

**BRITISH SOCIETY FOR
DEVELOPMENTAL BIOLOGY**
SUMMER 1998 - No. 37

AUTUMN MEETING 1998
16 - 18 SEPTEMBER - UNIVERSITY OF SUSSEX

***THE DEVELOPMENT
OF
SENSE ORGANS***

Invited speakers include:

Macagno (New York), Mombaerts (New York),
Van Heyningen (Edinburgh), Strutt (Sheffield),
Guillemot (Strasbourg), Steel (Nottingham),
Ghysen (Montpellier), Jarman (Edinburgh),
Wilson (London), Freeman (Cambridge),
Richardson (Sussex), Haddon (London),
Barlow (San Diego), Harris (Cambridge),
Fekete (Purdue), Whitfield (Sheffield),
Fitzgerald (London), Lewis (London),
Lewin (Berlin), Jan (San Francisco).

*Investigating
the rich
variety of
sense organs
both of
vertebrates
and
invertebrates,
including eyes,
ears, noses,
bristles and
skin.*

<http://www.ana.ed.ac.uk/BSDB/>

BSDB Newsletter

No. 37 Summer 1998

Travel Grants	-----	2
<u>Autumn Meeting Programme</u>	-----	3
Future BSDB Meetings	-----	4
Other Developmental Meetings	-----	5
Journal subscriptions etc	-----	9
Book reviews & books received	-----	12
BSDB committee and other addresses	-----	15

BSDB AUTUMN MEETING, 1998

THE DEVELOPMENT OF SENSE ORGANS

University of Sussex

The **Registration Form** can be found in the 'detachable' **Centre Section** of the Newsletter.
The **Programme** of the meeting appears on **pages 3-4**.

**** Note: Registration, Payment and Abstract Deadline is 1ST JULY ****

The Waddington Medal

As mentioned in the last issue, the BSDB has decided to award an annual Waddington Medal to a developmental biologist who has made, and is continuing to make, a distinguished contribution to our subject.

The first recipient of the medal is **Professor Cheryll Tickle**, in recognition of her outstanding work over the past 25 years on the development of the vertebrate limb.

The medal was awarded to Cheryll at the BSDB Spring Meeting at Lancaster University. Jonathan Bard did the presenting on behalf of the Society, before more than 400 participants, and then, very properly, there was a party.

After a (large!) number of years with the University of London, Cheryll is about to take up a new position at the University of Dundee.



From the Treasurer

TRAVEL GRANTS

The BSDB awards three types of grants to its 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).

Practical courses: Support of up to £300 is available for these courses and, at the moment, all applicants are funded. If more than about 8 members a year apply, however, a selection procedure will be introduced.

Foreign meetings: This is the category for which there is greatest demand and we cannot fund everyone. Rather than give members grants that are too small to be useful, 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, and preference will be given to members presenting work.

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

**** 1993 "student-rate" members (some of whom are now suspiciously called "Dr" - oops!) will be contacted and urged promptly to upgrade their subscription to £20 - if this is not done, they will be humanely culled.**

To apply for a travel grant:

- * Members should write to the **Treasurer** giving details of the proposed visit and the breakdown of the amount of money requested. They should enclose with the application a letter of support from their supervisor or laboratory head and, if appropriate, the abstract of the poster or talk they intend to present.

- * Application 3-4 months in advance is advised so that the BSDB contribution (£250 max) 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.

Small Meetings

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

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**.

Jonathan Bard, Treasurer

THE DEVELOPMENT OF SENSE ORGANS

PROGRAMME

Wednesday 16 September

12.00 **Registration**

Lunch

I. Introduction and Eyes

- 2.00 **J. Lewis** (London) Introduction: Some questions about sensory development
2.30 **M. Freeman** (Cambridge) EGF receptor signalling strategies in *Drosophila* sensory development
3.00 **D. Strutt** (Sheffield) Determination of polarity in the *Drosophila* compound eye
3.30 *Tea/coffee*
4.00 **V. van Heyningen** (Edinburgh) PAX6 in development, disease and evolution
4.30 **W. Harris** (Cambridge) The frog eye: It keeps on growing and growing and ...
5.00 **S. Wilson** (London) Development of the pineal organ in zebrafish

Evening: **POSTERS**

Thursday 17 September

II. Sensilla

- 9.00 **Y.-N. Jan** (San Francisco) (**Elsevier Trends Journals Lecture**) Asymmetric cell division and the control of sense organ cell fate
9.30 **A. Jarman** (Edinburgh) Common and divergent proneural gene functions in the formation of *Drosophila* sense organ precursors
10.00 **A. Ghysen** (Montpellier) Organizing sensory projections in fly and fish

10.30 *Tea/coffee*

III. Contributed Papers

to be announced

12.45 - 2.30 *Lunch*

POSTERS

IV. Ears and Lateral Line

- 2.30 **D. Fekete** (Purdue) (**Defeating Deafness Lecture**) Compartments and boundaries in the developing inner ear
3.00 **T. Whitfield** (Sheffield) Development of the lateral line
3.30 **C. Haddon** (London) Development of sensory patches in the zebrafish ear

4.00 *Tea/coffee*

- 4.30 **G. Richardson** (Sussex) Pattern formation in the chick inner ear
5.00 **K. Steel** (Nottingham) Genetic approaches to mammalian hair-cell development

