union (IUCN) Species Survival Commission Conservation Breeding Specialist Group and the Amphibian Specialist Group have recently formed a consortium; The Amphibian Ark (AArk), to coordinate a global response to this crisis. With the AArk's public awareness campaign that 2008 is "The year of the frog", the CANDES post-conference symposium will be particularly timely.

Having not indulged myself too much at the conference's banquet the night before (although there were temptations: beer, dancing and mechanical bull), I, along with several others took part in the 6th IETS Annual Running Competition. The course was ~ 5 km on an icy pathway that ran alongside Denver's Cherry Creek. Despite the high altitude and some confusion on the direction of the course, everyone completed (or at least I think they did!). Representatives from the UK did particularly well; I was the first female home, with Tony Wrathall of the IETS Health and Safety Advisory Committee (also from the UK) hot on my heels!

I would like to take this opportunity to thank The British Andrology Society and The Society for Reproduction and Fertility for their funding that allowed me to attend this conference, which was both very informative and enjoyable.

Rhiannon Lloyd, The Institute of Zoology, London, UK.



Asociación
Española
Reproducción
Animal

British Andrology Society

BAS Annual Meeting 2008

www.britishandrology.org.uk/BAS/Meeting.htm

Gijón, Asturias, Spain

October 22nd – 25th
2008

Topics include

Genomic imprinting,
sperm assessment,
cryopreservation, sex
selection, fertility tourism,
stem cells, sperm-oviduct
interactions, cloning.

BAS 2007 Meeting - Report

Jacqui Piner, Safety Assessment, GSK

BAS annual meetings have a tradition of being held in diverse locations. Recent years have seen delegates assemble in Leeds, Sheffield, Lincoln, Liverpool and Newcastle usually in academic or medical institutions. 2007 continued to provide the variety BAS members have become accustomed to by meeting in a pharmaceutical R&D establishment located in the typical Hertfordshire market town of Ware (20 miles north of London). GlaxoSmithKline (GSK) Safety Assessment division hosted the meeting and the theme was "Toxic Hurdles to Male Reproductive Success". Day 1 focused on unintentional exposure of the male reproductive tract while Day 2 concentrated on the assessment made for new medicines in relation to male reproduction.

Professor Neils Skakkebaek (Copenhagen University, Denmark) provided an excellent overview and current status of the relationship of unknown factors in the environment to testicular dysgenesis syndrome (TDS). A hypothesis proposes that a proportion of male reproductive disorders (cryptorchidism, hypospadias, infertility and testicular cancer) may be symptoms of one underlying developmental disease, TDS, which is most likely a result of disturbed gonadal development in the embryo which may be caused by genetic factors, environmental/life-style factors or a combination of both. This was further explored by Professor Richard Sharpe (MRC Human Reproductive Sciences Unit, Edinburgh) who described studies to define the time window for androgen-induced masculinisation during embryonic development

Heat was the next environmental factor to be discussed. Professor Philippa Saunders (MRC Human Reproductive Sciences Unit, Edinburgh) explained that problems with spermatogenesis are the most common cause of infertility in men which includes reduced fertility as a result of raised scrotal temperatures. Philippa and Catriona Paul have developed a mouse model of mild, transient heat stress which results in temperature dependent changes in testicular function with associated germ loss and compromised fertility. This model will be applied to increase understanding of the human condition.

An important part of the BAS is the opportunity for members, particularly students relatively new to the field, to present recent findings using oral or poster formats. There were a number of high quality posters and 2 students (Myriam Saida, Leeds and Naomi Elkin, Edinburgh) working on PhD projects felt comfortable in the informal and friendly atmosphere of the BAS meeting to present free communications. A special student prize was made to Naomi Elkin who spoke about blood-testis barrier and leakage of proteins from seminiferous tubules in the rat and implications for detection of compound-induced damage to spermatogenesis.

BAS steering committee have long recognised the value of its student membership who are working in novel fields of andrology and form the future of the society.

There has long been a student representative on the committee and Vicky Sharpe (Royal Vet School, London and more recently Imperial College, London) made a huge contribution in 2007 by initiating a special student workshop. There was an opportunity for postgrads to meet in a relaxed environment to hear about various career possibilities within academia and in the pharmaceutical industry and time for discussion and questions.

