

**BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY**

# **RETINOIC ACID IN DEVELOPMENT**

**27TH -28TH  
SEPTEMBER 1993  
QUEENS' COLLEGE  
CAMBRIDGE**

**Napoli (Buffalo)  
Mangelsdorf (Dallas)  
Boncinelli (Milan)  
Gudas (New York)  
Durstion (Utrecht)  
Andrews (Sheffield)  
Sharpe (Cambridge)  
Creech-Kraft (Seattle)  
Rowe (London)  
Chambon (Strasbourg)  
Krumlauf (London)  
Wood (Oxford)  
Fromm (Oslo)  
Old (Warwick)  
Holder (London)  
Conlon (Toronto)  
Grippo (New Jersey)  
Eichele (Houston)  
Summerbell (London)  
Tickle (London)  
Brookes (London)  
Maden (London)  
Pfahl (La Jolla)  
Erickson (Stockholm)**

for  
further details contact

**Dr Malcolm Maden**

**Developmental Biology Research Centre, King's College London, 26-29 Drury Lane, London WC2B 5RL, UK**





# **BSDB Newsletter**

## **No. 27 SPRING 1993**

### ***In this issue***

|                                |    |
|--------------------------------|----|
| Chairman's Report .....        | 1  |
| Autumn Meeting Programme ..... | 3  |
| Future Meetings .....          | 5  |
| Meeting Reports .....          | 8  |
| Book Reviews .....             | 11 |
| Useful Addresses .....         | 13 |

## **INCREASED MEMBERSHIP FEES**

***PLEASE SEE PAGE 2***

# **CHAIRMAN'S REPORT**

It was a very bad meeting this year at Norwich. Not the science, of course- that was excellent as ever (see the meeting report by Isabelle Desjeux on page 8) - and the bars were buzzing with a good crowd of enthusiasts. But the Waterstone's bookseller at the trade stall was not at all happy. Our conferees are too busy talking to each other, he said, and too broke to buy books. All students and post docs. He didn't think our meeting was half as good as the last meeting he'd been to. That was only half the size, but full of old fogies (well, consultants anyway), and they buy books! This may be a problem for our trade exhibits, but its a very good thing for the society. Our aim is to make the society, and its meetings, open to as many as possible. So why at the Annual General Meeting this year did we resolve to increase BSDB membership fees, to 20 for full members, and 7.50 for students? This seems an appropriate time to say a word about how the

society gets and uses its money.

The society itself - as distinct from its meetings - has been and still is run on a shoe-string, without full-time paid help. The major expense is printing and distributing the news-letter. Part time secretarial help for officers, travel to committee meetings, and the odd computer for the publications officer or secretary cost about the same again - together these amount to a total of about 6,000 a year. At a minimum, we expect to cover this 'domestic' expenditure out of membership fees. Over the last eight years, since our last fee increase, these expenses have risen until now they slightly exceed fee income - hence the time for a change. (What was the price of a pint eight years ago!)

Almost everything else we spend is directly useful to members. The scientific organisation of meetings and courses costs about 20,000 a year. In addition we give grants to members



(mostly graduate students) to help them attend meetings and visit other labs. We have recently increased the amount we spend on this to 8,000 pounds each year. Not even our treasurer can conjure up this money from your fees. A fraction of it comes from bank interest, but the majority comes from the Company of Biologists (a charity that publishes, inter alia, "Development"). They fund directly the expenses of the major symposium at our spring meeting, and provide a capitation fee for each member that more than equals the present membership fees (and unlike the membership fees, it is index-linked!) It is only with their help that we can make our meetings accessible to all those students and post-docs who are such a bad prospect for the book-sellers! Remember that, when you are downing your pints.

A brief report on other society activities. The secretary and treasurer have completed their purge of the membership database. Those few eminent biologists who are still paying fees at 2 per annum have been eliminated from our lists (complaints to the secretary with cheques for 25 please), but with 90 new members during the year, the society is now at its largest ever. Audrey Muggleton-Harris' successful meeting at Kingston Polytechnic last Autumn provided an opportunity for the society to thank Anne McLaren for her involvement over

the years. The two Spring meetings since I last wrote (Sussex 1992 and Norwich 1993) continued our tradition of joint meetings with the BSCB. Both were blessed with the good weather so important on an open campus site! Scanning the lists of registrants at these meetings, I note that about 20% of the participants now come from overseas - a tribute to the stature of these meetings within the field.

It is a pleasure to thank two active members of the committee who stand down this year. Claudio Stern co-organised the BSDB teaching course in 1991, and organised the gastrulation symposium at Sussex last year. His indefatigable energy is legendary, and regretted only by those who try to keep up with him. Peter Thorogood has laboured long and hard as the Society secretary, while at the same time running a department, and most recently setting up a new unit. I don't know how he manages, but we are truly grateful that he did. New committee members this year are Ian Jackson (MRC Human Genetics Unit, Edinburgh) and Jonathan Slack (ICRF Developmental Biology Unit, Oxford), the new secretary.