Evening: **CONFERENCE DINNER**

Friday 18th September

V. Skin

- 9.00 **G. Lewin** (Berlin) Vertebrate sensory mechanotransduction: its development and regulation by neurotrophins
9.30 **M. Fitzgerald** (London) Development of pain reception in vertebrate skin
10.00 **E. Macagno** (New York) Cell interactions and the dynamics of sensory arbour development in the leech

10.30 *Tea/coffee*

VI. Taste Buds and Noses

- 11.00 **L. Barlow** (Denver) Development of taste buds
11.30 **F. Guillemot** (Strasbourg) Neural determination genes in development of the murine olfactory epithelium
12.00 **P. Mombaerts** (New York) Targeting olfaction

Lunch and end of meeting

Thanks to our sponsors:

The Wellcome Trust, Elsevier Trends Journals, Defeating Deafness, Zeneca, Smith Kline Beecham, Pfizers, Boehringer Mannheim, British Neuroscience Association, Hybaid & Calbiochem-Novabiochem.

FUTURE BSDB MEETINGS

SPRING SYMPOSIUM MEETING 1999
University of MANCHESTER.

**‘Cell Polarity and
Development’**

This meeting is being organised by **Daniel St Johnston, Jim Smith and Ottoline Leyser**, and will be held at the **University of Manchester** from **Tuesday 13th April to Friday 16th April**.

The programme will focus on developmental processes that depend on the polarised behaviour of cells, and will cover topics such as asymmetric cell divisions, localised maternal determinants and axis formation; epithelial polarity and morphogenesis; cell migration; and axon guidance.

We hope to include the following invited speakers:

Julie Ahringer (Cambridge)
Friedrich Bonhoeffer (Tübingen)
Andrea Brand (Cambridge)
Colin Brownlee (Portsmouth)
John Chant (Harvard)

William Chia (Singapore)
Lawrence Etkin (Texas)
Anne Ephrussi (Heidelberg)
Gian Garriga (Berkeley)
Jeff Hardin (Wisconsin)

Martin Hülskamp (Tübingen)
Tony Hyman (Heidelberg)
Tom Jessell (Columbia, NY)
Ken Kemphues (Cornell)
Elizabeth Knust (Dusseldorf)
Mark Krasnow (Stanford)
Ruth Lehmann (New York)
Maria Leptin (Cologne)

Richard Losick (Harvard)
Robert Pruitt (Harvard)
Susan K McConnell (Stanford)
Liz Robertson (Harvard)
Guy Tear (London)
Marc Tessier-Levine (Berkeley)
Eric Wieschaus (Princeton)

Autumn 1999.

'Craniofacial Morphogenesis'

This meeting will be organised in **The Institute of Child Health, London** by **Peter Thorogood and Paul Sharpe**, on **12th-16th April**. Further details will appear in the next Newsletter.

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- eg the Autumn 2000 meeting
- a one day workshop,

please get in touch with the Meetings Secretary, Jamie Davies.

OTHER DEVELOPMENTAL MEETINGS

DEVELOPMENTAL GENETICS

University of Sheffield & British Biochemical Society;

29-31 July 1998

A Symposium to celebrate the inauguration of the Developmental Genetics Programme at the Krebs Institute in the Depts of Biomedical Science and Molecular Biology & Biotechnology, University of Sheffield.

Speakers:

K.Anderson (New York); M.Bronner-Fraser (Pasadena); P.Cohen (Dundee);
C.Desplan (New York); S.Fraser (Pasadena); N.Hastie (Edinburgh); R.Harland (Berkeley);
H.Jackle (Gottingen); C.Kimmel (Eugene); E.Knust (Dusseldorf); R.Lehmann (New York);
M.Leptin (Koln); A.McMahon (Boston); G.Morata (Madrid); R.Nusse (Palo Alto);
M.Peifer (Chapel Hill); N.Perrimon (Boston); E.Robertson (Boston); T.Schupbach (Princeton);
B.Shilo (Rehovit); P.Simpson (Strasbourg); C.Tabin (Boston); R.Treisman (London);
E.Wieschaus (Princeton); J.Williams (Dundee)

Further information and application forms from:

Katrina Light: tel, 10715803481; email katrinal@biochemsoc.org.uk.

Epithelial Cell Biology '98

St.Catherine's College, Oxford. 14 - 16 September, 1998

Programme:

14 September

Growth factors and epithelial cell fate

Chair: Mark Ferguson (Manchester)

- | | |
|--------------------------|--|
| M. Freeman (Cambridge) | EGF receptor signalling strategies in <i>Drosophila</i> development |
| I. Thesleff (Helsinki) | Signals regulating epithelial morphogenesis in teeth |
| S. Werner (Martinsried) | The roles of keratinocyte growth factor and activin in epithelial morphogenesis and tissue repair |
| G. Cunha (San Francisco) | Mesenchymal-epithelial interactions in morphogenesis, growth and differentiation of prostatic epithelium |

Epithelial morphogenesis

Chair: Paul Edwards (Cambridge)

- | | |
|------------------------|---|
| K. Simons (Heidelberg) | Mechanism of delivery of apical lipids and proteins |
| H. Skaer (Oxford) | Maintenance and elaboration of epithelial polarity in <i>Drosophila</i> |
| M. Krasnow (Stanford) | Branching morphogenesis of the <i>Drosophila</i> airways |
| P. Comoglio (Turin) | Scatter Factors control epithelial morphogenesis and invasive growth |

15 September

Signalling through ECM and Rho proteins

Chair: Fiona Watt (London)