The location for the annual dinner and overnight stay was Fanhams Hall Hotel, Ware, which is a listed Jacobean building set in beautiful gardens. A drinks reception was followed by a formal dinner in an oak panelled room. The evenings entertainment was provided by Professor Paul Watson, Royal Vet School, London, who spoke with much warmth and humour about his long and illustrious career. The fun continued with a showing of Monty Python's "Every single sperm is sacred" from the "Meaning of Life" film. One of those BAS occasions never to be forgotten.

Another first for the 2007 meeting was the inception of the Brian Setchell Award for contributions to the BAS. This was an idea of Professor Bill Holt, current chair of BAS, to commemorate 30 years since the society was started. Bill Holt with obvious pleasure presented the award to Paul Watson who received it with great surprise and delight.

Day 2 started with a beautiful sunrise over the Hertfordshire countryside revealing a frosty morning. The science started with an overview of the ReProTech project which is an integrated project of the EU funded within the 6th Framework Programme which aims to develop new in vitro tests to replace animal experimentation in hazard and risk assessment of reproductive toxicity. This was followed by 2 presentations from the project which had particular interest for andrologists. The first given by Dr Axel Themman (Rotterdam, Netherlands) was about the development of an in vitro Leydig cell function toxicology test followed by Dr Anne Tilloy (formally Pfizer, France) who spoke about Sertoli cell based assays for identifying chemicals with a potential to induce testicular damage.

To round off the 2007 meeting there were 2 presentations describing the nonclinical and clinical studies performed for new medicines by the pharmaceutical industry to protect male reproductive health. Dr Chris Powell (GSK, UK) talked about the nonclinical assessments using case studies. This was followed by Dr Richard Clark (GSK, US) who spoke about clinical approaches to compounds with potential or known testicular toxicity using dutasteride (5 alpha reductase inhibitor) as an example.

The meeting was a scientific, social and financial success with around 80 delegates representing academic, medical and industrial bodies.

I would like to thank GSK for sponsorship and support and for allowing me time to organise this meeting. Special thanks go to Bridget Hanmore who performed miracles and did all the administration behind the scenes which resulted in the smooth running of the meeting.

'Career possibilities for postgradocs – academia and pharma' workshop, BAS annual meeting

(15-16th of November 2007, hosted by GlaxoSmithKline, Ware)

I feel like my 'career' is in its very early stages and so when I was invited to speak about my 'academic career path' at this year's BAS meeting I was somewhat surprised and wondered what on Earth I could possibly say that would be of any interest to anyone. Despite my concerns, my presentation "You do what????!! Life as a Postdoctoral Research Assistant at the Institute of Zoology (IoZ)" seemed to go down fairly well with the friendly postgradocs and the two young at heart BAS committee members (you know who you are!) sat in the audience. I wanted to make my talk as entertaining as possible and so I began by running through, pictorially, one of the things I do as a postdoc on a sheep project, which is the collection of ram semen. The process seemed enlightening for some members of the audience but rather old-news for many. Anyhow, I received a few laughs at this point and felt it was safe to continue. I talked briefly about my background; where I went to school, where and what I studied for my BSc and PhD, etc. I then went on to talk about the IoZ, where I work as a postdoc, describing its role as the research arm of the Zoological Society of London (ZSL), investigating the science that underpins issues that affect the conservation of animals and their habitats. I also emphasised that ram semen collection wasn't the only task I do on a regular basis as a postdoc. Essentially, the aim of the sheep project I am involved with is to identify the proteins in oviduct that are involved with prolonging sperm survival so that new and/or improved fresh semen diluents can be developed. I explained that on a day to day basis there is lots of labwork, data analysis, data presentation and manuscript preparation to be done, much like what a PhD student does really. At the IoZ opportunities arise that probably wouldn't arise in other more typical university research establishments. For example, to work on sheep reproductive biology one day and to then travel to Thailand to participate in an EU-Asia link funded Asian elephant health and reproduction meeting on another day is quite something! I also touched on the pros and cons of working at the IoZ, on the plus side; the research environment I work in is stimulating there is such an interesting variety of research being conducted under one roof. On the negative side are things like the not-so-large salary (salaries at the IoZ are linked to the university pay scale) and the lack of permanent jobs. Finally, I went on to describe briefly the careers of three former IoZ postdocs. I mentioned Rez Prathalingam (a former BAS committee member) who is currently working on stem cells as a postdoc in Newcastle, Katrien Van Look who has defected from reproductive biology to embark on a career as Scientific Communications Officer for Cancer Research UK and Alireza Fazeli (your current BAS Secretary and Membership Secretary) whose work load as a Senior lecturer at the University of Sheffield is enough to put anyone off a career in academia, apart from me obviously!