*Michael Akam,  
Cambridge  
April 1993*

## MEMBERSHIP FEE INCREASE 1993

**As a result of the increase in membership fees agreed at the AGM in Norwich and explained in the Chairman's Report above, it is necessary for all members to ammend their banker's instructions regarding payment of**

**this fee. Please complete the Banker's Order Form (that can be found in the Centre Section of this Newsletter) and return it to the Treasurer, Liz Jones at the address shown on page 13.**

# AUTUMN MEETING

## "RETINOIC ACID IN DEVELOPMENT"

27TH - 29TH SEPTEMBER 1993

Queens' College, Cambridge U.K.

Scientific Organiser: M. Maden

Registration and abstract forms for this meeting can be found in the Centre Section of the Newsletter. The deadline for registration is July 1st.

### PROGRAMME

#### Sunday 27th September

17.00 Arrival and Registration  
18.00 Dinner  
19.00 Reception and setting up of posters.

#### Monday 28th September

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| 9.00 - 9.30 Ulf Eriksson (Stockholm): | <i>Cell surface retinol receptors</i> |
| 9.30 -10.00 Joe Napoli (Buffalo)      | <i>Metabolism of RA and CRABP</i>     |
| 10.00 -10.30 Magnus Pfahl (La Jolla)  | <i>Retinoid receptor interactions</i> |

Coffee

|  |  |
|--|--|
| 11.00-11.30 David Mangelsdorf (Dallas) | <i>RXRs in development</i>                     |
| 11.30-12.00 Lorraine Gudas (Cornell)   | <i>RA and CRABP in EC cell differentiation</i> |
| 12.30-13.00 Peter Andrews (Sheffield)  | <i>RA in EC cell differentiation</i>           |

Lunch

|  |   |
|--|---|
| 14.00-14.30 Joan Creech-Kraft (Seattle)            | <i>Asymmetric distribution of retinoids in the Xenopus embryo</i> |
| 14.30-15.00 Colin Sharpe (Cambridge)               | <i>RARa genes in the Xenopus embryo</i>                           |
| 15.00-15.30 Sigurd Fromm<br>& Rune Blomhoff (Oslo) | <i>RAR knockouts in zebrafish and mice</i>                        |

Tea



---

16.00 -16.30 Pierre Chambon  
(Strasbourg)

*Gene knockouts reveal the role of  
retinoic acid receptors and binding  
proteins in the mouse*

16.30 -17.00 Annie Rowe (London)  
17.00 -17.30 Bob Old (Warwick)

*RARs in chick craniofacial development  
RAR knockouts in the Xenopus  
embryo*

Dinner

20.00 POSTERS AND DRINKS

## **Tuesday 29th September**

9.00 - 9.30 Eduardo Boncinelli (Milan)  
9.30 -10.00 Tony Durston (Utrecht)

*RA and homeobox genes  
RA and homeobox genes in the  
Xenopus embryo*

10.00 -10.30 Nigel Holder (London)

*RA and respecification of the zebrafish  
CNS*

Coffee

11.00 -11.30 Robb Krumlauf (London)  
11.30 -12.00 Ron Conlon (Toronto)

*RA and respecification of the mouse CNS  
RA and homeobox genes in the mouse  
embryo*

12.00 -12.30 Joe Grippo (New Jersey)

*RA and homeobox genes in the mouse  
CNS*

Lunch

14.00 -14.30 Helen Wood (Oxford)  
14.30 -15.00 Gregor Eichele (Houston)  
15.00 -15.30 Dennis Summerbell (London)

*RA and the developing mouse embryo  
RA and the developing chick embryo  
Autoregulation of RA in the chick limb bud*

Tea

16.00 -16.30 Cheryll Tickle (London)  
16.30 -17.00 Jeremy Brockes (London)  
17.00 -17.30 Malcolm Maden (London)

*RA and the developing chick limb  
RA and the regenerating amphibian limb  
The transformation of tails into limbs by  
RA*

**END OF MEETING**

# FUTURE BSDB MEETINGS

## **SPRING 1994, University of Edinburgh:**

### **"The Evolution of Developmental Mechanisms"**

The 1994 Spring Symposium is being organised by Peter Holland, Michael Akam and Greg Wray and will be held in Edinburgh from April 5th to 8th inclusive. The last time the Society held a Symposium on the Development and Evolution was in 1981. Since that time, the application of molecular biological techniques -

in particular, the Polymerase Chain Reaction - has had an enormous impact on this area of research, an impact which will be fully reflected in the programme planned by the organisers. Arrangements for the Symposium are nearing completion and the draft programme is as follows:

#### **April 6th - The Tool Kit for Development**

C. Chothia (Cambridge)  
J. Engel (Basel)  
D. Critchly (Leicester)  
F. Ruddle (NewHaven)  
M. Scott (Stanford)  
P. Ingham (London)  
B. Hogan (Nashville)  
D. Bowtell (Melbourne)  
M. Bate (Cambridge)  
E. Coen (Norwich)

#### **Evening Workshop/Discussion**

S. Conway-Morris (Cambridge)  
A. Andoutte (Paris)

#### **April 7th - Evolutionary Case Studies**

N. Patel (Baltimore)  
D. Tautz (Munich)  
M. Akam (Cambridge)  
F. Nijhout (Duke)  
G. Wray (Nashville)  
P. Sternberg (Pasadena)  
P. Holland (Oxford)

#### **April 8th - The Vertebrate Bauplane**

M. Coates (Cambridge)  
D. Duboule (Heidelberg)  
C. Tabin (Harvard)  
P. Alberch (Madrid)  
E. Boncinelli (Milan)  
E. de Robertis (Los Angeles)  
G. Muller (Vienna)  
L. Wolpert (London)

## **AUTUMN 1994, Durham University**

### **"Models for Man: the molecular basis of malformation"**

Next year's autumn meeting will be organised by J. Slack, C. Tickle and R. Anderson and will take place at Durham University from September 12th to 14th. The meeting will examine the development of the principal organs of the human body, ask to what extent the mecha-

nisms can now be understood from recent experimental work on mouse and chick and how far our understanding can explain congenital abnormalities. Details of the programme will appear in future editions of the Newsletter.