- | | |
|-------------------------------|--|
| F. Giancotti (Boston) | Control of cell proliferation by integrin signalling |
| C. Streuli (Manchester) | ECM signalling in differentiation and apoptosis |
| P. Simon-Assmann (Strasbourg) | Cell-matrix interactions in intestinal development and differentiation |
| N. Hotchin (Birmingham) | Regulation of Rho-mediated cellular responses by extracellular matrix |
| P. Martin (London) | Mechanisms of repair in embryos |

Catenins, APC, and wnts

Chair: David Garrod (Manchester)

- | | |
|-------------------------|--|
| M. Peifer (Chapel Hill) | Cell adhesion, signal transduction and cancer: the Armadillo connection |
| P. Polakis (Palo Alto) | Regulation of b-catenin by adenomatous polyposis Coli (APC) linear suppressor. |
| L. Huber (Vienna) | TIS7, an immediate early gene product regulating polarity in mammary epithelial cells. |
| I. Nathke (Dundee) | The APC protein and catenins in epithelial cell migration and microtubule regulation |

16 September

Epithelial proliferation and apoptosis

Chair: Birgit Lane (Dundee)

- | | |
|-------------------------|---|
| M. Raff (London) | The role of programmed cell death in epithelial development |
| J. Hickman (Manchester) | p53 dependent changes in apoptosis and proliferation following gut toxins |
| J. Tilly (Boston) | Molecular and genetic control of epithelial cell apoptosis in the female reproductive tract |
| S. Frisch (San Diego) | Cell adhesion, apoptosis and the epithelial phenotype |
| W. Muller (Ontario) | Oncogene-mediated signal transduction in transgenic mouse models of human breast cancer |
| P. Bryant (Irvine) | Tumour suppressors and growth factors functioning in imaginal discs |

Registration: Maximum number will be 170.

Registration deadline is 3 July 1998.

Fees: BSCB member: £300 (non-resident: £240); Non-member: £340 (non-resident: £280)

All registration is being handled by the Biochemical Society, and information can be obtained from:

The Meetings Office, The Biochemical Society
59, Portland Place, London W1N 3AJ
Tel: 0171 580 3481

GENES AND CANCER

(UK Molecular Biology and Cancer Network meeting XV)

14th-16th December 1998, University of Warwick, UK

KEYNOTE LECTURE

NURSE (London)

CHROMOSOMES

DIFFLEY (South Mimms) * LASKEY (Cambridge) * BIRD (Edinburgh)

GROSVELD (Rotterdam) * PARO (Heidelberg) * GASSER (Geneva)

SENESCENCE AND DEATH

VOUSDEN (Frederick) * PETERS (London) * GUARENTE (Boston)

CAMPISI (Berkeley) * WRIGHT (Dallas) * EVAN (London)

ADHESION AND INVASION

COLLARD (Amsterdam) * ALITALO (Helsinki)

FRISCH (La Jolla) * OZANNE (Glasgow)

PROTEOLYSIS

SEUFERT (Stuttgart) * KREK (Basel) * HAY (St Andrews)

EARNSHAW (Edinburgh) * BOHMANN (Heidelberg)

POSTERS and TRADE EXHIBITION

Registration £50 (students £25). Accommodation and all meals £150 / £175

Application forms and full details from:

Dr Helen Hurst, FAX 0181-383-3258

www.icr.ac.uk/ukmbcn/info.htm

Deadline for poster abstracts: October 23rd 1998

Registration deadline: November 4th 1998

ON GROWTH AND FORM: SPATIO-TEMPORAL PATTERNING IN BIOLOGY

INTERNATIONAL MATHEMATICAL BIOLOGY CONFERENCE

University of Dundee, 20th - 24th September 1998

To commemorate the life and work of D'Arcy Thompson on the 50th anniversary of his death, this conference will explore the concepts of self organisation and modelling in the development of form, and aims to bring together developmental biologists and mathematical biologists in a fruitful way.

Session topics:

**On the Growth of Form; On the Mathematics of Form; On the Dynamics of Form;
On the Description of Form; On the Form of Form**

Sessions run in series and each session will include both mathematical and developmental biologists.

'Developmental' speakers include:

Jonathan Slack (Bath), Cheryll Tickle (U.C. London), Vernon French (Edinburgh), Hans Meinhardt (Tuebingen), Anna Schor (Dundee), and Brian Goodwin (O.U.), as well as a number of eminent mathematical biologists.

The format of the meeting will consist of invited plenary talks during each morning and early afternoon with the rest of each day devoted to posters and workshop discussion sessions. Participation by graduate students and young post-doctoral researchers is strongly encouraged.

The International Scientific Advisory Committee consists of J.D. Murray, FRS (Washington), L. Wolpert, FRS (UCL) and B.C. Goodwin, (OU).

John Wiley and Sons will publish the conference proceedings.

For further details, on-line registration, and abstract submission, see the conference Web Site at

<http://www.mcs.dundee.ac.uk:8080/~darcy98/>

MAJOR EVENTS IN EARLY VERTEBRATE EVOLUTION - PHYLOGENY, PALAEOLOGY AND DEVELOPMENT

Natural History Museum, London, 8 - 9 April 1999.

Convenor: Dr P.E. Ahlberg

Our understanding of the origin and early evolution of vertebrates is advancing rapidly, as much due to developmental genetics as to new fossil discoveries and new phylogenetic analyses. This conference, sponsored by the Systematics Association and the Natural History Museum, will bring together leading workers from developmental biology, palaeontology and comparative anatomy to address the major questions in this field.