Rhiannon Lloyd (BAS postgradoc representative).

Dr Julie Holder, Project Manager, GlaxoSmithKline.

I would describe myself as a "Jill of all trades". I started my scientific career as a Biochemist at Chelsea College in London (now part of Kings). I had fluffed my 'A' level Biology getting an E grade instead of the expected B grade and had to go through UCLA clearing to gain entrance into University. In later years at a school reunion, I found out that the E grade was the second highest grade awarded to anybody in my year in Biology that year! I had attended a Biochemistry workshop in my final year at school and enjoyed the practicals. At Chelsea I took options in Chemistry, Pharmacology, Physiology and Statistics all subjects that I enjoyed and it was fun. There were some fantastic dedicated researchers one who had worked with Hans Krebs Professor Evered. Professor Harold Baum, who ran the department, had just published the Biochemist's Songbook - so at our first departmental Christmas Party we all sang the Krebs cycle to Waltzing Matilda! I can still sing some of the songs by heart.



I undertook a Year in Industry – I had a telephone Interview for a position at the Karolinska in Sweden but 6 months before I was meant to start in Sweden my tutor received a phone call to say that my supervisor was pregnant and would therefore be unable to honour my student position. I then attended an Interview at the University of Nottingham only to be told within the first 5 minutes of the interview that they had given the job to the previous candidate. Resigned to my fate my mind wandered off into thinking about searching for accommodation in London to complete my degree to wake up to answer a question being posed to me – would I like to work at ICI in Alderley Edge (now Astra Zeneca). Naturally I answered 'yes' and at ICI started working on projects looking at the treatment of obesity and diabetic retinopathy.

This taster of industry influenced my future career choices. I completed my degree gaining a 2:1 in Biochemistry from University of London (KQC) and went on to complete a PhD studying "Mammary gland and liver utilization of plasma very low density lipoprotein cholesteryl ester" between the University of Leeds (Professor Donald Robinson) and Hannah Research Institute (Professor Victor Zammit), Ayr, Scotland.

The next phase of my scientific career started after I applied for a job advertised at the Biochemistry Society held at the University of Nottingham (there is definitely a trend here!) at Beecham Pharmaceuticals working for Dr Stephen A Smith as a Physiological Biochemist. I was short listed and nervously attended the interview. I was terrified especially as I was interviewed in human resources by the tallest Glaswegian I had ever met. Luckily I noticed a Celtic scarf hanging from the coat stand and when asked what team I supported in Scotland I could answer "Celtic of course"! I secured the job and started on the 3rd Jan 1989 and that was a start of a 10 year career path working on the discovery of an anti-diabetic agent marketed as Avandia™.

A day in the life of...

Iwan Lewis-Jones

Clinical Andrologist, Liverpool Women's Hospital

I have worked as a Clinical Andrologist at the Liverpool Women's Hospital since 1995, when it was built following the amalgamation of Liverpool's four hospitals that provided Obstetric and Gynaecological services to the Merseyside area.

What is a Clinical Andrologist anyway? What is the future of this speciality?

A Clinical Andrologist concentrates on male fertility/infertility in both secondary and tertiary settings, and since the start of the Subspecialty Trainee scheme in Reproductive Medicine, Reproductive Specialists are gradually being trained in Clinical Andrology. I feel they will eventually replace the Clinical Andrologists who will then become obsolete. No Reproductive Medicine Gynaecologist will want to spend his/her whole time treating male infertility, and therefore the position will remain until enough Trainees have gone through the system by which time I will probably have retired!

I started seeing male infertility cases in 1981, when I had one Honorary session in Andrology, spending the rest of my time teaching and researching anatomy at the Medical School in Liverpool. Demand rose rapidly until in 1988, I became a full-time member of staff in the Reproductive Medicine Unit.