## TRAVEL GRANTS FOR ATTENDANCE AT BSDB MEETINGS

The Society offers substantial grants towards the cost of attending its meetings to all student members. There is no special form of application; if you would like to

be considered for such a grant, just write to the Treasurer, Liz Jones, explaining why you think you qualify and include a letter of support from your supervisor.

## TOPICS FOR FUTURE BSDB MEETINGS

The Committee spends a good deal of its time selecting topics for future meetings and making sure these meetings take place. We obviously want to organise meetings that you the members will enjoy and we would welcome suggestions for future meetings topics.

If you have an original idea for either a major symposium or a smaller two day meeting, please photocopy this page, fill in the details and send it to the Meetings Secretary, Rosa Beddington, at the address shown on page 13.

MY SUGGESTION FOR A MEETING TOPIC IS: .....

.....

POTENTIAL SPEAKERS WOULD BE: .....

.....

.....

I WOULD BE PREPARED TO ACT AS SCIENTIFIC ORGANISER: .....

I SUGGEST THE FOLLOWING AS POTENTIAL SCIENTIFIC ORGANISERS: .....

**Completed forms should be returned to Rosa Beddington**

# Other Meetings of Interest

## **INAUGURAL MEETING OF THE DEVELOPMENTAL BIOLOGY UNIT**

Institute of Child Health, London. May 13th 1993

### **Speakers:**

Drew Noden (Cornell)  
Jeremy Brockes (London)  
Gary Schoenwolf (Utah)  
Peter Thorogood (London)  
Margaret Kirby (Atlanta)  
Patrizia Ferretti (London)  
Rudi Balling (Freiburg)

Andrew Copp (London)  
Denis Duboule (London)

Attendance at this one day meeting is free of charge, but prospective participants should apply to the Secretary of the DBU at the Institute of Child Health, 30 Guilford Street, London WC1N 1EH  
Tel: 071 242 9789 x 2215

## **NEURAL TUBE DEFECTS**

The Wellcome Trust, London. May 21st 1993

### **Speakers:**

J. G. Hall (Vancouver)  
A. J. Copp (London)  
R. O'Rahilly (Freiburg)  
L.B.Holmes (Harvard Med School)  
G.P. OAkley Jnr. (Atlanta)  
H. Cuckle (Leeds)  
D. Shurtleff (Seattle)

This one day meeting is organised jointly by the Wellcome Centre for Medical Sciences and the Ciba Foundation and will take place in the Auditorium, The Wellcome Trust, 183 Euston Road, London NW1. Further details may be obtained from Sheila Pusinelli, The Ciba Foundation, 41 Portland Place, London W1N 4BN Tel: 071 436 2840

## **XVII INTERNATIONAL CONGRESS OF GENETICS**

Birmingham August 15th-21st 1993

The congress will include symposia on: the Cell Cycle, Development, Evolution, Senescence and Cell Death, Cancer/HIV, Sex Determination and Transgenics.

Plenary Lectures will be given by: R. Lewontin, B. Hall, E. Meyerowitz, O. Sidiqui, E. Blackburn, F. Anderson, G.

Winter, W. Gehring, H. Buc, A. Clarke, D. Flavell and A. Jeffreys.

Further information may be obtained from: The Secretary General, D. Smith, R.S.I.L., The University of Birmingham, Edgbaston, Birmingham B15 2TT Tel: 021 414 5888



## OTHER CIBA/WELLCOME MEETINGS THIS YEAR

- July 23rd:** Germline Development. Chair: Dr. Anne McLaren (Cambridge)  
**September 10th:** Circadian Clocks and their Adjustment. Chair: Dr. Jim Waterhouse (Manchester)  
**October 22nd:** Higher-order Processing in the Visual System. Chair: to be announced

Further details of all these meetings may be obtained from Sheila Pusinelli, The Ciba Foundation, 41 Portland Place, London W1N 4BN Tel: 071 436 2840

## 4th INTERNATIONAL CONGRESS OF VERTEBRATE MORPHOLOGY Chicago, USA July 31st-August 4th 1994

In recognition of the renaissance enjoyed in the field of vertebrate morphology and the success of the previous European congresses, the 4th International congress is now being planned, to take place in Chicago from July 31st to August 4th 1994. Plenary lectures and symposia as well as contributed talks and posters will be presented.

For further information about the meeting

and membership of the International Congress of Vertebrate Morphology please contact:

Dr. Susan Herring, Chair,  
ICVM Organising Committee,  
Dept. of Orthodontics, SM-46,  
University of Washington,  
Seattle, WA 98195,  
U.S.A.

