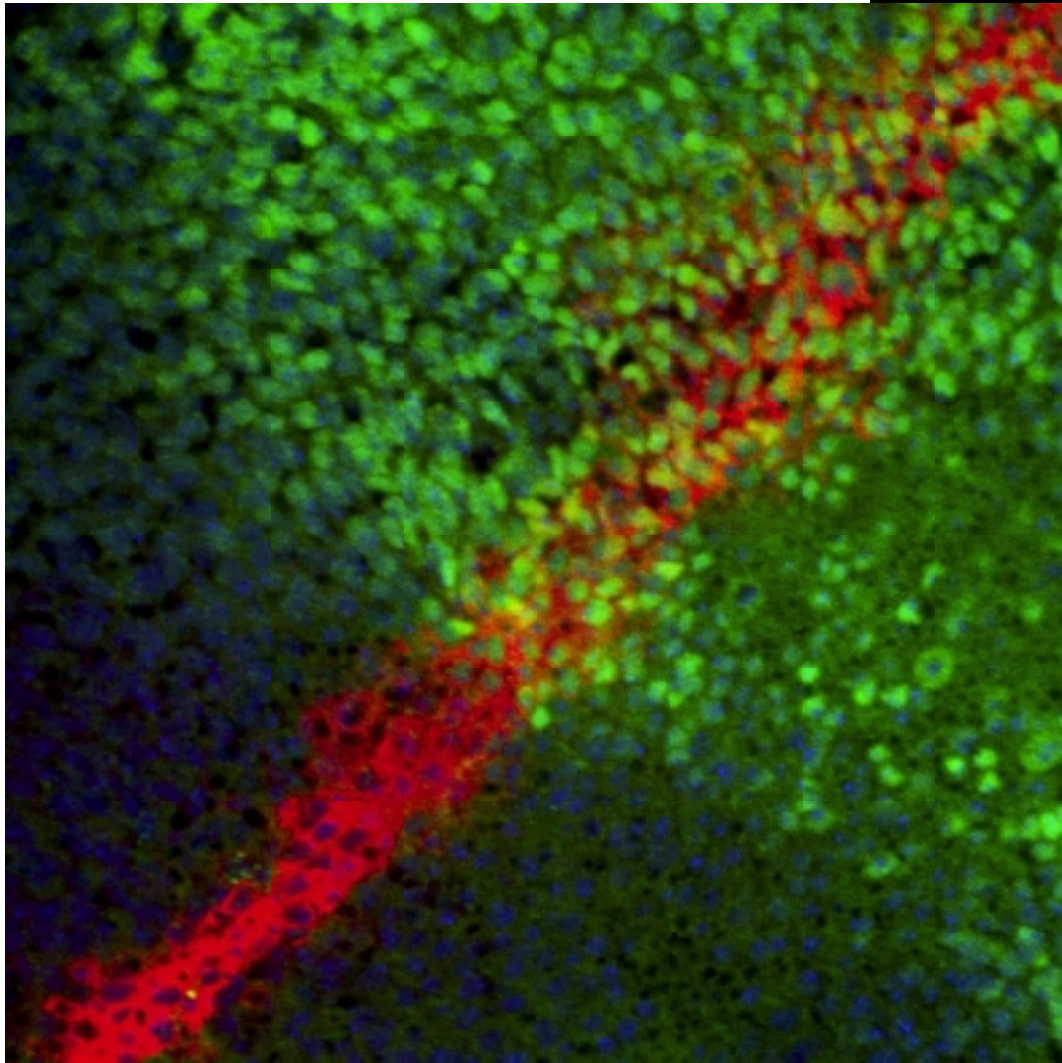


BSDDB Newsletter

Summer

2001

No 43



British Society for Developmental Biology

Autumn Meeting 2001
Boundaries in Development

BSDB Newsletter

Summer 2001

No. 43

Editorial

Sadly, this edition brings you the news that Rosa Beddington died on May 18th, aged just 45. Rosa was friend and mentor to many of us and will be sorely missed. Phil Ingham, a good friend and colleague of Rosa's, has kindly agreed to write a tribute which appears on p13.

On a less sad note, the Spring Meeting seems to have been a success (but I would say that, wouldn't I). To get a completely unbiased view read the Meetings Secretary's (!) report on p9. Among the highlights, the display of technical prowess in the opening session. More positively, also included was this year's Waddington Medal, awarded to Mike Bate (see Chairman's letter, p2) and an excellent image competition, hosted by Jenny Whiting, the Picture Editor of the Wellcome trust. To celebrate the latter we have compiled a pullout poster of some of the best in the centre pages.

The last issue provoked the first real comment [see News (& Views)] and, of course, it's education, education, education. We've promised to focus on this, but are we delivering? Should we have an education subcommittee? The committee needs to hear more about issues like this (our addresses are in the back).

As the debate about who should "own" access to "our" published papers heats up (missed it?! See: <http://www.nature.com/nature/debates/e-access/>), it's good to see that it hasn't dissuaded Cell Press from launching a major new developmental biology journal, Developmental Cell, subscription to which is being offered at a substantial discount to BSDB members (see Book & Journal Offers).

By the time you read this, the outcome of the General Election in the UK will have been decided (which is to presuppose that we do not already know the result). Whatever the colour of the new government, what looks certain is that restrictions on the use of animals in research will continue to increase. While some of the changes will be welcomed and should help to streamline some of the process for getting research licensed, many other less helpful changes are likely to arise from our inability (in many cases not unjustified fear) to engage and make our views known in the debate. To this end it is very welcome to hear more about the work that the UK Life Sciences Committee is doing [see News (& Views)] to protect what is in many of our interests.

Finally, we need a **BSDB logo**. Check out the competition on p7, you could win £100.

More Newsletter contributions please. Send to me, Andy Furley, at a.j.furley@sheffield.ac.uk

The Editor

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BSDB Autumn Meeting 2001

Boundaries in Development

Oxford, 19th – 21st September

The **Programme** & details of the meeting appear on **pages 6 & 7**. Registration and Abstract Submission are **online**:

www.anat.ox.ac.uk/mrc-fgu/autumnBSDB2001.html

Registration and Abstract Deadline
15th August, 2001

Jobs in development

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Cover image is a wing imaginal disc stained for the transcription factor Ci, wingless (through a LacZ expression line) and DNA (using ToPo dye from Molecular Probes). Courtesy Marcel van den Heuvel, Oxford

From the Chairman

Events in the first half of this year have been overshadowed by the tragic death of Rosa Beddington, a former officer of the Society and a much loved and highly respected member of the developmental biology community. An appreciation of Rosa's life and contributions appears on page 13.

Rosa, in particular, would have appreciated the talks presented at this year's Spring Symposium, combining as they did superb science with the beautiful pictures generated by modern imaging techniques. The aim of the organisers to exemplify and promote the convergence of cell and developmental biology was achieved beyond all expectations with what must surely have been one of the highest quality symposia for many years and indeed one of the outstanding international meetings of the year. We are indebted to Andy Furley, Charles ffrench-Constant, David Garrod, Allan Hall and David Wilkinson both for their prescience and powers of persuasion in assembling such a superb line up of speakers. Thanks are also due to the local organisers and to our hosts, the University of Sussex, for providing such an excellent venue and for making everything run so smoothly (well, after the first session anyway!). Congratulations go to the winners of the Poster Prizes – the first prize, an all expenses paid trip to the SDB Meeting in Seattle, went to Jennie Dorman from the Department of Genetics, University of Washington at, errrr., Seattle! The second prize of a one-year subscription to Development was awarded to Steven Marygold. Despite the conference dinner, a good time seems to have been had by all. We look forward to returning to Sussex before too long.

The AGM saw the election of three new committee members Mike Jones (ICR, London), Nancy Papalopulu (Wellcome/CRC, Cambridge) and Leigh Needham (Guy's, London). They replace three outgoing members, Jean-Paul Vincent, Paul Scotting and Alison Wilkie to whom we extend our warmest thanks for their service to the Society.

The Waddington Medal

This year, the BSDB committee voted by an overwhelming majority to award the Waddington Medal to Mike Bate, Professor of Zoology at the University of Cambridge. The purpose of this award is to recognise not only outstanding



research achievement by a scientist working in the U.K. but also major contributions to the developmental biology community, areas in which Mike has excelled in equal measure.

His research career began in the 1960s when, having graduated from Oxford with a first class honours degree in Zoology, he began studying the gin-trap response in the privet hawk moth pupa, under the supervision of John Treherne at

the Zoology Department in Cambridge. This choice of topic reflected Mike's desire to unravel the neural networks that underlie behaviour, a theme that has driven his research ever since. After obtaining his PhD, he spent three years at the Australian National University in Canberra where he performed a seminal analysis of the development of the nervous system in the locust, studies which included the identification and naming of pioneer neurons. He then moved to Germany, where, first in Freiburg and subsequently in Tübingen, he became exposed to the seminal work of Janni Nüsslein-Volhard and Eric Wieschaus. Mike was quick to realise the enormous potential of *Drosophila* as an organism in which the genetic basis of neural networks could be unravelled. Through his comparative analysis of the nervous systems of fruit flies and locusts, he established the existence of a common ground plan for neuronal development in all insects and on returning to the Department of Zoology in Cambridge he began to capitalise on this discovery by embracing the fruits of the molecular revolution in *Drosophila* development.