Changing methods and greater success:

My work has changed dramatically since the early days when I interpreted semen analyses results for patients and then counselled them as to their chances of a pregnancy. Treatment options were very few, treating the odd seminal infection, trying anti-oestrogen therapy, ligating varicoceles (which at that time was thought to help all patients who were infertile), and also referring patients for bypass operations in obstructive zoospermia. The success rates for the latter were almost zero.

Today we still try to make an accurate assessment of seminal quality and try to identify any pathological processes that may be occurring to see if anything can be done to improve seminal quality.

Since the advent of intracytoplasmic sperm injection (ICSI), the treatment of the infertile male has been revolutionised and virtually all men, however low their sperm numbers, (as long as they are chromosomally normal), can be treated. However, we should always endeavour to improve sperm quality to be able to provide the patient with the least invasive treatment.

Can we offer IVF instead of ICSI, intruterine insemination (IUI) instead of IVF, or timed natural intercourse instead of IUI?

ICSI has also meant we can surgically retrieve sperm from all obstructive azoospermic cases and also in a proportion of non-obstructive azoospermias.

Our understanding of genetics and the endocrinology of male infertility has widened greatly and this is all important information to be related to patients. Treatment of hypothalamic pituitary failure is now a routine procedure.

Secondary care and tertiary action:

My week's practice is divided into two areas. Firstly, there is my secondary care practice where I see couples referred by GP's, General Gynaecologists, or Reproductive Medicine specialists who have identified seminal abnormality after performing semen analyses. I have three Clinics concentrating on such patients. Following detailed semen analyses, endocrine investigations and examination, a diagnosis is made and the patient referred for treatment, be it surgery, drug therapy or assisted conception. These secondary care Clinics all take place in our Gynaecology Outpatients Clinic in the Hospital.

The second part of my practice, the tertiary part, takes place in the IVF Unit where I have an operating session once a week with my gynaecological colleagues, Mr M Gazvani and Mr A Drakeley. We usually have between one and four surgical sperm retrieval procedures (percutaneous epididymal sperm aspiration, testicular sperm aspiration or testicular sperm extraction), to perform before any egg collection is started. Mr Gazvani and Mr Drakeley are both Subspecialty trained, so when I retire there will be no need to replace the Clinical Andrologist.

I then have three further sessions seeing patients in the IVF Unit, some being pre-operative patients who are to undergo sperm retrieval that week, and I review the tender scrota of the previous week's operation when I break the news of our success or failure at sperm retrieval. If it has been unsuccessful then alternative treatment options are considered such as donor insemination.

I then have other Clinics in the IVF Unit where I see IVF patients who have been referred with a problem which if treated might improve sperm quality and thus make the IVF/ICSI an easier procedure. During these Clinics I also see, counsel and screen patients referred for donor insemination, a service I was asked to oversee when our service first started in 1988. Initially I did it all myself, from scanning to inseminations, but now we have our wonderful Nurse Practitioners who nearly do it all themselves.

Lunchtimes take the form of sandwiches during Management meetings on Monday, Clinical case meetings on Tuesday, Andrology audit on Wednesday, planned haircut which never happens on Thursday, and Team meetings on Friday. Friday is a day when we try and perform some research in the morning with our four Research Fellows, sometimes attend research or teaching meetings, or attend Trust meetings in the afternoon.

This article first appeared in the Autumn 2003 edition of the BFS Newsletter, and is reproduced with kind permission.

Forthcoming Meetings

2008

ASA 33rd Annual Conference

April 12-15, 2008

Hyatt Regency Albuquerque

Albuquerque, NM

Abstract Submissions: August 1-November 1, 2007

Web: www.andrologysociety.com

10th European Congress of Endocrinology

3 - 7 May, 2008

Dresden, Germany

Web: www.euro-endo.org

1st World Congress on Reproductive Biology

24 - 26 May, 2008

The Sheraton Keauhou Beach Resort & Spa,

Kona, Hawaii

Web: www.oardc.ohio-state.edu/wcrb

SSR 41st Annual Meeting “Reproductive Biology: Basic Discoveries that affect our lives”

25 - 30 May, 2008

The Sheraton Keauhou Beach Resort & Spa,

Kona, Hawaii

Web: www.ssr.org/08Schedule.shtml

2008 Reproductive Tract Biology Gordon Research Conference

3 – 8 August 2008

Proctor Academy, Andover, New Hampshire

Web:

www.grc.org/programs.aspx?year=2008&program=reproduc

2009

11th European Congress of Endocrinology

25 - 29 April, 2009

Istanbul, Turkey

Web: www.euro-endo.org

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My first day was spent at Walton Oaks in Surrey in Wellies and a trenchcoat getting to know my first animal study with Avandia – a very large angry sow. The sow and I got quite used to one another over the coming months.