Tel: 206 543 3203 Fax: 206 685 8163

## MEETING REPORTS

### SIGNALS, POLARITY & ADHESION IN DEVELOPMENT

BSDB Spring Symposium NORWICH 1993 : RAS, ROCK AND ROLL

Maybe it was naive of me to expect to actually see cells talking to each other, crawling, and arranging themselves; it was all indirect evidence: "signalling pathways", cultures, growth factors. A. Martinez-Arias had said it proudly, as he introduced the conference on Wednesday morning: "We are moving away from woolly concepts towards molecules", a definite step away from last year's Gastrulation meeting. The first morning set the trend: Ras was the star, as we learnt that signal transduction involved similar components in different systems. This left some of us puzzled about how speci-

ficity can be achieved by these signalling molecules.

The level of observation was the cell no doubt. This was illustrated by the fact that the Yamanouchi Lecture was given by Paul Nurse on the spatial organisation of Fission Yeast cell. At that point, "woolly concepts" made a come back. His talk summarised the message of the conference: if we want to understand how the whole embryo develops, we have to understand how single cells behave. Hence we moved on to Cell Behaviour. The question, it seems, is always the same: how do cells sort themselves out



# CENTRE SECTION

This 'Centre Section' is designed to be removed without damaging the rest of the Newsletter. It contains a form for subscribing to **Development** (below), a membership application and banker's order form, together with Registration and Abstract forms for the Autumn meeting at Queens' College, Cambridge.

---

## D e v e l o p m e n t

**Members of the BSDB are entitled to a £6 reduction in the subscription price to Development. The cost to non-members is £116 but for members it is only £110. This price includes the casebound Supplement volume which for 1993 will be the proceedings of the "Signals Polarity and Adhesion" Symposium.**

.....

To: **Development**  
The Company of Biologists Ltd.,  
Bidder Building,  
140, Cowley Road,  
Cambridge,  
CB4 4DL  
U.K.

Please enter my subscription to **Development** for 1993. I undertake not to pass my subscription copies on to a library. I enclose a cheque for £110 made payable to "The Company of Biologists Ltd".

Signature: .....

Name: .....

Address: .....

.....

.....

**Other COB Journals, including BioEssays, the Journal of Cell Science and the Journal of Experimental Biology, are also available at reduced rates. JCS is £83, JEB is £80 and BioEssays is only £49. To subscribe, write to the above address with your cheque and a signed undertaking that you will not pass your individual copy on to a library.**



## APPLICATION FOR BSDB MEMBERSHIP

Full Name: Dr/Ms/Mr .....Degree(s): .....

Professional Address: .....

.....

.....

.....Post Code: .....

Name as shown on cheque book: .....

Research Interests: .....

I wish to apply for Ordinary (£20)/ student (£7.50) membership of the Society (delete as applicable)  
Applications must be endorsed by two Society members who should sign below:

.....(Print Name): .....

.....(Print Name): .....

Please return this form, together with the completed Banker's Order (below) to the Society Secretary:  
**Dr. J. Slack, ICRF Developmental Biology Unit, Dept. of Zoology, South Parks Road, Oxford, OX1 3PS.**

### **For Society's Use**

Received: .....Acknowledged: .....

Subscription: .....Mailing List: .....

Elected: .....Informed: .....

To: The Manager,  
.....Bank  
.....  
.....  
.....Post Code: .....

Please pay to the **British Society for Developmental Biology**  
**Account no: 00867675**  
**Barclays Bank plc,**  
**Oxford Circus Branch (20-64-88)**  
**15 Great Portland Street,**  
**LONDON W1N 6BX**

the sum of £ ( ..... pounds) on October 1st 1993 and on the same day each year succeeding unless this instruction is altered in writing by me

Signature: .....Account No: .....

Professional Name: .....Date: .....

Name as shown on cheque book: .....

Address: .....

.....Post Code: .....



## BSDB AUTUMN MEETING

**"RETINOIC ACID IN DEVELOPMENT"**  
**27TH - 29TH SEPTEMBER 1993**  
**Queens' College, Cambridge U.K.**

### REGISTRATION FORM

Name ..... Male/Female .....  
Dr/Mr/Ms .....  
Organisation.....  
Address .....  
.....  
.....  
.....  
.....  
Tel ..... Fax .....

BSDB members are encouraged to present their work at this meeting particularly as posters. Accommodation and meals will be in Queens' College. It is intended that delegates will arrive about 5pm on the evening of Sunday 27th in time for a meal followed by an informal reception during which posters will be set up.

Registration includes programme and abstracts, tea and coffee and the reception.

Full board is £55 per day (£110 for the whole meeting until Tuesday afternoon). Please specify below if you want to have a different arrangement.

If you wish to stay in College on Tuesday night after the Conference a number of rooms have been booked. Please specify below if you require this (£28 extra).

|                     | Sun 27th | Mon 28th     | Tues 29th |  |
|---------------------|----------|--------------|-----------|--|
| Lunch £11           |          |              |           |  |
| Dinner £15          |          |              |           |  |
| Bed & Breakfast £28 |          |              |           |  |
|                     |          | Registration |           |  |
|                     |          | Total        |           |  |

Registration: BSDB members £25 non-members £50  
Graduate students: BSDB members £10 non-members £20

Make cheques payable to "BSDB Conference".