The story of vertebrate origins is the story of how the various vertebrate body plans, and the developmental cascades which generate them, were assembled by evolution. General problems include recognising homologous structures and gene expression patterns between groups and understanding the steps by which major morphological transformations were accomplished. Specific topics to be addressed by the meeting include the origin, patterning and early evolution of jaws, appendages and mineralised tissues.

The meeting will be held at London's Natural History Museum, one of the foremost centres in the world for systematic and evolutionary research.

All speakers are invited, but there will be an OPEN POSTER SESSION allowing non-speaking delegates to present their work.

Provisional speaker list:

P.E. Ahlberg, W.E. Bemis, J.A. Clack, M.I. Coates, P. Donoghue, P.L. Forey, H.E. Gee, J. Hanken, J.R. Hinchliffe, R. Hitchin, N. Holder, L.Z. Holland, P.W.H. Holland, P. Janvier, R.P.S. Jefferies, J. Joss, J. Mallatt, J.G. Maisey, B.D. Metscher, R.G. Northcutt, M.A. Purnell, I.J. Sansom, H.-P. Schultze, M.M. Smith and M.P. Smith.

Further information from:

Dr Per Ahlberg, Department of Palaeontology,
The Natural History Museum, Cromwell Road,
London SW7 5BD, UK
e-mail: pea@nhm.ac.uk fax: (UK) 171 938 9277

☐ Yes, I am interested in the meeting. Please send me the second circular.

☐ I would like to present a poster.

Provisional title: _____

CENTRE SECTION

This "Centre Section" can 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, and the Registration and Abstract forms for the Autumn Meeting at Sussex University.

Development

Members of the BSDB are entitled to a reduction in the subscription price to 'Development'. The general 1998 personal subscription is £185 but, for BSDB members, it is (only) **£167**, £150 for New Subscribers.

.....
To: **Development**
The Company of Biologists Ltd,
Bidder Building,
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Other CoB Journals - the Journal of Cell Science (£113) and the Journal of Experimental Biology (£131) - are also available at reduced rates. 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.
.....

NOTIFICATION OF CHANGE OF ADDRESS

NAME:

Note that from/...../ 1998.
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.....

Tel; Fax; e-mail:.....

(my previous address was:

.....

.....)

SIGNATURE:

Send to: Dr Ivor Mason,
MRC Brain Development Programme, Dept of Developmental Neurobiology,
UMDS Guy's Hospital, London SE1 9RT.

BSDB Autumn Meeting, 16 - 18 September 1998

INFORMATION SHEET

Venue

The meeting will be held on the University of Sussex campus at Falmer, about 3 miles north of Brighton town centre. Lectures, poster session and trade exhibition will all be housed in the Gardner Arts Centre.

Accommodation

Accommodation will be on campus in Brighthelm village, a recently built complex of five bedroom houses. Each house comprises a large kitchen and sitting room area, two bathrooms and five bedrooms each with sink.

Programme

The provisional scientific program is attached. Please note the scientific programme will begin promptly at 2.00 pm on Wednesday 16 September. Participants should arrive and register on Wednesday morning and should aim to arrive no later than 12.30 pm in order to complete registration and have lunch before the start of the scientific programme.

Registration Details

Registration is essential and must be completed by **1 July 1998** to avoid a late registration fee of **£20**. All registrants must complete the official form (attached) and must make payment in full to cover accommodation and registration costs when submitting their form. Registrants will receive an acknowledgement and receipt, including details of how to get to Brighton.

Meeting Charges

An all-inclusive package is offered to BSDB members at a attractive rate. Note this rate is further discounted for student members. The package includes accommodation on the Wednesday and Thursday nights, all meals, tea and coffee between sessions, the abstract book and the conference dinner. Additional accommodation for registrants needing to arrive on the Tuesday will be available at the bed and breakfast only rate. Details of how to pay are at the bottom of the registration form.

Accompanying Persons

Accompanying persons must complete a separate registration form. All accommodation and meal costs must be paid at the time of registration, but the registration fee should not be paid. They may not attend the scientific sessions and will not receive an abstract book.

Car Parking

Participants travelling by car will be issued with parking permits on arrival. Please indicate on the registration form if a parking permit will be required.

Contributed Talks, Posters and Abstracts

All participants are encouraged to present a poster, and/or volunteer a contributed talk at the meeting. Speakers for a small number of contributed talks will be selected on the basis of abstracts received. Posters will be on display for the whole of the meeting, with poster sessions on the evening of 16 September and at lunch time on 17 September. Please see the instructions below and send your abstract electronically to arrive by **1 July 1998**. Space for a poster cannot be guaranteed for abstracts submitted after the deadline.

Travel Grants

Remember the BSDB travel grants to cover basic travel and conference expenses. **See Page 2.**

REGISTRATION, PAYMENT AND ABSTRACT DEADLINE: 1 July 1998

BSDB Autumn Meeting, 16 - 18 September 1998

HOW TO SUBMIT AN ABSTRACT

Abstracts should be sent ELECTRONICALLY by e-mail as a text-only message. If possible, please also provide a Microsoft-Word formatted version as an attached document. Send to:

Dr. J. Lewis
Vertebrate Development Laboratory
ICRF
P.O. Box 123
Lincoln's Inn Fields
London WC2A 3PX
UK

Alternatively, send your abstract on a 3.5" diskette.

For e-mail, please identify your abstract by placing in the subject line "Sussex" followed by your surname and initials, e.g. "Sussex-SmithAB". If sent on diskette, please name the file in the same way, or with a suitable abbreviation thereof.