I learnt a lot during my time in this group. My specialist in vivo biochemistry was utilised but I also had the opportunity of branching out into in vitro biology – working on differentiating human adult adipose tissue stem cells for efficacy assays. This also gave me the chance of working in the US at the National Institute of Health at Bethesda, Washington.

I commuted from my parents home in Kent to Epsom in Surrey for 18 months until I had saved up for a deposit on a modest one bedroomed flat in Horley, Surrey. I got engaged to a Physicist, Stephen who I had met at Leeds University after 7 years of weekend commuting to each other's houses. Stephen and I have a son Joshua who keeps me on my toes. I had joined Beecham which merged to become SmithKline Beecham and then GSK – this journey has meant that I have circumnavigated the M25 and moved from Discovery to Development in the process.

I do know a lot of people in GSK but I have never lost that scientific curiosity that a Research Scientist has. I feel that working in the Pharmaceutical sector has been very fulfilling – the ups and downs of drug discovery and development are tough. Sometimes the action of drugs are found by serendipity when you least expect it for example an anti-infective was found to be an effective anti-hyperglycaemic agent in the 50's and in the 90's a well known example is Viagra which was developed as an antihypertensive is marketed for sexual dysfunction so you are always on the lookout for possible new indications.

Currently I work in Safety Assessment within Preclinical Development and I am finding out about the “other side” of the R&D that was a black box earlier in my scientific career. My job consists of me working in a matrix with talented scientists from multiple disciplines to make sure that the best drug candidate is progressed through the various stages to become a marketed drug to ultimately make people's lives healthier. I work in an investigative toxicology group and we undertake transcriptomic, cellular and biochemical experimental approaches to understand a toxic mechanism of action of a drug to aid its development.

In answer to the question “how would you find a job in the pharmaceutical industry?” I would grasp any opportunity that may arise - scan the job pages of scientific journals such as New Scientist and Nature or look at the WEB pages of the Pharmaceutical Companies or look out for short term contracts within the Pharmaceutical Industry advertised with agencies (this later option gives you the experience and knowledge to determine whether that sort of job is for you) make sure that the job you are applying for is one that will stimulate you scientifically and you are not applying for it just because your best friend works there

Underlying ethos that I do adhere to is to find a job that stimulates your scientific curiosity and in a field of science that you enjoy. During my working career I have kept up to date with the scientific literature so that I have been well placed to respond to new challenges in the workplace. I am lucky as my job exposes me to a wide range of very talented individuals and I learn something new every day. If I can make a drug that goes some way to alleviating an individual's pain and suffering in the future then my scientific career would have made a difference.

Association of Biomedical Andrologists (ABA) Competence-based training for Andrologists

MJ Tomlinson, Chair of ABA, Head of Andrology, Fertility Unit, Nottingham University Hospital (Queen's Campus), Nottingham NG7 2UH. Mathew.Tomlinson@nuh.nhs.uk

In January this year, the ABA launched its *Certificate in Diagnostic Semen Analysis*. Viewed as a milestone in its short existence as the first ever 'competence training' in laboratory andrology, it could not have been possible without the British Andrology Society (BAS).