Registration forms and abstracts, if relevant, should be received by 1st July 1993.

Full reimbursement may not be possible if a booking is cancelled.

Please indicate if you have any special dietary requirements.....

Return forms to : Dr Malcolm Maden, Developmental Biology Research Centre,  
King's College London, 26-29 Drury Lane, London WC2B 5RL,  
U.K.



## **BSDB AUTUMN MEETING**

### **"RETINOIC ACID IN DEVELOPMENT"**

**27TH - 29TH SEPTEMBER 1993**

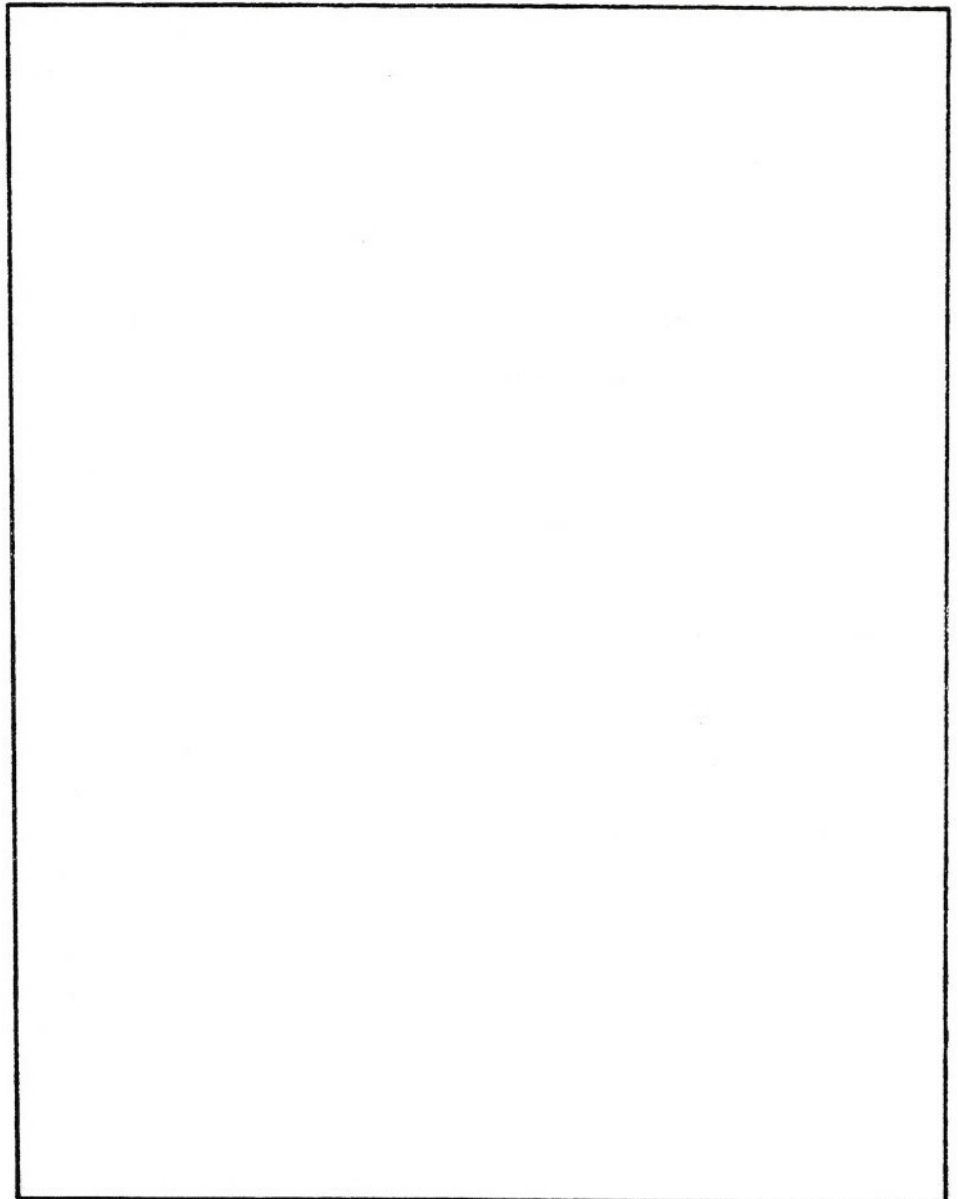
**Queens' College, Cambridge U.K.**

#### **ABSTRACT FORM**

Abstracts from speakers and poster presentations will be included in the Conference Abstract book. Please type your abstract in the box below in camera-ready format.

**TITLE :**

**AUTHORS :**



Please return your abstract with registration form and payment by 1st July to : Dr Malcolm Maden, Developmental Biology Research Centre, King's College London, 26-29 Drury Lane, London WC2B 5RL, U.K.



and know were to go and get organised? I enjoyed mostly the talks by C. Goodman (on the *Drosophila* nervous system) and J. Williams (on *Dictyostelium*) from that point of view. The Signalling factors session came in the afternoon, completing the picture. I spent some time also in the Programmed Cell Death session and enjoyed M. Raff's talk, on survival factors. The level of gel saturation (but we all know it's like bran: it might not be very good to swallow but it's very good for our health) was approaching dangerously when the Microscopy Advances section saved it all. I finally got to see cells crawling, calling, and doing the most counter-intuitive dances.