Deadline for receipt of abstracts is **1 July 1998**. A printed copy of the abstract should be enclosed with the registration form. Please **do not** enclose your diskette with the registration form, which must be sent to a separate address.

The abstract should fit inside a rectangle 16cm x 18cm. It must begin with the title, followed by the names of the authors and the address of the laboratory in which the work took place. The name of the author who will present the work should appear first. One blank line should separate the address from the text of the abstract, which must not exceed **250 words**.

Abstracts in book form will be provided for all registrants at the meeting. The text of the abstracts will not be re-typed, so authors are responsible for the quality of presentation of the abstract. Any errors will appear in the reproduced text. **Please enclose a printed copy of the abstract with the registration form**, and draw our attention to any special symbols or characters.

Please mark your abstract "**TALK**", "**TALK/POSTER**", or "**POSTER**" according to whether you wish to be considered to give a talk or will be presenting a poster.

Posters

Poster boards two metres wide by one metre high will be provided. The poster should start with the title followed by the names and addresses of the authors. Remember, in a crowded room it is difficult to read small text and results are best presented graphically or pictorially with the minimum of words. Text should use a font size readable from 2 metres away.

APPLICATION FOR BSDB MEMBERSHIP

Full name: **Title** ... **Degrees**

Professional address:

.....

.....

.....

Tel; Fax, e-mail:

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:

..... Name:

..... Name:

Please return this form, together with the completed Banker's Order (below) to the Society Secretary:

Dr Ivor Mason,

**MRC Brain Development Programme, Dept of Developmental Neurobiology,
UMDS Guy's Hospital, London SE1 9RT.**

For Society Use

Acknowledged: Mailing list:

***Please note that the graduate student rate of £7.50 is applicable for a maximum of 4 years, after which you must pay the full rate, regardless of your status.

To: The Manager,

..... Bank

.....

.....

Please pay to the **British Society for Developmental Biology,
Account no: 80867675 (sort code 20-71-74)
Barclays Bank plc, P.O. Box No. 4BP,
Liberty House, 212 Regent Street,
LONDON W1A 4BP.**

the sum of £ (..... pounds) on October 1st 1998 and on the same day each year
succeeding unless this instruction is altered in writing by me. This instruction replaces any previous
instruction of payment to the British Society of Developmental Biology, which should be cancelled.

Signature: Account No:

Name*: Date :

Address:

.....

* as shown on cheque book

MOSAICS AND CHIMAERAS

Developmental Pathology Society & Scottish Developmental Biology Group

University of Edinburgh; 8 - 9 April 1999.

Topics will include:

- * Human chromosome mosaicism * Human chimaeras * Mouse chimaeras
- * Mouse radiation chimaeras * *Drosophila* mosaics * X-Chromosome inactivation
- * Cre-loxP mosaicism

Speakers will include:

David Bonthron; Neil Brockdorff; Alan Clarke; Richard Gardner; Alan Handyside;
Barry Keverne; Anne McLaren; John West; John Wolstenholme; Eric Wright.

Further details:

<http://www.ana.ed.ac.uk/devpath/Devpath.html>

Mrs Sheila Tesh (Hon.Sec.), Sweffling, Saxmundham, Suffolk IP172BA. Tel/Fax 01728 663518

Dr. Mary Seller, Medical & Molecular Genetics, 7th Floor Guy's Tower, London SE19RT. m.seller@umds.ac.uk

Dr. Jamie Davies, Anatomy Dept, Univ of Edinburgh, Teviot Place, Edinburgh EH89AG. Jamie.Davies@ed.ac.uk

Dr. David Price, Physiology Dept, Univ of Edinburgh, Teviot Place, Edinburgh EH89AG. David.Price@ed.ac.uk

Dr. John West, Obs. & Gynaecol., Univ of Edinburgh, Teviot Place, Edinburgh EH89EW. John.West@ed.ac.uk

UNIVERSITY OF YORK: 1998 SHORT COURSES & SYMPOSIA

Problem Solving for Analytical Scientists

20-22 JULY 1998

Capillary Electrophoresis

23-26 AUGUST 1998

5th International Symposium on Capillary Electrophoresis

26-28 AUGUST 1998

A Practical Introduction to Molecular Modelling

13-17 SEPTEMBER 1998.

Details from:

Dr T. Threlfall, Dept of Chemistry, University of York, Heslington, York YO15DD

Tel: 01904432576/434079

Fax: 01904432516

email: js20@york.ac.uk

CALLING GRADUATE STUDENTS!

The Graduate Rep on the BSDB Committee is now **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.

DISCOUNTED JOURNALS, BOOKS etc

BSDB personal subscription rates for 1999 journals will be in the next Newsletter
Development - Developmental Biology - Trends in Genetics - Trends in Cell Biology
Mechanisms of Development - Current Biology - Current Opinion in Genetics &
Development - Development, Genes and Evolution - BioEssays.