In the late 1980s he switched his focus from the nervous system itself to the object of the neuron's desire (to paraphrase Cajal). Again using *Drosophila* as a model system, he began to dissect the genetic control of muscle development. This work has led to the most comprehensive understanding of the mechanisms of myogenesis in any organism to date. It established the concept of muscle founder cells and led to the elucidation of the roles of many familiar genes such as *wingless*, *twist*, *Kruppel* and *numb* in the specification and differentiation of individual muscles. At the same time, Mike has continued to break new ground with his studies of the development and function of the embryonic neuromuscular synapse and of axonal guidance in the *Drosophila* embryo.

Despite this formidable record of achievement, he has, in keeping with the criteria for the recipient of the Waddington Medal, received relatively modest recognition for his work. Most recently, however, he has been honoured by conferral of the Sir Dorabji Tata Visiting Professorship at Bangalore University in India: but at home, promotion to a Chair in Zoology came only after his election to an FRS in 1997. Yet it is hard to be a developmental biologist in this country without having at least one colleague who has been inspired by his teaching. I would guess that many members of the Society will have fallen under his spell at some stage in their careers, be it as an undergraduate at Cambridge or on one of the many specialist courses that he has organised or taught. And of course, it goes without saying that like his predecessors he is still active at the bench!

Phil Ingham

BSDB Committee changes

Duly elected to replace departing members Paul Scotting, Jean-Paul Vincent and Alison Wilkie (Graduate Student Representative), are Mike Jones, Nancy Papalopulu and Leigh Needham (respectively). Our warm thanks to the retirees, and welcome to the new members who begin serving in September.

UK Life Sciences Committee – latest news

For several years now the BSDB has been a paid up member of the UKLSC which comprises representatives from most life science learned societies – our current subs (calculated on our membership number) are 1.3K and for that we are part of an organisation that speaks with one voice to the media, the government and the research councils, for the things we need and want

In the past it has successfully negotiated for increased stipends for research council funded PhD students and for more 4 year PhD programmes. A major activity currently is that driven by the animal sciences group (half our subs fund an administrator's salary for this) who strongly represent our interests regarding animal experimentation. This is particularly crucial in the run up to the next election because of the extremely active lobbying planned by others against all experimentation and "tinkering with nature". The animal sciences group also has an ongoing dialogue with government regarding the potential problems arising from the "freedom of information" legislation and the difficulties that might arise if HO license details were to become public domain.

Another and key activity of the UKLSC involves the public understanding of science and education. For example it sponsor school level videos on topics like genetic engineering, advises on national curriculum changes and supports a web link for teachers - biology4all – which provides access to exciting science teaching resources.

In the future Martin Raff - whose brainchild the UKLSC is - wants to use our collective voice and bargaining powers to improve the lot of post-docs and research fellows, by negotiating for better career development and to push universities to commit more job security for the best young independent investigators. Another more general aim is to improve the profile of biosciences in the UK – if the general public don't think what we do is worthwhile then our funds will dry up and we'll fade like the dinosaurs. These goals are beyond the scope of any one grouping of scientists but are achievable by a larger collective.

I think our subs are currently money well spent but each year at the AGM we can revise our decision whether to remain fully paid up members of UKLSC. I will continue to represent BSDB's interests on this committee and so if you have any burning suggestions about things we should do, then email them to me at paul.martin@ucl.ac.uk.

Paul Martin, UCL

Education and BSDB

Your comment in the BSDB newsletter "teaching is a burden with which we have to live" struck a nerve with me. BSDB may be mainly for researchers, but many members are on the academic staff of Universities where teaching can be as much or more of the job than research. I'd hope we could move beyond the attitude that teaching is a drudgery that distracts from the 'real' work of research. There can be few tasks more important than the education of the next generation - and it can be enjoyable too. A fringe benefit of teaching is that it can take us out of the narrow speciality inevitable to most research, sometimes providing new ideas and insights for research.

On whether BSDB needs an education committee: it might be worth checking what the education committees of some fellow learned societies do. In some sci-

ences, notably Chemistry, the learned society has a role in determining the content of degree courses. The breadth and diversity of the biological sciences would make this difficult (and undesirable?). In the case of developmental biology as a research area, young scientists can enter from a very wide range of first degrees, and long may that continue. Although there are a few degree courses called Developmental Biology they certainly do not provide all the graduates who enter the field. Neither is there an obvious role in the provision of educational material: with Gilbert, Wolpert etc. there are a good range of texts and associated web sites. However, there may be a need for some kind of educational policy thinking in post-graduate training, especially if the tendency towards M.Res. courses as a preliminary to the Ph.D. continues.

Roger Downie, University of Glasgow

ELSO, a unified voice for european biology

"This is an exciting time to be a biologist." thus opens the web page of ELSO (European Life Science Organization at <http://www.elseo.org>), a not-so-new organization which is trying to bring together the activities of european biologists with a common goal, the unification of the many emphasis on the younger generation. The idea of ELSO stems from one interest, that Europe should be identified as a unit, that the efforts of many can become more fruitful and stronger if they are unified through an organization that can channel ideas and that Europe should begin to organize unified forums for its biological sciences.

The goals and structure of ELSO are discussed in its Web page. There was a founding meeting last year in Geneva (Geneva 2000) and there will be a second meeting in Nice (Nice 2002) next year. The idea behind these meetings is to provide a showcase for european science regardless of nationalities and in the interest of Science only. Whether ELSO will succeed or not will depend on the participation of european scientists. One often hears comparisons between the USA and Europe at the level of content and form of research in the Biological Sciences. In the end, the main difference is that the US is one, and Europe is many and that this plurality tends to dilute the potential of individual efforts. The EU is trying to change this at the social and economic level and while this, no doubt, will and does impinge on the Natural and applied Sciences, it is also true that individual initiatives within specific areas of Science can accelerate and contribute to this change. There are some existing ones in the area of Biology. ELSO does not try to substitute this but above all it proposes to be a catalyst for Scientists and run by Scientists. The participation and contribution of all of us can make this project a strong and effective voice for the Biological Sciences in Europe.

Alfonso Martinez-Arias, Cambridge

Developmental journal from Cell Press - special BSDB subs discount

While not wishing to favour particular publications, the launch of **Developmental Cell** by Cell Press is surely news that developmental biologists everywhere will ignore at their peril. The aim, according to the blurb, is to cover the fields of cell biology and developmental biology, publishing papers describing "exceptionally interesting and novel results in these two fields, with particular emphasis on the interface between them". Sporting an exceptional international editorial board, the fledgling journal expects to publish both "traditional" Cell-style articles and "shorter"-style manuscripts that fit into 6 published pages or less. Further details can be found on their website <http://developmentalcell.com/>. Of particular interest to this readership is a **special discount rate to BSDB members**. For details, please see advert and Book & Journal Offers elsewhere in this issue.

News, Letters and Comments to the Editor
a.j.furley@sheffield.ac.uk

From the Treasurer

TRAVEL GRANTS

Thanks to the continued generous support of the Company of Biologists, the BSDB awards three types of travel grant to members, with preference given to graduate students and postdocs.

BSDB Spring and Autumn meetings:

These are the only UK meetings for which there is BSDB support, and grants cover basic travel and conference expenses (but not conference dinners!). We are currently able to fund demand but, if numbers increase, preference will be given to members who present posters (but see comment on foreign meetings).

BSDB members based abroad are eligible for a contribution (max £400) towards attending BSDB meetings.

Practical courses: Support of up to £500 is available for these courses and, at the moment, all applicants are funded. If more than about 8 members a year applies, however, a selection procedure will be introduced.

Foreign meetings: This is the category for which there is greatest demand and we cannot fund everyone. BSDB will give members a contribution (max £400). Current policy is as follows: no more than two people from one Department or one person from a group will be awarded a grant to go to a particular meeting. Preference will be given to members presenting work.

Also: The Treasurer now has a small additional fund to support other activities e.g. travel within the UK, or the USA, in order to visit laboratories. Please email the Treasurer with any appropriate request.

Small Meetings

Members may approach the **Treasurer** for seed funding to help with organising developmental biology events (egg one-day meetings) that involve other institutions and at which students and postdocs are encour-

aged to attend and present work. The BSDB currently supports the meetings of several local developmental biology groups with small (~£250) annual contributions. Any further requests for this type of funding should be made in a letter to the **Treasurer**.

Louie Hamilton Fund

There is a small amount of money available from the Louie Hamilton Fund to provide travel support for handicapped members. Applicants should contact the **Treasurer**.

To apply for a travel grant:

- Members should first complete the Travel Grant Application form and send it to the Treasurer. (See **Forms** section at the back of this issue or see the BSDB website: www.ana.ed.ac.uk/BSDB/bsdbgrant.htm)
- Application 3-4 months in advance is advised so that the BSDB contribution can be used as a lever to prise the rest of the money from other sources. No grants will awarded in arrears
- **All applications for grants to attend a BSDB meeting must be in the Treasurer's hands a week before the meeting deadline.**

Please note: no-one will be awarded more than one travel grant per year.