On the whole, there was a good balance of Ras, Rock and Roll, as developmental

biologists and cell biologists danced away at the Thursday night disco. The meeting might not have been as well attended as the last Spring one, but the atmosphere definitely was there! The meeting was a success in as much as the relaxed atmosphere allowed for meeting new people and feel part of a community.

My only regret is that although most organisms were represented (even Yeast and *Dictyostelium* got their chance), the leech was nowhere to be found, apart from the local pond!

*Isabelle Desjeux,  
Dept. of Physiology,  
University of Edinburgh*

## **THE DEVELOPMENTAL BIOLOGY OF MARINE ORGANISMS**

The Marine Biological Association and the Society for Experimental Biology.  
Plymouth April 1993

"The Developmental Biology of Marine Organisms" might seem an unusual title for a conference and odd mix of concepts. Applying similar logic, might we soon be going to meetings on "Gene expression in the Himalayan foothills"? I doubt it, since there are in fact several good reasons for bringing together developmental biology and marine biology. Perhaps the most important of these is diversity. For example, of the 31 phyla of multicellular animals generally recognized, representatives of an incredible 30 can be found in marine habitats (and for 14 of these phyla, every single species is marine). There are two important consequences of this diversity. First, just name the developmental phenomenon you wish to study, and the chances are good that you can find the perfect example in the sea. Second, we have the opportunity to use a compara-

tive approach to look at developmental mechanisms from an evolutionary perspective.

This two and a half day conference, organized by Colin Brownlee (Plymouth), highlighted both approaches, and covered topics including fertilization, polarity, differentiation and pattern formation, plus the relationships between development, evolution and the environment. J.Z. Young broadened the scope of the meeting even further, with his slide-free Plenary Lecture on the development of memory. A refreshing diversity of organisms were represented during the conference, including furoid algae, ctenophores, annelids, molluscs, echinoderms, crustacea, echinoderms, ascidia, amphioxus, a few token vertebrates, and more furoid algae.

To give a flavour of the meeting, I shall pick out just a few highlights. Start-



---

ing with the earliest developmental events, Michael Whittaker (London) gave a visually impressive account of how the  $\text{Ca}^{2+}$  wave traverses the sea urchin egg after sperm entry. This included a detailed resum of the possible artifacts of confocal microscopy (and how to avoid them), setting the scene for later talks. For those needing convincing that marine organisms can provide ideal model systems, all doubt must have been removed by the remarkable case of the ctenophore *Beroe ovata*, presented by Christian Sardet (Villefranche-sur-Mer). Ctenophores have huge transparent eggs and are naturally polyspermic, such that several male pronuclei (potentially from multiple males) can be found in the egg's cytoplasm. As shown by a stunning time-lapse video film, what happens next is quite amazing and a little amusing. The female pronucleus trundles through the forest of microtubules, until she reaches a male pronucleus. Instead of fusing, however, the female pronucleus often seems to have second thoughts: a hesitation, a quick U-turn and off she moves to the next potential partner. Apparently still undecided, she can trundle around her cell, visiting several male pronuclei, before eventually fusing with one. This phenomenon not only represents an interesting case of directed organelle movement, but raises important evolutionary questions. Is the female pronucleus actively choosing which male pronucleus to fuse with? In other words, is *Beroe* really practising intracellular female mate choice? Staying with evolution, Bill Jeffrey (Bodega Bay, California) described the cloning of a strong candidate for the gene which may be at the root of the embryological differences between tailed and tailless ascidia; whilst David Epel (Hopkins Marine Station, California), described an unusual study into defense mechanisms employed by marine embryos in hostile

environments. Epel's data suggest that echiuran worms (which live, spawn and undergo later development buried in mud), but not the clean-living sea urchins, may use a homologue of the mammalian multidrug-resistance transporter protein for resistance to environmental toxins. The meeting was certainly successful in bringing together people with a wide range of interests, many of whom might not otherwise interact, whilst its small size (around 50 participants) ensured an informal atmosphere allowing much discussion during the scientific sessions and elsewhere. The only complaints I heard related to the appalling accommodation and the small number of posters. As for the latter, could this have been simply remedied by offering a student poster prize, as the BSDB and BSCB do? To some extent, however, the lack of posters was overcome by having several contributed talks, many by post-docs and students, which were certainly of a very high standard. Overall, Colin Brownlee must be congratulated for efficiently organizing both the scientific programme and the local arrangements, and for reminding us that developmental biology owes much to marine organisms.

*Peter Holland  
Department of Zoology,  
South Parks Road,  
Oxford*



# BOOK REVIEWS

**The Atlas of Mouse Development. M.H. Kaufman. Academic Press, London, 1992.**

**VIII + 142p., 86 fig., 1 tab. Hard cover ISBN 3-8055-5511-3  
512 pages £80.00**

For those newcomers to the field of mouse development, there can be no more fortunate starting place to the understanding of embryonic anatomy than Matthew H. Kaufman's essential *The Atlas of Mouse Development*. For the rest of us, who have had to learn mouse embryo anatomy piecemeal, from the odd photomicrograph, or by chance encounters with Kirstie Lawson in San Francisco, or worse, by shipping hundreds of slightly off serial sections to Rosa Beddington and Andy McMahon at the CSH Mouse Embryology Course for interpretation, *The Atlas of Mouse Development* brings a sigh of relief to all involved!