The publishers offer to Society Members the reduced price of 5.000 Spanish pesetas

Contents:

Pam Lewis: Volcano in the lab; Alain Ghysen: Foreword; Enrique Cerda-Olmedo: Changing paradigms
- a dialogue with Antonio Garcia-Bellido

1. Clonal analysis and the genetics of somatic cells

Gunther Stent: Developmental cell lineage

Norbert Perrimon: Creating mosaics in *Drosophila*

Janos Szabad: Genetic requirements of epidermal and female germ line cells

Trudi Schupbach & Eric Wieschaus: Probing patterns of gene expression in *Drosophila* epithelial cells

Martin Raff, Beatrice Durand, and Fen-Biao Gao: Cell number control and timing in animal
development: the oligodendrocyte cell lineage

2. The genetics of cell determination

Jose Campos-Ortega: The genetics of the *Drosophila* achaete-scute gene complex: an historical
appraisal

Juan Modolell and Sonsoles Campuzano: The achaete-scute complex as an integrating device

Christine Dambly-Chaudiere and Michel Vervoort: The bHLH genes in neural development

Mar Ruiz-Gomez: Muscle patterning and specification in *Drosophila*.

Bill Harris: Molecular recapitulation: the growth of the vertebrate retina

3. From gene to pattern

Sean Carroll: From pattern to gene, from gene to pattern

Jean-Paul Vincent: Compartment boundaries: where, why and how

Alicia Hidalgo: Growth and patterning from the engrailed interface

Alfonso Martinez-Arias: Notch, wingless and the specification of cell fates in *Drosophila*

Jose de Celis: Positioning and differentiation of veins in the *Drosophila* wing

Juan Pablo Couso and Sarah A. Bishop: Proximo-distal development in the legs of *Drosophila*

4. The cell biology of development

Antonio C. Garcia-Bellido and Antonio Garcia-Bellido: Cell proliferation in the attainment of constant
sizes and shapes: the Entelechia model

David Gubb: Cellular polarity, mitotic synchrony and axes of symmetry during growth. Where
does the information come from?

Enrique Martin-Blanco: Regulatory control of signal transduction during morphogenesis in *Drosophila*

Sal Fuerstenberg, Julie Broadus & Chris Doe: Asymmetry and cell fate in embryonic *Drosophila* CNS

Paul Kulesa and Scott Fraser: Segmentation of the vertebrate hindbrain: a time-lapse analysis

5. Homeotic selector genes

Ed Lewis: The Bithorax Complex: The first fifty years.

Jacques Pradel and Rob White: From selectors to realizators

Phil Ingham: trithorax and the regulation of homoeotic gene expression in *Drosophila*: a historical
perspective

Muriel Boube, Laurent Seroude and David Cribbs: Homeotic proboscipedia cell identity functions
respond to cell signalling pathways along the proximo-distal axis.

Filippo Rijli, Anthony Galavias and Pierre Chambon: Segmentation and specification in the branchial
region of the head: the role of the Hox selector genes.

6. Hox genes and evolution

Michael Akam: Hox genes, homeosis and the evolution of segment identity: no need for hopeless
monsters.

Jaime Castelli-Gair: Implications of the spatial and temporal regulation of Hox genes on development
and evolution.

Aleksandar Popadic, Arhat Abzhanov, Douglas Rusch and Thomas C. Kaufman: Understanding the genetic basis of morphological evolution: the role of homeotic genes in the diversification of the arthropod bauplan

Pedro Santamaria: Genesis versus epigenesis: the odd jobs of the Polycomb group of genes.

7. The developmental programme

John Edwards: Sir Vincent Wigglesworth and the coming of age of insect development.

David Weisblat: Embryonic development as a quasi-historical process

Rene Thomas: Laws for the dynamics of regulatory networks

Francoise Huang: Syntagms in development and evolution

Robert Whittle: How is developmental stability sustained in the face of genetic variation?

Jonathan Hodgkin: Seven types of pleiotropy

Michael Bate: Making sense of Behaviour

Lewis Wolpert, Alain Ghysen and Antonio Garcia-Bellido: Debatable issues

8. Antonio Garcia-Bellido and developmental genetics

Rolf Nothiger: Antonio Garcia-Bellido in Zurich

John Merriam: Antonio and Sturt: an interaction

Ed Lewis: Antonio Garcia-Bellido in Caltech

Yuh-Nung Jan and Lily Yeh Jan: Serendipity, the principle of limited sloppiness, and neural development.

Gabriel Dover: The genetic logic of Antonio Garcia-Bellido

Fotis Kafatos: In defence of pure science: a tribute to Antonio Garcia-Bellido

Francois Jacob: An exceptional friend

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Editor's Note

This is not a fair and comprehensive review but, having seen the four 'multicellular' members of this video series, I cannot resist a few comments. Development is both fun and a challenge to teach. Under the microscope, embryos are entrancing but it is usually difficult to explain their morphogenesis with slides, chalk scribbles and 3-dimensional knitting movements of the arms. I guess we all long for 'someone' to make good videos with photomicroscopy and animations, grabbing interest and explaining the developmental contortions (gastrulation etc etc) of a well-chosen handful of embryos. This video series, in my view, is most definitely not the answer!

My basic complaint is - how can I put this - that they are just too high-school American! They don't provide the descriptive embryology (although there is some excellent microscopy) and, in general, the level of the science is too superficial to be useful in a UK undergraduate course (not the claimed 'cutting edge scientific research'). This last criticism applies more to some (most?) topics than to others - I was particularly disappointed with homeotic genes and the "body plan".

The general format is to have a scientific presenter (who usually does very well but may have been schooled too thoroughly in speaking very-clearly-and-slowly!) but a lot of patronising voice-over to go with the very basic (micky-mouse) schematics. And then there is the intermittent soundtrack - designed to intensify the moments of high drama, deep mystery, fascinating intrigue, bubbling excitement - uugh!! And then there are the grad student contributions about the excitement of doing research - like wines, some of these travel well and some don't. Comments about *Drosophila Ubx in situ* range from "it's a privilege to look at embryos" (well - OK), to "...certain things about how we are and life in general - you can see it" (wow!). And then there is..... I'd better stop now!