Financial Report see opposite

SUBSCRIPTIONS

** 1996 "Student-rate" members should quickly upgrade their subscription to **£20 or they will be culled (humanely)**.

Ottoline Leyser

Graduate Students

The Graduate Student Rep on the BSDB Committee is **Alison Wilkie**. Her job is to communicate Graduate Student views (good or bad) to the BSDB Committee, so please do not hesitate to contact her - see the addresses page at the back. Alison would like to encourage all students to **apply for the travel grants**, not only to BSDB meetings but for overseas meetings, courses, and workshops as well. The BSDB offers very generous travel grants and students in particular should take advantage of their membership while it lasts! The BSDB is far more generous than other societies in this respect! **(Please note that Alison retires in September. Her replacement will be Leigh Needham. Contact Ivor Mason, the Secretary, for details)**

BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY

FINANCIAL STATEMENT YEAR ENDING JULY 31st 2000

Balance Sheet

<u>1998/99</u>		<u>1999/00</u>
£		£
<u>98,640</u>	Investments	<u>107,636</u>
	Baillie Gifford Managed Fund (1,2)	
	Current Assets	
31,134	Barclays Bank High Interest Account (2)	26,228
9,462	Barclays Bank Current Account	8,393
2,746	Barclays Bank: Louis Hamilton Account (3)	2,798
43,342		37,419
856	Less: Unpresented cheques	1,441
<u>42,486</u>	Net Current Assets	<u>35,978</u>
<u>141,126</u>	Total Funds	<u>143,614</u>

Income & Expenditure Account

<u>Income</u>	<u>£</u>	<u>Expenditure</u>	<u>£</u>
Membership (Standing Order)	15,167	Grants (Travel & Courses)	32,535
Membership (Cheques)	443	UKLSC etc	660
Capitation Fee (CoB)	12,770	Newsletter	3,722
Travel grant fund (CoB)	15,000	Small meetings and other DB meetings	2,980
Sale of addresses	125	Warwick meeting	373
		London meeting	9,034
Interest and Investment Appreciation:		98/99 meetings and 00/01 meetings	700
Barclays High Interest a/c	1,094	Committee & administration	1,157
Barclays Louis Hamilton a/c	52	Bank charges	186
Barclays Current Account	189		
	<u>1,335</u>	Total Expenditure	<u>51,347</u>
		Net Surplus for the Year	- 6,508
Total Income	<u>44,840</u>	Unrealised Gains on Baillie Gifford Managed Fund	8,996
		Fund balance at 31st July 1999	141,126
		Fund balance at 31st July 2000	<u>143,614</u>

Notes

These accounts were prepared under the historic cost convention, in accordance with the applicable accounting standards and Recommended Practice of Accounting by Charities. There have been no major changes to our financial arrangements this year.

1. The Baillie Gifford and Barclay High Interest Account valuations are on 30.6.00 (the 1999/00 BG gain is ~9%).

2. This account includes £25,500, the surplus on BSDB practical courses; this is used to provide grants for members to go on courses, and £3,500 was spent in 1999/00 for this purpose.

3. This is the only restricted account and no call was made on it in the financial year 1999/00

Next BSDB Meeting

BSDB Autumn Meeting, September, 19th-21st, 2001

Boundaries in Development

Magdalen College, Oxford, UK

Organiser: **Marcel van den Heuvel**

Programme

September 19th (afternoon)

Chair: **Jenny Brown**

Opening lecture (speaker to be announced)

Steve Cohen (EMBL):

"Boundary formation in Drosophila wing development"

Julie Ahringer (Cambridge):

"Genome wide RNAi screening and its use in studying C. elegans embryonic polarity"

Olivier Pourquié (Marseille):

"Role of FGF signalling and of the segmentation clock in somite boundary formation"

Dinner/Posters

September 20th

Chair: **Alison Woollard**

Antonio Garcia-Bellido (Madrid):

"The history of clonal boundaries"

Jean-Paul Vincent (London):

"Boundaries in the embryonic epidermis of Drosophila"

Selected Abstract

Andrea Wizenmann (Würzburg):

"Beyond gene expression patterns: Cells and axons encountering the mid hindbrain boundary"

Lunch

Chair: **Ruth Arkell**

Ken Irvine (Piscataway):

"Modulation of Notch signalling by the glycosyltransferase Fringe"

Steve Wilson (London):

"Roles for boundaries and organiser tissue in patterning the zebrafish neural plate and mesoderm"

Alex Joyner (New York):

"Setting up an organizing centre at the mid/hindbrain junction"

Selected Abstract

Conference banquet

September 21st (morning)

Chair: **Zoltan Molnar**

Gerd Jürgens (Tübingen):

"Origin of the root meristem in Arabidopsis early embryogenesis"

David Wilkinson (London):

"Roles of Eph receptors and ephrins in boundary formation"

Paul Nurse (London):

"Controlling cell shape in fission yeast"

Abstract and Registration Deadline
15th August, 2001

For the latest details see meeting website:
<http://www.anat.ox.ac.uk/mrc-fgu/autumnbsdb2001.html>

BSDB Autumn Meeting (continued)

General information:

Dates: Arrive afternoon of 19th of September, lunch optional. Depart afternoon of 21st of September, lunch optional.

Site: The conference will be held at Magdalen College, Oxford. Details on how to get to Oxford and to Magdalen College will be posted on the Meeting website. PLEASE NOTE, parking in Oxford is NOT possible.

All lodging and the seminars will be within the grounds of Magdalen College

<http://www.magd.ox.ac.uk>

Registration: On-line registration will be available from mid June through the conference website. This website will also include abstract submission options. The number of registrants (with accommodation) is limited to 100, if the Meeting is oversubscribed, priority will be given to those who present posters. The **deadline for registration is August 15th**; those registering after this deadline will be subject to a late registration penalty of £30.

Posters and abstracts: A poster session will take place in the evening of the 19th of September. Two abstracts will be selected from submitted material for oral presentation; authors wishing to be considered for oral presentation, should indicate their intention to do so. **Abstracts should be submitted by August 15th.**

Meeting charges: The fee for residents covers registration, accommodation and all meals ex-

cluding the conference banquet (four course dinner with wines in Magdalen College Halls). The fee for non-residents covers admission to seminars, teas, and coffees on all days and lunch on the 20th of September.

Charges (for more details see website):
2 nights full member £ 155.00
2 nights student member £ 115.00
For non-members add £ 30.00 to fees
Conference Banquet, add £ 40.00 to fee
Late booking fee (after 15/08) add £ 30.00
Non-residents £ 50.00

Travel grants: remember that BSDB travel grants are available to cover basic travel and conference expenses. For further details, see page 4 of this Newsletter.

Further details on the Meeting, registration on-line and abstract submission on-line can all be found at:

www.anat.ox.ac.uk/mrc-fgu/autumnbsdb2001.html

For queries, please contact:
Sarah Tucker, Secretary to Marcel van den Heuvel
MRC Functional Genetics Unit
Department of Human Anatomy and Genetics
University of Oxford
South Parks Road
Oxford, OX1 3QX
Tel/Fax: 44 1865 272421
Email: sarah.tucker@anat.ox.ac.uk or
marcel.vandenheuvel@anat.ox.ac.uk

Logo Competition – Win £100

Some of you may have noticed the “stunning” logos being used for the Spring Meeting (and not been impressed). Increasingly we find we are being asked for a logo - for meetings, for letter heads, for advertising etc – and often have to cobble something together in the last minute (which is how it looks).

Can you do better?

If you think you can, we want to hear from you. We’re looking for the following attributes:

- Simplicity of design, ie should be straightforward to use in letterheads etc.
- Clear reference to the BSDB(!). Could be simply an arrangement of the initials, but could also be a graphic encapsulating the field.

Of less importance, though useful:

- Compatability with the style of the current Newsletter
- Compatability with BSCB and Gen Soc logos to allow the design of a joint logos for Spring Meetings (ideas for this also welcome).

Send your ideas, preferably in hardcopy and electronic form* to Andy Furley (see Committee pages for contact details). The entries will be judged by the Committee at their autumn meeting and the winner will receive a **cheque for £100**. The winning logo will be announced in the Winter Newsletter (and probably incorporated into the design). Anyone can enter, though please restrict yourself to a maximum of three entries per person. **Deadline for entries 30th September, 2001.**

*We can handle most electronic formats, including Word, PDFs, JPEG, PICT, but do make sure to send me a hardcopy so that we can check that what you sent electronically looks as you intended on our computers.

The BSDB/Genetics Society Spring Meeting
University of York, 20-23rd March 2002

The Evolution of Developmental Mechanisms

In the past 15 years, the interface between developmental biology and evolution has re-emerged as an exciting and productive area of research. The topic has received an added impetus as complete, or near complete, genomes have been acquired for a diversity of organisms. The spring 2002 symposium, organised jointly by The Genetics Society and BSDB, will focus at the interface between development, evolution and genomics. The partnership between GenSoc and BSDB means that we have been able to invite a wide range of speakers from Europe, USA and Japan, and we can look forward to a high quality and very timely symposium. It is hoped that several contributed talks can also be included in the program, selected from submitted abstracts. Posters describing research on all areas of the subject are encouraged.