The paucity of training opportunities in the United Kingdom was recognised by the BAS in the mid-1980's and, as a result, a training course in basic semen analysis was developed. This generated considerable interest due to national developments in both laboratory and clinical practice. Accreditation was taking off in medical laboratories thanks to the formation and development of CPA (Clinical Pathology Accreditation, UK), whilst the RCOG (Royal College of Obstetricians and Gynaecologists) published guidelines on the management of infertility, which highlighted the need to perform semen analysis to agreed standards in suitably accredited laboratories. In response, the then BAS Education Sub-Committee (and subsequently founding ABA Executive) developed the basic semen analysis course, and started to expand its training provision. With accreditation came frequent requests for the profession to be regulated and to find a mechanism for the registration of scientists working in andrology. However, the requirements for accreditation were that individuals receive training on a recognised course but, with a shortage of suitable venues and trainers, it was always difficult to keep pace with demand. Despite over 300 individuals having taken the course, the demand for places on training courses continued to grow and by 2002-3 (around the time of early mutterings about forming a professional organisation for clinical laboratory andrologists) the waiting time for a place was nearly 4 years. Clearly something had to be done and more efficient ways of delivering training and improving standards had to be found.

Despite the recognition of the problem, the then BAS Education Sub-Committee were not in a position to tackle all of these issues and, moreover, did not have the remit to do so within a learned scientific society. After some lengthy discussion and with the full support of the BAS, the last BAS Education Sub-Committee decided that the only mechanism by which the profession could receive the necessary support was to form a professional organisation along the line of the ACE (Association of Clinical Embryologists). The result was the establishment of the Association of Biomedical Andrologists (ABA), so named because the overwhelming majority of its membership was likely to be comprised of Biomedical Scientists.

Early achievements for the ABA included its first set of guidelines for good practice in 2004 (superseded by edition 2 in 2007) as a means of bringing together accreditation standards and published evidence of good and effective methodology (see www.aba.uk.net). In parallel, the ABA was part of the multi-body committee, brought together by the HFEA, which produced the first set of accreditation standards under the EU tissue banking directive of 2004. With the guidelines for good practice, a code of conduct and a voluntary register now established, the profession is well on its way to raising standards in an all-together more systematic way and looking towards regulation and state registration.

Running in parallel with this work, over the past 4-5 years, healthcare science has been bombarded with new terminology such as National Occupational Standards (NOS), Knowledge and Skills Frameworks (KSF) and national competency frameworks as part of government health reforms. As the ABA has only been in official existence for just over 3 years we are only now getting to grips with the terminology and what it all means for our members. These projects have since become an important catalyst in the development of our training and highlighted the need to deliver individuals with evidence of acquired skills and knowledge as opposed to providing a 'certificate of attendance' at a course. Therefore an outline format for a modular training course was devised and piloted by training 40 andrologists and embryologists in 'the use and handling of liquid nitrogen' in collaboration with the gas company Cryoservice. The positive feedback from this provided further impetus to use a similar structure in other areas of practice and led eventually to January's launch of the certificate in diagnostic semen analysis. Trainees are required to complete the sections from this logbook as an on-going record of their progress during the course of their training and competency will be measured by the successful completion of a number of practical exercises, reflective learning questions and patient case studies. This is a first for andrology and hopefully should put the UK on the right track in terms of raising standards in the laboratory testing of fertility and post vasectomy patients. Further modules in cryopreservation, sperm banking for donors and patients, sperm processing and sperm function testing are planned but clearly will take significant time and effort to produce.

With a recent heavy emphasis on raising professional standards, careers and service delivery over the short period of its existence, a notable absence from ABA meetings has been a focus on research and development. The ABA would not be in existence if it were not for the foresight of former BAS committees and today still views the BAS as an obvious partner in highlighting advances in andrology and providing education and would perhaps welcome [\[1\]](#)collaboration in the future.

The next ABA annual general meeting is on the 9th April at the Centre for Life, Newcastle and has a focus on advanced clinical testing including: the WHO and semen analysis, DNA damage, CASA and electron microscopy.

For further information about the ABA see www.aba.uk.net.

Update your email address



The BAS is increasingly using email to contact members with news and important announcements. Currently we do not have an email address for all members and some of the addresses held on the database have been returned as undeliverable. All member are urged to check this (i.e. if you have not been receiving emails from the BAS Secretary it is likely that your email address that we hold is incorrect). Please email secretary@britishandrology.org.uk with your email address.

Membership

If a colleague would like to join the BAS please contact the BAS Secretary at:

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 BAS Membership Secretary
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Email: secretary@britishandrology.org.uk

Letters

The BAS Newsletter is published in Spring and Autumn of each year.

If you wish to contribute to the newsletter please write to us with your news and views to:

secretary@britishandrology.org.uk

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