THE ATLAS OF CHICK DEVELOPMENT

Ruth Bellairs & Mark Osmond

Academic Press 1998

ISBN0-12-084790-6.

323 pages, 100 Plates.

£75.00

Ever since William Harvey first observed its beating heart under a magnifying glass in the early 17th Century, along with the eggs of frog, newt and mouse (with the Zebra fish as a late comer), the chick embryo has been one of the classic subjects for developmental analysis in vertebrates. It has contributed richly to our knowledge, for example, of gastrulation and germ layer generation and of limb and skeletal development. To the embryologist keen to control the timing of the beginning of an experiment, it has the great advantage that the fertile eggs can be kept 'on the shelf' for up to 10 days before incubation is begun. But its pre-eminence is also due to the ease with which very early chick embryos can be cultured *in vitro* as a whole, or slightly later ones can be experimentally manipulated *in ovo*, through grafting or extirpation. Though lately, due to the difficulties it presents for transgenic manipulation and possibly also to the slow breeding rate of the species, it has lost some ground in the switch from 'embryology' to molecular developmental genetics, it still remains the embryo of research choice for many of today's biologists. And though student 'prac' classes appear now to be less practised than earlier, this embryo retains great advantages for the teacher, whether for description, *in vitro* culture or experimental project.

Do we need in 1998 a descriptive account of the chick embryo? Yolk and saline-stained copies of Lillie (1952, and out of print) have done duty on the lab bench for many decades with their reprinted Hamburger and Hamilton Table of stages. But Lillie has little histology. In fact, despite the usefulness of Romanoff (1960) for more esoteric descriptive information, there has been no overall account of the histology of chick development. This vacant niche is what

Ruth Bellairs, along with Mark Osmond, has set out to fill.

The core of their book is the 97 Plates: labelled photomicrographs of embryos from pre-incubation to 13 days of incubation, sectioned both transversely and longitudinally. In addition there are a couple of scanning electron micrographs (more would have been welcome) and three superb colour photographs (deservedly award-winning) of whole embryos stained to show their bone and cartilage. Ruth Bellairs is a long time student of the chick embryo, especially of the primitive streak and gastrulation, and her wide knowledge is used to great effect in the eighty pages of well-illustrated accounts of the different organ systems. Shorter pieces tell how the egg is formed and describe embryo manipulation and culture. Most of us will either learn from these something new or have old 'knowledge' corrected. So in discussing the evolutionary transformation of the aortic arches in higher vertebrates, I must unlearn my 30 years' of teaching that the pulmonary arteries to the lungs derive from the 6th aortic arches: their source is more likely the 4th. Two valuable appendices contain reprinted photographs of the Hamburger-Hamilton stages and the less well known Eyal-Giladi Table of early cleavage and pre-primitive streak stages, necessary for gastrulation studies but neglected in the previous and more famous table.

On-the-ball readers may search in vain for the histology of 'positional information' or of Hox gene expression, but perhaps should bear in mind that though the theories change, the histology remains. So the usefulness of the book will date very little. Every lab undertaking chick embryo research will need a copy, a recommendation the easier to make as the book is such a thorough-going aesthetic triumph.

Richard Hinchliffe,
Institute of Biological Sciences,
University of Wales Aberystwyth.

PRINCIPLES OF DEVELOPMENT

Lewis Wolpert (with Rosa Beddington, Jeremy Brockes, Thomas Jessell, Peter Lawrence, Elliot Meyerowitz).

Current Biology/O.U P. 1998.
ISBN 0-19-850263-X
484 pages, £25.95.

The problem with undergraduate textbooks is that, by and large, undergraduates won't read them. This one should be different!

'Principles of Development' was written by Lewis Wolpert, in consultation with 5 co-authors and it is recognisably a personal view, rather than a multi-author compendium. To quote the Preface, it "...is designed for undergraduates...and...focused on those systems that best illuminate common principles". The result is an excellent, very readable book to accompany an intermediate-level (UK 2nd year) course in Developmental Biology. I run such a course and I enthusiastically recommend this book.

There are several very strong features of this book. *Development needs illustration, and the illustrations here are just superb - the photomicrographs and, particularly, the Current-Biology-format full colour diagrams. These are not merely attractive; they are clear and explanatory. (Only about twice, out of some 475 figures, did I feel that a tilted, 3-D, partially-cut-away creation would be better replaced by a simple TS!) *Development is complicated (!) and the treatment is necessarily simplified, but it is not simplistic. The writing is always clear, lively and straightforward, with no gimmickry and no hint of talking down to the reader. *Development is not only about animals, and the book features an excellent chapter explaining the recent, exciting work on plant embryos, meristems and flowers.

'Principles of Development' is explicitly not comprehensive and each of us may have our minor quibbles about topics omitted or skimmed-over but, basically, 'what you want your students to know about Development is there in Wolpert'.

The first chapter contains a brief history of development and introduces the central theme that gene expression underlies cell behaviour, which underlies all the patterning, morphogenesis and differentiation that constructs embryos. Chapter 2 introduces the basic embryology and life cycles of the 'model' organisms : vertebrates (*Xenopus*, chick, mouse and briefly zebrafish), *Drosophila*, *C. elegans* and *Arabidopsis*. There are some problems with the organisation of the book, however. The discussion of morphogenesis (all that worrying gastrulation and epiboly!) comes in Chapter 8, after the excellent chapters on early vertebrate and *Drosophila* embryos and on plants. Similarly, there is little about molecular genetics or molecular cell biology (control of transcription, splicing, translation; signal transduction pathways etc) and that is positioned way-back in Chapter 9 (on Cell Differentiation).