The meeting will focus on four themes that lie at the core of this subject, yet that have been under-represented at similar meetings in the past. These are (together with speakers confirmed to date):

- (1) Microevolution of development
David Kingsley (Stanford), John Doebley (Madison), Paul Brakefield (Leiden), Enrico Coen (Norwich), Michael Akam (Cambridge), Susan Lindquist (Chicago), David Stern (Princeton).
- (2) Genomes and evolution
Nori Satoh (Kyoto), John Postlethwait (Eugene), Jonathan Hodgkin (Oxford), Paul Nurse (London), Virginia Walbot (Stanford), Peter Holland (Reading).
- (3) Molecular mechanisms of phenotypic evolution
Vivian Irish (Yale), Jane Langdale (Oxford), Mike Levine (Berkeley), Denis Duboule (Geneva), Sean Carroll (Madison), Richard Lenski (Michigan).
- (4) Life histories and life cycles
Mark Martindale (Hawaii), James Truman (Seattle), Linda Partridge (London), Detlev Arndt (Heidelberg), Simon Conway Morris (Cambridge), David Gems (London)

A discussion session on Phylogenetic Methods and Applications will also take place, involving Sandra Baldauf (York) and several other speakers.

The Balfour Lecture for 2002 will be given by Adam Eyre-Walker (University of Sussex).

Organisers: Peter Holland, Enrico Coen, Michael Akam, Paul Nurse, Vivian Irish, Jane Langdale, Jayne Richards

BSDB Autumn Meeting, 2002

T-box genes in development

Organizer Jim Smith, Venue: Nottingham, Dates 16-18 September

Topics for Future Society Meetings

One of the major tasks of the BSDB Committee is to select topics for future meetings and then to ensure that these meetings are well organised and successful. It is obviously crucial that meetings are supported by the members of the Society, and we always welcome suggestions for future topics. If you have an original idea for:

- a major Spring Symposium,
- a smaller two day Autumn meeting
- a one day workshop,

please get in touch with the **Meetings Secretary, Jamie Davies** (jamie.davies@ed.ac.uk)

BSDB/BSCB Spring Meeting on Cell & Tissue Morphogenesis

This year's Spring Meeting (Sussex, 3rd-6th April), full of exciting experimental results, was an experiment in itself. This year we broke with our usual tradition of running separate and parallel BSDB and BSCB programmes and instead joined forces to run one single high-quality programme on Cell and Tissue Morphogenesis. The advantages of this were that we would have enough money to produce a really excellent list of international speakers while keeping the registration costs down, and people would not be faced with having to choose between rival sessions. To give credit where credit is due, the original idea for this came from BSCB. (We were therefore particularly surprised by a last minute revolt by some members of BSCB who, feeling hijacked by developmental biologists, quickly organized parallel "workshops" of their own on motors and on post-golgi organelles! Never mind – the main programme still got its star speakers, and the price for the meeting was still held much lower than it had been in the previous year). In terms of attendance, the meeting was definitely a success – we were in the embarrassing position of having to turn people away (though everybody who applied before the deadline was accepted). As usual, the BSDB was able to fund most student delegates through the generosity of its grant from the Company of Biologists.

The science of the meeting began strongly with a session on cell junctions. When they first appeared in meetings, cell junctions were seen as entities with essentially one function – adhesion. This aspect is still very important, and we were presented with some very elegant data on the mechanisms of cadherin binding, and the surprising lack of specificity shown by different cadherin types when allowed to bind heterotypically *in vitro*. We were also treated to some striking demonstrations of how proteins control the biogenesis and placement of junctions, and how dramatically mutant flies devoid of such proteins are affected. Nowadays, though, cell junctions are also understood to be signalling centres, and this aspect was emphasised by several speakers working on systems as diverse as insect cells, vertebrate endothelia and myelinated nerve. Next came a session on morphogenesis itself. This was dominated, as is so much of developmental cell biology nowadays, by genetic studies in *D. melanogaster* and *C. elegans*. The behaviour of epithelial sheets and tubes was the focus of several talks, which covered the genetic control of epithelial branching in insect airways, and in epiboly, gastrulation and closure in nematodes. *Drosophila* molecular genetics provided the background to a discussion of the mechanisms used to set up boundaries across epithelial tissue, while the vertebrate phylum was represented by zebrafish and the control of notochord development by ephrins, molecules that also turned up in *C. elegans* epiboly.

The second day began with a session on mechanisms and control of cell migration. Again, talks ranged from very cell-biological examination of the molecules required to support integrin-mediated adhesion, to systems more obviously in

the province of developmental biology. Chief amongst these was development of the nervous system, and between them speakers covered aspects of axon migration and guidance to their targets, and the formation of synapses between those axons and both neuronal and muscular cells. Next came The Afternoon of the Time Lapse Video, as the programme turned to the cytoskeleton. Biochemical and genetic elegance was still present of course, but the most memorable moments for most of us in the audience were the series of beautiful time-lapse images of healing wounds, dorsal closure in *Drosophila* embryos, and fish keratinocytes racing across culture dishes. There is nothing like a time-lapse video to remind us, at the end of a mind-stretching day, that the subject of all of the detailed investigations is *life!*

As if following musical tradition, the conference ended with a variation on its initial theme of cell junctions as signalling centres. The role of cadherin-centred junctions, with their associated henchmen of catenins, in controlling cell behaviour was demonstrated in slime molds and flies; again, the mutants are dramatic. Integrin-containing junctions, with their signalling links through integrin-linked kinase etc, were shown to play major roles in regulating epidermal cell fates, cell proliferation and even the basic choice of whether a cell will be epithelial or mesenchymal, a choice that seems to be becoming increasingly fluid as the years go by. The meeting ended with a timely illustration of the utility of genomic approaches to cell adhesion in the Cancer Research Campaign-sponsored talk by Richard Hynes (MIT).

As well as having excellent science in its main session, this meeting was blessed with an interesting (if cramped) poster session, made all the more exciting by a Wellcome-sponsored image competition (we all had our favourites! See *centre pages, Ed.*). It will also be remembered for the excellent talk given by Mike Bate, after he accepted the BSDB's Waddington Medal. I hope it won't be remembered for the Conference Dinner at the Old Ship Hotel (if you are finding it hard to forget the food, there are probably therapists who can help you) – but at least the atmosphere was good. The meeting will also probably be remembered for The Great PowerPoint Projector Disaster of 2001; I shall still bring back-up slides for a few years yet, I think!

So... it was a good meeting, well attended and very interesting. The scientific organizers deserve a very hearty "thank-you". Did the experiment work? Probably. Will we do it again soon? Well, for the next Spring meeting, we have another joint programme, this time with the Genetical Society, so we can see if our results are reproducible {always a mistake...}. After that, BSDB Spring meetings will change to become less focussed on a single theme and of more general interest, and it will be harder to join with BSCB for a single programme. But that's another experiment, for another day...

Jamie Davies, Edinburgh

Other Related Meetings & Courses

Development of the Heart

London, 5th – 6th July, 2001

In this course an international faculty will review the traditional concepts of the developing heart's structure in the light of our new understanding of genetic changes within the embryo, and specifically the growing heart. Sessions will include: formation of the heart tube and the cardiac segments; further information and septation of the atriums; further development of the ventricles; and formation of the atrioventricular junctions, ventriculo-arterial junctions, the vascular supply and conduction tissues.

The symposium will be of interest to molecular biologists, or developmental biologists, with an interest in the development of the heart.

Course Director: Robert H Anderson

Speakers:

Roger Markwald (Medical University of South Carolina USA), Adriana Gittenberger de Groot (University of Leiden, Netherlands), Professor Robert Poelmann (University of Leiden, Netherlands), Wouter Lamers (University of Amsterdam, Netherlands), Antoon Moorman (University of Amsterdam, Netherlands), Nigel Brown (St George's Hospital Medical School, London), Sandra Webb (St George's Hospital Medical School, London), Deborah Henderson (Institute of Child Health, London)

Fees: £200 (£135 students)

Further details and application forms are available from:

The Courses and Conferences Office
Institute of Child Health
30 Guilford Street
London WC1N 1EH
Direct Tel: 020 7829 8692 / 7813 8394
Direct Fax: 020 7831 6902
E-mail Courses@ich.ucl.ac.uk

Embryonic Stem Cells – Prospects for Human Health

Departments of Medicine & Biomedical Science,
University of Sheffield
10th September, 2001

Organising committee:
Peter Andrews, Harry Moore, Austin Smith

This symposium will focus on the biology of embryonic stem cells and the opportunities offered by recent developments in this field, particularly the derivation of human embryonic stem cells

Speakers: Peter Andrews (UK), Keith Campbell (UK), Richard Gardner (UK), Joseph Itskovitz-Eldor (Israel), Dan Kaufman (USA), Christine Mummery (The Netherlands), Martin Pera (Australia) and Austin Smith (UK).