The Mouse Atlas is parsimonious with text (which could have used many more sub-headings) and diagrams, but plentiful in what investigators need most: a lot of well-labelled and clear photomicrographs of serial sections through mouse embryos, throughout the entire gestational period, accompanied by diagrams of embryos indicating the level and type of sections made. What text there is is carefully documented, indicating to the reader where an example of this or that particular feature can be found. Also included are scanning electron micrographs of whole embryos and parts of embryos, and individual treatment of many important organ systems.

For everyone who has sectioned embryos during rotation and ended up with bits of neural tube everywhere, there is a clear set of diagrams with accompanying photomicrographs of embryos during rotation, a phenomenon peculiar

to rodent embryos in order to get them into the fetal position. There is also a second "time-lapse" presentation on blastocyst hatching.

In view of the formidable scholarship that went into the production of this book, it is difficult to criticize it. However, I will point out just a few things that may be of benefit for the 2nd edition, if that is a possibility.

My major criticisms have to do with the presentation of the gastrula stages. First of all, though not the fault of the author, gastrulation "stage" embryos are as confusing as ever. Dr. Kaufman has relied upon the staging system of Theiler, which is just too superficial and incomplete, as exemplified by the embryos in Plates 3 and 4, both of which are at "Stage 10", where clearly, those embryos in Plate 4 are more advanced and have new morphological features. Molecular embryologists who quote gene expression patterns based on this system will perpetuate the lack of precision that is currently manifest with reporting stage in terms of "days post-coitum". Also, the diagrams for Plate 3 appear superficially identical, yet embryos 2 and 3 have a primitive streak not found in embryo 1. I think these diagrams would have been more clear if the primitive streak were indicated and if the primitive streak in the photos was on the right side, instead of pointing upwards. Also, it is not clear to me why in Plate 3c, "12" indicates the future neurectoderm, as this embryo has not begun to gastrulate. Calling 4b3 the "ectoplacental cavity" is at odds with the statement on p. 11 that it is the formation



of the chorion and amnion which divide the proamniotic cavity into the ectoplacental, exocoelomic, and amniotic cavities. The embryos in Plate 4 have not yet formed the amnion and chorion and so cannot have an ectoplacental cavity. In Plate 5, the "node", a condensation of the anterior tip of the primitive streak and an important feature of gastrulation, is not indicated.

These minor criticisms notwithstanding, The Atlas of Mouse Develop-

ment is a timeless and scholarly reference, a critical staple for everyone in the field and for all library collections. In these days where there is little reward for painstaking anatomical detail, we are grateful to Dr. Kaufman for having pushed onwards and brought this essential body of work to fruition.

*Karen Downs,  
ICRF Developmental Biology Unit,  
Oxford*

### **Successful Lab Reports: A Manual for Science Students**

**C.S. Lobban and M. Scheffer**

**Cambridge University Press, 1992, 106pp.**

**Hardback £36.95, paperback £20.00**

The objective of this book is to explain to novice science undergraduates how best to write up their practicals. Continuous assessment counts for a significant part of the overall degree mark in most universities, and so getting it right week-by-week on the practicals can pay dividends in the long term. On a less mercenary level, the 'art' of how to write science should be an integral part of undergraduate training. Certainly, this book does give lots of useful advice in this area. It is easy to read, quite 'user-friendly' in layout, and is full of examples to aid explanations. The chapters tackle each section of the lab report (Intro, Methods, Results, Discussion, Figures & Tables, References); the book is also sectioned into 'Writing the first draft' and 'Crafting the final version'. Examples of the issues it deals with are: organising the Intro to include past work and identifying the hypothesis to be tested, conciseness in the Methods (don't repeat your schedule or include irrelevant info), tables vs graphs vs histograms, writing style (active or passive voice?) and, something I've always wanted to know, how to be positive and upbeat about failed experiments!

Being now a year or so out of my seedy

student hedonistic phase, the book came across to me as often stating the obvious, being far too long-winded and over detailed, and could be condensed down to a few pertinent pages. For example, there is chapter on reference presentation which is more detailed than any journal/book instructions to authors I have come across. But of course it's not for me to judge, so I passed the book on to a couple of bright project students. One essentially agreed with me (Austin), the other didn't (Cathy) and thought it would have really helped her develop her style. Austin also wanted succinct advice on statistics methods and drawing technique (not included) and found the numerous cartoons quite irritating. All in all, I would suggest getting some copies of the paperback version in your bookshop and advising first years to read a shared copy as part of their in-house training on lab writing up. It has a niche to fill, despite the steady drop in practical teaching in recent years because of underfunding, and I wish it well.

*Tom Fleming  
Department of Biology  
University of Southampton.*



# BSDB Committee members and other useful addresses

The main function of the BSDB Committee is to organize our meetings, from deciding on appropriate topics to arranging organizers and venues. If you have any ideas as to what will make a good meeting, or a good venue, don't hesitate to let a committee member know. The Officers of the Society have specific functions. Mike Akam (Chairman) keeps us all in order; Peter Thorogood (Secretary) deals with the membership list; Liz Jones (treasurer) handles subscriptions and awards travel grants; Rosa Beddington (Meetings Secretary) does most of the work in arranging meetings and deciding on venues; Philip Ingham (Publications Secretary) assembles this Newsletter and helps edit the Symposium volume. These Officers will be happy to answer any questions relating to their subjects.