Sponsored by: The Anatomical Society of Great Britain and Ireland, The Wellcome Trust and Intercytex Ltd. **Cont'd**

Embryonic Stem Cells cont'd

The registration fee is £45 (£25 for students), to include a buffet lunch.

Full Conference details and Registration Forms are available at:
www.shef.ac.uk/~biomsc/escells, or by mail from:
Sheffield Stem Cell Symposium, Dept. Biomedical Science, The University of Sheffield, Western Bank, Sheffield S10 2TN, United Kingdom; Fax: +44-(0)114-222-2399
email: EScells@Sheffield.ac.uk.

Cell Biology and Neurobiology Meeting for Martin Raff

BSCB Autumn Meeting 2001
University College, London
19th – 21st September 2001

Martin Raff will retire from laboratory science in 2002 and the scientific programme of this special BSCB meeting celebrates his career and his contributions to science. The programme reflects Martin's broad interests in cell biology and developmental biology as well as his current scientific interests in the neurobiology of behaviour, psychiatric disease, ethics, and science education.

General information, venue and travel

Please visit the web site at:
www.meetings-secretariat.org/

Registration

Deadline for registration **27th July 2001**.

Posters

Posters are not being invited from delegates: instead the organisers are inviting people who have worked closely with Martin over the last 30 years to submit posters giving an overview of their current research.

Publication

Biomed Central will publish much of the meeting electronically.

Meeting charges

Full delegate	£120
Student delegate	£75
Meeting Dinner	£38
Late registrant – add	£35
Day rate	£50

The fee covers teas/coffees and lunches. The Meeting Dinner will be on Thursday 20 September at the Hotel Russell in Bloomsbury Square.

Accommodation

Expotel Hotel Reservations are the official hotel and travel agency for this meeting.
Code: BSCB2001.
Tel : + 44 (0) 20 7372 2001
Fax : + 44 (0) 20 7624 4847
Email : events@expotel.co.uk

Other Related Meetings & Courses

Third Congress of the Spanish Society for Developmental Biology

Málaga, September 16th - 19th 2001.

Speakers include:

José Campos-Ortega, Antonio Garcia-Bellido
Denis Duboule, Eddy de Robertis, A. Hari Reddi
J-C. Izpisua-Belmonte, Paola Bovolenta,
Luis Puellas, Michael Brand,
Enrique Martin-Blanco, Jordi Casanova
While the official language of the Congress is Spanish, English presentations are welcome and simultaneous translation between the languages will be available. Posters may be submitted as *short reports* of two pages for possible inclusion in the special supplement of the *International Journal of Developmental Biology*.

For further details see:

www.ciencias.uma.es/departamentos/biocelular/sebd/

or contact: Dr. Jesús A. Santamaría

Tfno. 95-2131954; Fax: 95-2132000

The New Biology of Stem Cells

The Academy of Medical Sciences,
Scientific Meeting, 5th November, 2001
6 Carlton House Terrace, London
Organiser: Fiona Watt, London

Recent developments in human embryonic stem cell research raise a number of possible new therapeutic strategies. This meeting will bring together international leaders in the stem cell field and foster interaction at the interface between studies of basic stem cell biology and the application of this knowledge for clinical benefit.

Speakers:

Self-renewal and differentiation of pluripotent stem cells

Dr Austin Smith, Edinburgh

Stem cell plasticity

Dr Jonas Frisen, Stockholm

Transdifferentiation

Professor Martin Raff, London

Genetic approaches to stem cell biology using model organisms

Dr Ruth Lehmann, New York

Commitment and differentiation in haemopoiesis

Dr Tariq Enver, London

Allografts of haemopoietic stem cells in the treatment of breast cancer

Dr Irving Weissman, Stanford

cont'd

New Biology of Stem Cells cont'd

Therapeutic applications of mesenchymal stem cells

Dr Robert Deans, Baltimore

Epidermal stem cells

Dr Fiona M Watt, London

More information and registration forms can be found on the meeting website:

www.acmedsci.ac.uk

or by contacting:

Susan Wicks

The Academy of Medical Sciences

tel: (0)207 969 5289

fax: (0)207 969 5298

Genes and Cancer 2001

UK Molecular Biology and Cancer Meeting 18

10th - 12th December 2001

Warwick University

Chair of organising committee: Tony Kouzarides

Confirmed sessions and speakers include:

KEYNOTE LECTURE:

Titia De Lange (New York)

TRANSCRIPTION

Tom Owen Hughes (Dundee)

Robin Allshire (Edinburgh)

Tony Kouzarides (Cambridge)

Paolo Sassone-Corsi (Strasbourg)

Anne Dejean (Paris)

Colin Goding (Oxford)

TUMORIGENESIS

Anita Roberts (Bethesda)

Catrin Pritchard (Leicester)

Anton Berns (Amsterdam)

Allan Bradley (Hinxton)

Julien Sage (Boston)

CHECKPOINTS

Steve Jackson (Cambridge)

Jackie Lees (Boston)

Iain Hagan (Manchester)

Gordon Peters (London)

NEW TECHNOLOGIES

Greg Hannon (Cold Spring Harbor)

Julie Ahringer (Cambridge)

Louis Staudt (Bethesda)

Registration: £100 (Students £40)

Accommodation & meals: £200/£250

DEADLINE ABSTRACTS: **October 19th 2001**

REGISTRATION DEADLINE: **November 2nd, 2001**

More information:

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Tribute to Rosa Beddington

With the death of Rosa Beddington, the Developmental Biology community in Britain and throughout the world has lost one of its most critical and creative thinkers, one of its most innovative and talented experimentalists and one of its warmest and strongest personalities. As well as her many scientific contributions, Rosa had been a great servant to the community: as BSDB Meetings Secretary between 1990 and 1995, she presided over the organisation of many excellent Spring Symposia including the Genetics of Development Symposium in Warwick, of which she was also co-scientific organiser. She also played an influential role on various committees of the UK research councils and European organisations and was a teacher on many courses and workshops including those at Cold Spring Harbor and the Max Planck Institute für Entwicklungsbiologie in Tübingen.

Rosa was just 45 when she died yet she had already achieved more than most of us could even dream of. Her reputation as one of the most skilled experimental mammalian embryologists of her time was already established by the mid-1980s through her pioneering studies of the post-implantation mouse embryo. Yet it was only in the last decade, when she combined her legendary embryological skills with the power of molecular biology, that her qualities as a scientist gained a wider appreciation. Towards the end of her life, her contributions were deservedly recognised through her election to an FRS and through the award of the BSDB's own prize, the Waddington Medal.

Appropriately enough, Rosa had herself provided the design for this medal; as the daughter of a distinguished artist, Roy Beddington, Rosa had inherited her father's skills, a gift that pervaded her scientific work. She possessed the enviable ability to interpret and communicate those most complex of morphogenetic movements that seem to characterise embryonic development in the mouse, as many of us who have studied her drawings in "Manipulating the Mouse Embryo" and "Principles of Development" can testify with eternal gratitude!

I still quite vividly recall my first meeting with Rosa in 1986 when she had been invited by Richard Gardner to participate in interviewing me for a Group Leader position at the newly established ICRF Developmental Biology Unit (DBU) in Oxford. I knew Rosa by reputation (only some time later did I discover that Rosa was not, as I had thought, a Professor but in fact, like myself, a mere post-doctoral fellow!) and was somewhat intimidated at the prospect of being interviewed by not one but two of the world's leading mammalian embryologists. But my trepidation soon turned to relief and admiration when, on taking control of the interview, Rosa revealed both a detailed knowledge of and profound fascination with my own area of interest, the early development of *Drosophila*.

This episode was so typical of Rosa: she was one of the few great scientists I have ever met who was always more interested in hearing what others had to say than in rehearsing her own findings and theories. But this

tendency to shy away from self-promotion had not served her well in the early part of her career, when despite her obvious talents, she failed to secure a senior position at the DBU where we had by now become colleagues. Instead, Rosa accepted an appointment at the Centre for Genome Research in Edinburgh, where, as well as continuing the analysis of the mouse *brachury* mutant that she had initiated in

Oxford, she began to generate a series of cDNA libraries from painstakingly dissected early embryonic tissues. It was these unique and precious resources that were to provide the foundation for much of Rosa's subsequent work that she performed at the MRC NIMR in Mill Hill. Most notably, her isolation of the *Hex* and



Hexs1 genes from these libraries (Rosa often joked that she had made the libraries with the hope of discovering novel "interesting" genes but had ended up cloning "more bloody homeobox genes"!) provided her with a molecular identity for the anterior visceral endoderm (AVE). Contemporary understanding of the role of the AVE in organising anterior pattern in the mammalian embryo owes much to the technical genius of Rosa's grafting experiments and her insight in interpreting her results.

In realising her greatest achievements in what were to be the last years of her life, Rosa displayed a courage and continuing exuberance for science and

life that will be a source of inspiration for all those who knew her and whose lives were touched by her. Not once throughout her illness did I hear her bemoan her fate; instead through her actions and example, she encouraged all around her to grasp their opportunities and live life to the full. Even when she could no longer travel to work, she continued to write and review manuscripts for the leading journals and when not engaged in scientific matters, kept her hands busy by embroidering to her own inimitable designs (one such piece, which she gave to my daughter as a birthday present and which she called her "Genetics Cushion" - is reproduced here).

More than anything, Rosa was a loyal friend, a devoted and benevolent mentor to her students and a trusted guide and confidante to her colleagues. We will all miss you Rosa.

Phil Ingham



Molecular Evolution And Adaptive Radiation

Thomas J. Givnish and Kenneth J. Sysma, Eds.
Cambridge University Press 1997
ISBN 0 521 57329 4 paperback £25.95

This volume contains 21 chapters, each describing research that uses molecular techniques to study adaptation in a particular group of animals or plants. The book is very well edited and all of the chapters are readable and well presented. The editors have organized the chapters into seven categories: Introduction, Integrative studies, Convergence, Rapid radiations, Reproductive strategies, Character divergence, and Community assembly. Studied taxa include a wide variety of plants and animals: Hawaiian silverswords, Bromeliads, orchids, other flowering plants, marsupials, Daphnia, monkeys, fruit bats, tiger beetles, cichlids, sticklebacks, Anolis lizards, and of course *Drosophila* (Hawaiian varieties).

In an excellent introductory chapter ("Adaptive radiation and molecular systematics: issues and approaches") Givnish points out that "any rigorous, non-circular study of adaptive radiation must be based on a phylogeny that has been derived independently of the traits involved in that radiation. In the past phylogenetic inferences were mostly based on morphology. Such phylogenies were then mapped onto morphological traits to help understand adaptive radiations. This methodology, though useful, can obviously lead to circular reasoning. Molecular genetic techniques (sequencing, restriction mapping, and mini- or micro-satellite typing) now provide data sets that are—as far as we know—-independent of the morphological or behavioural characters involved in adaptive radiations, and therefore provide better quality data for studies of this process.

The value of such molecular data is evident in every chapter. For instance, Reinthal and Meyer (Chapter 12 "Molecular phylogenetic tests of speciation models in Lake Malawi cichlid fishes") use mitochondrial sequences to compare four pairs of cichlid fishes at two separate localities in Lake Malawi. Each pair had equivalent ecological niches at two localities. That is, they behaved, ate, or looked similar to each other. The molecular data, however, revealed that none of the pairs were closely related: each species was related to other geographically close, but morphologically different, cichlids. This evidence suggests that cichlids diversified in situ sympatrically, and that convergent morphological and ecological specialization has occurred repeatedly in Lake Malawi cichlids.

Givnish defines adaptation as "the evolution of a diversity of ecological roles and attendant adaptations in different species within a lineage." These "attendant adaptations" are morphological or behavioural changes (resulting from selection or from stochastic processes) which are, by definition, the result of changes in developmental mechanisms or processes. In principle, then, adaptive radiation should be a subject of great interest to developmental biologists. Unfortunately, though, our understanding of how the relationship between developmental processes and observed phenotypic changes is limited, and none of

the chapters deal directly with developmental themes. Nevertheless, this research described in this volume presents some striking examples of adaptive radiation which should be of interest to biologists of any ilk.

Chuck Cook, Cambridge

Principles and Techniques of electron microscopy: Biological applications

M.A. Hayat
Cambridge University Press 2000
ISBN 0 521 63287 0 (hardback) £65

The 4th edition of M.A. Hayat's *Principles and Techniques of electron microscopy: Biological Applications* is a revised and expanded version of the earlier three editions. It remains a standard text for any biological electron microscopist intending to prepare tissues for study by the electron microscope (EM) and retains all the basic methods whilst also describing the advances in techniques for TEM (transmission EM) and SEM (scanning EM) made over recent years.

This latest edition has three new chapters which include helpful information on immunocytochemistry, antigen retrieval, and the applications of microwave irradiation to microscopy. Advances in the preservation and staining of lipids are also an admirable additional feature, as are detailed considerations of available cryotechniques. A special chapter devoted to the difficulties inherent in the processing of plant tissues has been added, and this gives the best current information on obtaining adequate preservation of botanical material, long a troublesome problem. The author has now also written a further chapter on the hazards, precautions and safe handling of EM reagents; this short but important submission draws attention to the dangers inherent in EM preparative methods, noting the potential problems with buffers, fixatives, solvents, embedding media and stains. Placed as Chapter I at the beginning of the text, it draws attention to the possible ill, or even toxic, effects of handling these solutions, and one welcomes its advent, regretting only that it had to wait until the publication of the 4th edition to be included.

This book is essentially a required Handbook for anyone doing EM preparative research. Hayat has gone through each stage in the methodology, giving all the current methods with useful examples of the appropriate recipes and rationales; it is directed to students of EM but also to technicians and research scientists, so it includes basic formulations as well as more sophisticated technology, all conveniently clustered together under the one cover. He also deals with new developments in positive and negative staining with useful comments on cryosections and vitrified specimens.

Perhaps predictably, many of the references and illustrations are several decades old, given that much of the classical work took place at that time. In some cases, therefore, the preparations shown here are less perfect than one might have expected. Although its primary focus is the EM, the book does include additional commentary of

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Edited by H Jo van der Molen, Erasmus University, Rotterdam, TheNetherlands

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Neuronal Signal Transduction and Alzheimer's Disease

Edited by C O'Neill, University College, Cork, Ireland and B Anderton, Institute of Psychiatry, London, UK

ISBN: 1 85578 133 6 Hardback February 2001 250 pages £65.00

The latest in the Biochemical Society Symposium series brings together key researchers from diverse biochemical areas to focus upon signal transduction dysfunction in Alzheimer's disease. Although specifically focused upon Alzheimer's this book has many parallels in other neurodegenerative disorders and will be of interest to those studying neuronal cell development and function in health and disease.

Recent Advances in the Biochemistry of Plant Lipids

Edited by JL Harwood, Cardiff University, UK and PJ Quinn, King's College London

ISBN: 1 85578 146 8 Hardback February 2001 480 pages £75.00

The proceedings of the 14th International Symposium on Plant Lipids covers the full range of biochemical, chemical and molecular biological aspects of plant lipids (including lipid structure and analysis, fatty acid biosynthesis, lipid metabolism and oxidation, isoprenoids and steroids, signalling, environmental aspects and biotechnology).

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use to immuno-cytochemists at the light microscopical level too. It therefore provides a compendium of useful data and technical advice for all levels of microscopical investigation.

Unhappily, the use of the EM has declined over the last 10 years or more, with the increasing emphasis on genetics, sequencing and molecular biological techniques in biological research. However, fortunately the current developments in cryo-based specimen preparation for the EM can complement data from X-ray crystallography, so that expertise in cryo-EM is coming back into vogue. Moreover, it is clear that the post-genomic era of proteomics and bioinformatics should bring the EM itself back into enhanced usage and popularity in the lab given the extent of the information available at the molecular, organelle and cellular level by the judicious use of EM techniques. For this, the Hayat book will prove to be essential to every laboratory planning to use 'state of the art' EM techniques in the new millennium.

Nancy J. Lane, Cambridge

Dictyostelium: Evolution, Cell Biology and the Development of Multicellularity

Richard H. Kessin
Cambridge University Press
ISBN 0-521-58364-0 (Hardback) £55

It has been a long wait for a new book on Dictyostelium. With the exception of the proceedings of the 1996 46th Yamada Conference in Sendai, Japan, the Dictyostelium research community has had to live with books written in the early 1980s - and a lot has happened since then. Adding to the anticipation, the author has arrived at recent Dictyostelium conferences brandishing a ring folder of notes from which the book is drawn. This year the fruits of his labour have been published, in what is a major publishing event for the Dictyostelium research community. Writing this review offered me a good reason to read this new book from cover-to-cover. Thankfully, it turned out to be fairly concise and easy to read.

Books of this type are aimed at two mutually exclusive groups of readers. The first group comprise the "insiders" - the active researchers. Insiders essentially require a technical manual, one that is both comprehensive and detailed. A good insider's book will be a repository of information not usually considered on a daily basis. The second group is formed of "outsiders", these are new graduate students and the scientifically curious. Outsiders will now also arrive by a new route - as genome data miners. As with many other commonly investigated organisms, the Dictyostelium genome is being sequenced and there are already thousands of Dictyostelium cDNA sequences within the public DNA databases. This means that frequency of "hits" on Dictyostelium genes will continue to increase and an expanding population of molecular biologists will need to decide whether to pursue their Dictyostelium homologues. A well-stocked research library therefore

requires a good introductory book on Dictyostelium.

This book attempts the impossible feat of satisfying both reader groups, and almost brings it off. It achieves this by being both comprehensive and concise - in just over 200 pages it manages a complete coverage of our current knowledge. The trick is to explain each piece of research in its historical context. This both satisfies the insider, for whom it forms a referenced and reasonable review, and the outsider, for whom this type of background is invaluable. Coupled to the authors writing style, this book is a very readable piece of work. In addition, each chapter is illustrated with many photographs and diagrams, mostly obtained from the primary data. A selection of coloured plates is included. There is a little repetition between chapters, which is slightly irritating if you are reading the book in one session. This does however allow each chapter to be read in isolation. The thirteenth chapter, entitled "Resources", contains a detailed bibliography and further sources of information - a very useful feature.