## Chairman

Michael Akam (1989-1994)  
Wellcome / CRC Institute,  
Tennis Court Road,  
Cambridge, CB2 1QR  
Tel: 0223 334088  
Fax: 0223 334089  
E-mail: MEA2@mbuk.bio.cam.ac.uk

## Secretary

Jonathan Slack (1993-1998)  
ICRF Developmental Biology Unit  
Department of Zoology,  
South Parks Road,  
Oxford OX1 3PS  
Tel: 0865 281308  
Fax: 0865 281310

## Treasurer

Liz Jones (1989-1994)  
Department of Biological Sciences  
University of Warwick  
Coventry CV4 7AL  
Tel: 0203 523523

## Committee Members

Enrico Coen (1991-1996)  
John Innes Institute,  
Colney Lane,  
Norwich NR4 7UH  
Tel: 0603 52571  
Fax: 0603 56844

Vernon French (1992-1997)  
Institute of Cell, Animal & Population Biology,  
King's Buildings,  
University of Edinburgh,  
Edinburgh, EH9 3JT  
Tel: 031 650 5480  
Fax: 031 667 3210

## Meetings Secretary

Rosa Beddington (1990-1995)  
National Institute for Medical Research  
The Ridgeway,  
Mill Hill,  
London NW7 1AA  
Tel: 081 959 3666

## Publications Secretary

Philip Ingham (1991-1996)  
ICRF Developmental Biology Unit  
Department of Zoology,  
South Parks Road,  
Oxford OX1 3PS  
Tel: 0865 281323  
Fax: 0865 281310  
E-mail: P\_INGHAM@icrf.ac.uk

## Graduate Representative

Emily Gale (1991-1996)  
Anatomy and Human Biology Group,  
King's College,  
The Strand,  
London WC2R 2LS  
Tel: 071 836 5454

Alistair Hetherington (1992-1997)  
Department of Biology,  
University of Lancaster,  
Lancaster LA1 4YW  
Tel: 0524 65201 Ex. 3491  
Fax: 0524 843854

Peter Holland (1990-1995)  
Department of Zoology  
South Parks Road  
Oxford OX1 3PS  
Tel: 0865 271248  
Fax: 0865 310447  
E-mail: PHOLLAND@UK.AC.OXFORD.VAX

Ian Jackson (1993-1998)  
MRC Human Genetics Unit,  
Western General Hospital,  
Crewe Road,  
Edinburgh, EH4 2XU,  
Scotland

Malcolm Maden (1991-1996)  
Anatomy and Human Biology Group,  
King's College,  
26-29 Drury Lane,  
London WC2B 5RL  
Tel: 071 836 8851 Ex. 284  
Fax: 071 497 9078

Jack Price (1992-1997)  
Eukaryotic Molecular Genetics K  
National Institute for Medical Research  
The Ridgeway,  
Mill Hill,  
London NW7 1AA  
Tel: 081 959 3666

David Shepherd (1991-1996)  
Dept. of Biological Sciences,  
University of Southampton,  
Bassett Crescent East,  
Southampton SO9 3TU.  
Tel: 0703 594389  
Fax: 0703 594269  
E-mail: BY1097@UK.AC.SOTON.IBM

Adam Wilkins (1989-1994)  
Company of Biologists Ltd  
Austin Building, Room 514,  
University of Cambridge  
Pembroke Street,  
Cambridge CB2 3ED  
Tel: 0223 423798  
Fax: 0223 423353

Jeff Williams (1989-1994)  
Imperial Cancer Research Fund  
Clare Hall Laboratories  
Blanche Lane  
South Mimms  
Potters Bar  
Herts EN6 3LD  
Tel: 0707 44444  
Fax: 0707 46332

## **BSCB Officers**

### **President**

Professor Martin Raff,  
Dept. of Biology,  
University College,  
Medawar Building,  
Gower Street,  
London WC1E 6BT

### **Secretary**

Dr. I. T. Johnson,  
Department of Zoology,  
Downing Street,  
Cambridge CB2 3EJ

### **Treasurer**

Dr. Martin Humphries,  
Dept. of Biochemistry & Molecular Biology,  
University of Manchester,  
Stockford Building,  
Manchester M13 9PT

### **Meetings Secretary**

Dr Dennis Bray,  
MRC Muscle & Cell Motility Unit,  
King's College,  
26-29 Drury Lane,  
London WC2B 5RL

### **Publications Secretary**

Dr. D. Critchley,  
Dept. of Biochemistry,  
University of Leicester,  
Adrian Building,  
Leicester LE1 7RH

## **EDBO**

### **President**

Prof. A. McLaren,  
University College London,  
MRC Mammalian Development Unit,  
Wolfson House,  
4, Stephenson Way,  
London NW1 2HE.  
Tel: 071 387 7171/9521

## **DEVELOPMENT**

### **Editor-in-Chief**

Prof. Chris Wylie,  
Wellcome/CRC Institute,  
Tennis Court Road,  
Cambridge, CB2 1QR  
Tel: 0223 334088