The book carries the subtitle "Evolution, cell biology and the development of multicellularity", however this may be a rather overstated claim. Half of the book, six out of twelve chapters, describes Dictyostelium multicellular development, whereas the discussion of evolution occupies a single chapter of 15 pages. This is probably a fair summary of our current knowledge and research activity. It is right to consider the matter of Dictyostelium evolution, as it is clearly a question that comes to the mind of anyone who works on Dictyostelium, or even perhaps hears a Dictyostelium talk. This however is only a very minor part of the book and anyone reading it to learn about the origins of multicellularity will be disappointed.

Although generally good, the author's approach incurs two costs. First, to be comprehensive the book needs to be up-to-date. This is very difficult to achieve in rapidly moving research areas, such as currently experienced with Dictyostelium. In fairness, an attempt has been made to redress this problem by what clearly are late additions, personal communications, added in the final drafts. This has worked to some degree, but there are places where these late inclusions do not properly integrate. The worst case exists in the discussion of DIF, an extracellular signal previously shown to induce differentiation of stalk cells in monolayer culture. Here, at the end of a three page discussion of DIF and its importance in development, preliminary, now published results, are mentioned that show a DIF-less mutant develops apparently normally. This can only puzzle a reader from outside the Dictyostelium research field. Furthermore, there are what now will seem major omissions, such as no mention of the Arp2/3 complex in the discussion of actin based cell motility. Ultimately, such problems are unavoidable and they highlight the need for further up-dated editions. Hopefully, we haven't seen the end of the ring binder.

The second cost is that the book's readability is accompanied by what I found to be a rather idiosyncratic style. To my eyes, each issue is discussed from the authors view and in places fails to

present a clear consensus. I doubt very much whether anyone would agree with every issue discussed. For this reason, I wouldn't describe the book as a definitive reference source. In fact, I found it reminiscent of a more general textbook, if you like a sort of "Molecular Biology of Dictyostelium". It is a great place to get a feel for what is known about this fascinating eukaryote, but is only the entry point for a serious reader.

In conclusion, I found that this book pretty much does the job and I actually found it an interesting read. It is eagerly awaited and will certainly be well read throughout the Dictyostelium research community. I would recommend it both to the general reader and a new graduate student. I have some reservations, but these are outweighed by the good points, and can easily be rectified by further reading.

Get it in your library before you need it.

Adrian Harwood, London

Abraham Lincoln's DNA and Other Adventures in Genetics

Philip R. Reilly

Cold Spring Harbor Laboratory Press

ISBN 0-87969-580-3 (Hardback) \$25

Among the current hysteria surrounding the rise of the "new genetics", this is a welcome book. Sadly its somewhat frivolous title belies a very serious and educational expedition into what genetics can and cannot be expected to yield for the human race, and an informed discussion of the moral and ethical dilemmas that we humans now face.

Serious, educational and informed, yet very accessible to those who are not geneticists. Indeed, Reilly's professed aim is to reach Joe Public, and (as far as I can judge) he does this very well. This success in communicating a complex set of concepts probably reflects his unique training, first as an undergraduate in law, then as a graduate student in human genetics and finally as an MD at Yale Medical School, and his subsequent career in both academic and industrial research (he is currently CEO of Interleukin Genetics Inc. ; just so we're clear about where he's coming from!). But it probably also reflects his clear passion for communicating science to the ordinary person, something of which many of us talk about, but perhaps do less often than we could. What most qualifies him to write this book however is the fact that he has actually been involved in many of the stories that he tells, as a physician or as an expert in medical ethics.

The key device Reilly uses to educate the reader without undue pain, is to split the book into a series of short, stand-alone stories, each dealing with a different use of genetics – from archaeological probe to phenotypic engineering, from forensics to behaviour, from diagnosis to therapy – and each introducing a new snippet of genetics. After quietly introducing Mendel and dominant genes in the context of the Madness of King George (acute intermittent porphyria), we stay with British monarchy to learn about X-linkage (haemophilia) and then discover the risks of consanguinity and recessive traits courtesy of a

"sketch" of Toulouse-Lautrec's short but extreme life (probably pycnodyosostosis: cathepsin K). PCR comes in as we learn that our origins can be traced from the bones of our ancestors and again as we read how the DNA from the hair of a cat called Snowball was used to convict a murderer. And library making? Well that is slipped in while trying to save the Spix's macaw.....

As a list like this these examples seem trite, but the delivery is superb both in its ability to fascinate and in the way the reader is made to appreciate the power, and the shortfalls of the genetics. Moreover, the deeper you get into the book, the greater the breadth of Reilly's experience begins to tell, and indeed the breadth of the impact of genetics becomes apparent, even to those who think that they have thought about it in depth.

Something that also creeps up on you are the challenges, which get increasingly serious as the book goes on: If "DNA .. databanks are here to stay" (he takes this as read), is it right that these should constitute only felons? Surely this will inevitably create databases that reflect our current social prejudices. "If, for example, blacks are more likely than whites to be convicted of a particular offence, then they will in a sense be over represented in the bank", and hence a positive feedback loop will ensure that this remains the case. If, as seems likely, we find genes that predispose to violent behaviour, how will this bear on a criminal justice system whose cornerstone is the notion of "free will"? And these are just for starters.

The book really begins to warm up when we get into the final section, Part 6 Dilemmas. Here we get Genetics and Privacy (what do you do when a genetic test inadvertently reveals that a child's father is not his or her genetic father? Should a doctor have the right to reveal a genetic disposition to the family of a patient if one member of the family objects?); Frozen Embryos, People or Property? (who determines the fate of the embryos after a separation?); Cloning, well we certainly know about this. But Reilly is not scared to address the rationale and the moral issues here, concluding that the arguments against (human) cloning lack rigour. In the end he falls back on the pragmatic that the risks associated are too great.

The cloning issue brings us to the "big" dilemma with which the book rightly ends, can humans face the fact that they are now in a position to shape their genetic future, the dread Eugenics. Here again Reilly draws on pertinent examples to clearly illustrate the issues. What are his conclusions? Well he is probably as confused as the rest of us – at one point he tells us that the notion that "..eugenic policies could be rationally used to improve the human gene pool is quixotic at best, madness at worst." Yet just a few pages later he gives the example of Tay-Sachs disease where selective abortion has already reduced the incidence "by more than 95% in 25 years". Of course the issue is what do we mean by "improve" and who gets to decide this? Nonetheless, the arguments are clearly laid out giving the reader a strong framework to reach his own conclusions.

I started out saying that Reilly wanted to reach the layman with this book. So should a developmental biologist, particularly a geneticist bother

reading it? Well, unless you also have a background in medical ethics, then I strongly recommend that you do. Perhaps more importantly, however, you should be buying this book for your non-biologist friends (and enemies!); my only worry about the book is whether it will get a wide enough audience.

Andy Furley, Sheffield

Egg & Ego: An Almost True Story of Life in the Biology Lab*

J.M.W. Slack
Springer-Verlag
ISBN 0-387-98560-3

£19.00

An unvarnished view of life as a research biologist...

Slack does a grand job of telling his story...life and living as a researcher working on problems of development. Slack has the ability to get you to grin as he talks about cow brains, growth factors, and other scientific adventures..."Where are the brains, Dad?" (You'll have to read the book to know what that means.) He also ably tells what it's like to be a scientist, as well as how one negotiates the politics and requirements of becoming successful as a research scientist.

The format of the book is interesting. It includes several chapters that address what it's like ("Ego") to be a research scientist, i.e., chapters 1, 2, 4, 6, 7, 9, 10. He defines what he calls "good places," as well as who "good people" are in the scientific community. If you are a budding scientist, these chapters contain nugget after nugget of wisdom and insight. This book is worth the price for them alone.

The remaining chapters, 3, 5, 8 contain the essence of the research that Slack and his group do, thus the "Egg" portion of the book's title. There is good information about the role of growth factors in development, and a broad-brush review of the essentials of some of the processes of development and their molecular bases.

If you are up for a good read about life as a biologist, then come on along. The only reason I didn't award this book 5-stars is that there would be a strong tendency for those not trained in the sciences to get lost in the technical aspects of the chapters on developmental processes. For most biologists, however, especially for upper division undergraduate and graduate students, this book is a gem!

4 stars for the non-scientist, and **5 stars** for the science crowd.

Kudos to Slack for this great little book (though he seems to take a rather dim view of places other than research universities -- we part ways there). There is, I believe, too strong a sentiment among researchers (represented by some of Slack's opinions) that what non-researcher biologists do, i.e., teach, is not just different, it is "less than." It all comes down to what you choose to do for your own career, and how you define success for yourself.

Alan Holyoak, Manchester College, IN, USA

Hilarious laboratory anecdotes and clearly written science.

Slack interweaves real science (Cell, Molecular and Developmental Biology; frog and fly biology) with job descriptions of biologists and events in the laboratory to portray the fragile existence of academic scientists.

As a career university biologist myself, I repeatedly found myself asking the question as I navigated through the book "Why did I get into this business in the first place?" Slack's work will certainly prompt the budding young scientist to confront their own destiny.

To those interested in what professors do (since they are not in the classroom 8 hours per day), this is the book for you. Though clearly written, the science is still not for everyone; occasionally, Slack lapses into jargon without definition. However, the light-hearted and accurate picture of life in the laboratory will certainly provide enough entertainment for any reader, especially if you are undecided if you want to spend the rest of your life cohabitating with an academic.

Brad Hyman, Riverside, CA, USA

Excellent guide for a would-be biomedical researcher

This is an excellent book for anyone who might have some idea that they might want to be a professional scientist, working in biomedical research or as a professor in a university. Slack writes very well and he can tell an amusing anecdote. There is a some good science in it too. He is slightly curmudgeonly (*sic*), perhaps, but I think this is part of his appeal. He tells it like it is. Read this book to find out that being a research scientist, perhaps unfortunately, is like being in the corporate world, and scientists have egos just like anyone else. There is a wealth of guidance for a new 'starry eyed' student. Slack is a good scientist and he portrays with a light touch some of the characters he knows, journals, government regulations and career structures. In addition he explains how he got into science and why. Anyone who is already a biological scientist will find much to chuckle at and I think that all biology students should read it - particularly if contemplating going on to take a higher degree. This book is an antidote to the ridiculous idea that scientists are 'higher beings' concerned only with 'truth'.

Anonymous reader from USA



*The original BSDB reviewers of Prof. Slack's book, who will remain anonymous (they know who they are), have proved notoriously unreliable --In the interests of getting the job done before the 2nd edition is printed, reproduced here (without permission) are a selection of reviews from the Amazon Books website. My apologies to Prof. Slack. Meanwhile I leave it to the consciences of the anonymous reviewers whether they wish to keep their ill-gotten gains. Ed.

Books for Review

- **The Nature Yearbook, 2001**
Ed. Declan Butler; Nature Publishing Group, 2001, £54.99 (see below for offer)
- **The Origin of Animal Body Plans: A study in Evolutionary Developmental Biology**
Wallace Arthur; Cambridge University Press, 2000, £19.95
- **Neuronal Growth Cones: The Molecular Approach to their Behaviour**
Philip R. Gordon-Weeks; Cambridge University Press, 2000, £55.00
- **Molecular Methods in Developmental Biology: Xenopus and Zebrafish**
Ed. Matthew Guille; Humana Press, 1999, \$89.00
- **Molecular Embryology: Methods and Protocols**
Eds. Paul T. Sharpe & Ivor Mason; Humana Press, 1999, \$135
- **Translational Control of Gene Expression**
Eds. Nahum Sonenberg, John Hershey & Michael Mathews; Cold Spring Harbor Press, 2000, \$115
- **The Coiled Spring: How Life Begins**
Ethan Bier, Cold Spring Harbor Press, 2000, \$39

New Teaching Texts

- **Developmental Biology*, 6th Edition**
Scott Gilbert; Sinauer Associates Inc., 2000
- **Principles of Development*, 2nd Edition (when it becomes available)**
Wolpert et al; Current Biology/OUP
- **Essential Developmental Biology***
J.M.W. Slack; Blackwell Science, 2001
- **The Developing Brain**
Brown, Keynes & Lumsden; Oxford University Press, 2001 £24.99
- **The Cell: A Molecular Approach, 2nd Edition**
Geoff Cooper; Sinauer Associates Inc, 2000
- **Life: The Science of Biology, 6th Edition**
Purves et al; Sinauer Associates Inc.

Anyone wishing to review any of these please contact Andy Furley, who will send you a free copy to keep.

* I would be particularly pleased if someone were to be interested in doing a comparative review of these three books.

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Current Opinion in Cell Biology:	personal subscription £108 (a saving of £27 on the full rate)
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Developmental Biology:	\$255 for online and \$299 for combined subscription
The International Journal of Developmental Biology:	14,625 (instead of 19,500) Sp.ptas. including online access [18525 (instead of 24,700) Sp.ptas for air mail]
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The main function of the BSDB Committee is to organise our meetings, from deciding on appropriate topics to arranging organisers and venues. If you have any ideas on topics for a good meeting, or on a good venue, don't hesitate to convey them to Jamie Davies (or another committee member). The officers of the society will be happy to answer any questions relating to their specific subjects.

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**New Committee Members
(from September 2001)**
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Nancy Papalopulu
Leigh Needham (Student Representative)
Contact Ivor Mason for address details

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Senior Post-doctoral Fellowship in MOLECULAR ONCOLOGY

Children's Brain Tumour Research Centre
Institute of Genetics, Nottingham

An exciting opportunity to establish a programme of molecular research into children's brain tumours. This is a career fellowship to underwrite up to five years of a post-doctoral position with the expectation that the individual will develop applications to the major funding bodies for a personal fellowship within their first year in post. The post is an opportunity for an ambitious researcher to establish themselves as an **independent scientist** within a highly motivated, **5* rated research environment**. The position includes technical support, a postgraduate student and consumable expenses.

The Children's Brain Tumour Research Centre is a multidisciplinary organisation under the co-direction of Mr Jonathan Punt (Paediatric Neurosurgeon), Dr David Walker (Paediatric Neurooncologist) and Dr Paul Scotting (Geneticist). The mission of this centre is to advance the treatment of brain tumours in children through combined clinical and basic research. The fellowship will be based in the Molecular Neurogenesis and Neuro-Oncology Group led by Dr. Paul J Scotting in the Institute of Genetics. The appointee will be expected to develop an **independent research programme** in any aspect of the molecular genetics of these tumours, although individuals with an interest in using microarrays or proteomics are particularly encouraged to apply. A background in cancer research is not essential.

www.nottingham.ac.uk/genetics/staff/paulscotting/index.html

Informal inquiries to:

Dr. Paul J Scotting

e-mail: Paul.Scotting@nottingham.ac.uk

Tel. 0115 9709367

Salary £16775-£25213

Postdoctoral Research Assistant CRANIOFACIAL DEVELOPMENT

A Post Doc position is available to work on the regulation of dental patterning. The project will involve the use of in vivo and in vitro approaches to investigate the regionalisation and specification of oral ectoderm and its role in controlling the early events of tooth initiation and morphogenesis.

The post is funded for three years by the Wellcome Trust. Applicants should have experience/interest in developmental biology.

Contact:

Paul Sharpe

Department of Craniofacial Development

Kings College London, Floor 28 Guy's Hospital

London Bridge, London SE1 9RT

Tel: 020 7955 2687

paul.sharpe@kcl.ac.uk

Postdoctoral Fellow & Research Technician

MRC Centre for
DEVELOPMENTAL NEUROBIOLOGY

Positions are available in Prof. Ivor Mason's group to study the roles of local signalling events in patterning the midbrain and anterior hindbrain (see e.g. *Development* 126, 945; 126, 3981; 127, 177; *Mol. Cell. Neurosci.* 15, 22). The projects will involve the use of molecular biology, cell biology and embryological techniques. The postdoctoral position is funded by the BBSRC up to a maximum of £24,860 (inclusive of London Allowance) dependent upon age and experience. A PhD is required and molecular biology and/or developmental biology experience is preferred. The research technician's post is funded by The Wellcome Trust up to a maximum of £15,821 (inclusive of London Allowance) dependent upon age and experience. An MSc or BSc qualification is preferred. Informal enquiries by email to the address below.

Please send your c.v. and contact details for two referees to Prof. Ivor Mason, MRC Centre for Developmental Neurobiology, King's College London, New Hunt's House, Guy's Campus, London SE1 1UL, or to ivor.mason@kcl.ac.uk

Equality of opportunity is College policy

Postdoctoral Position in MAMMALIAN DEVELOPMENTAL GENETICS

A postdoctoral position is available in mammalian genetics to work on human and mouse early developmental defects, particularly the role of genes of the Notch signalling pathway in neurological and axial skeletal development. Stimulating academic environment and excellent clinical resources in newly equipped laboratories of the Abramson Research Center of The Children's Hospital of Philadelphia, located on the campus of the University of Pennsylvania.

Ph.D. or M.D. with significant research experience in molecular biology or developmental biology required. Preference will be given to applicants with experience in human or mouse molecular genetics and vertebrate developmental techniques. Salary will be commensurate with experience. The Children's Hospital of Philadelphia is an equal opportunity employer and a teaching hospital of the University of Pennsylvania School of Medicine. Please send a C.V. with the names of three references to:

Dr. Kenro Kusumi

The Children's Hospital of Philadelphia

Division of Human Genetics & Molecular Biology

Room 1002 ARC Bldg.

3516 Civic Center Blvd.

Philadelphia, PA 19104-4399, USA

E-mail: kusumi@email.chop.edu

FAX: (215) 590-3764

Contact Andy Furley for info on how to place a job advertisement here: a.j.furley@sheffield.ac.uk