There are excellent later Chapters on organogenesis (mainly chick limb and fly imaginal disc) and on the nervous system. The final chapter, on Evolution and Development, I found slightly flat. In general, I felt that this clear and most attractive student text, which starts with a good look back, could have finished with a better, more enthusing look forward, to the future of the subject.

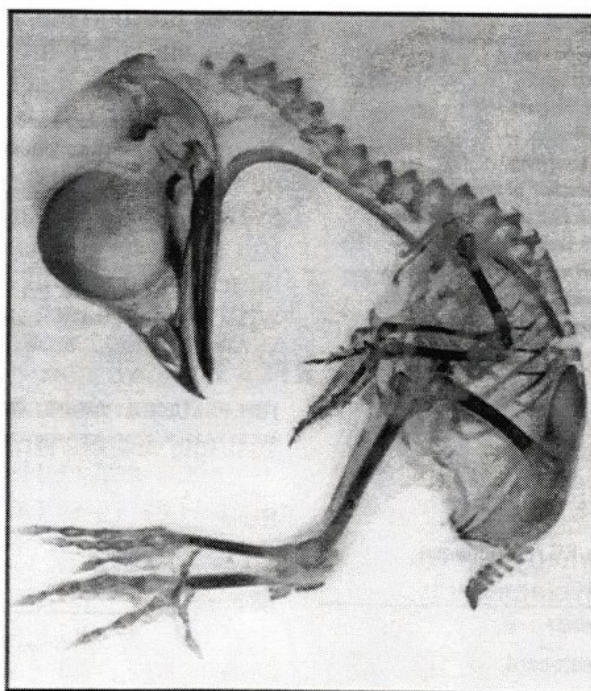
I've left it late, but it is inevitable that this book will be compared to the benchmark, Scott Gilbert's 'Developmental Biology' (now in its 1997 5th Edition). There is no question that Gilbert is much more comprehensive in what he covers and much more detailed in how he does it. You get a lot more information for your money (918 pages for £32.95) and it is very thoughtful and readable - for developmental biologists (every one of us should have one and every University library should have several). But for undergraduate courses, I also think there is no question - the level, the pictures, the writing, the plants - as I say, I recommend Wolpert!

Vernon French,
Institute of Cell, Animal & Population Biology,
University of Edinburgh.

BOOKS RECEIVED

The following books are accumulating, unreviewed. If you would like to review one of these, in return for the volume, please contact vernon.french@ed.ac.uk

1. **Development of Cardiovascular Systems: Molecules to Organisms.**
Warren W. Burggren & Bradley B. Keller (Eds); Cambridge University Press, 1998, £50.
2. **The Origin of Body Plans: a Study in Evolutionary Developmental Biology.**
Wallace Arthur; Cambridge University Press, 1998, £45.
3. **Microbial Responses to Light and Time.**
M. Caddick, S. Baumberg, D. Hodgson, M. Phillips-Jones (eds); Cambridge University Press, 1998, £65
4. **Handbooks in Practical Animal Cell Biology:**
 - **General Techniques of Cell Culture.**
Maureen A. Harrison & Ian F. Rae; Cambridge University Press, 1997, £14.95.
 - **Marrow Stromal Cell Culture.**
Jon N. Beresford & Maureen E. Owen (Eds); Cambridge University Press, 1998, £15.95.
5. **Molecular Embryology of Flowering Plants.**
V. Raghavan; Cambridge University Press, 1998, £95.
6. **Pollen Biotechnology for Crop Production and Improvement.**
K.R. Shivanna, V. K. Sawhney (eds); Cambridge University Press, 1997, £50.
7. **Dystrophin: Gene Protein and Cell Biology.**
Susan C. Brown & Jack A. Lucy (Eds); Cambridge University Press, 1997, £50.
8. **Volvox: Molecular Genetic Origins of Multicellularity and Cellular Differentiation (Developmental & Cell Biology Series).**
David L. Kirk; Cambridge University Press, 1998, £60



BSDB COMMITTEE members

and other useful addresses

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 a committee member. The officers of the society have specific functions. Jim Smith (Chairman) keeps order; Jonathan Slack (Secretary) deals with the membership list; Jonathan Bard (Treasurer) handles the subscriptions and awards travel grants; Ian Jackson (Meetings Secretary) does most of the work in arranging meetings and deciding on venues; Vernon French (Publications Secretary) assembles this Newsletter. These Officials will be happy to answer any questions relating to their subjects.

Officers

Chairman

Jim Smith (1994-1999)

National Institute for Medical Research,
The Ridgeway, Mill Hill,
London NW7 1AA.
Tel: 0181 913 8524
Fax: 0181 913 8584
e-mail: j-im@nimr.mrc.ac.uk

Secretary

Ivor Mason (1998-2003)

MRC Brain Development Programme,
Dept. of Developmental Neurobiology,
UMDS Guy's Hospital, London SE1 9RT.
Tel: 0171 9554798
Fax: 0171 9554886
e-mail: i.mason@umds.ac.uk

Meetings Secretary

Jamie Davies (1998-2003)

Department of Anatomy,
University of Edinburgh Medical School,
Teviot Place,
Edinburgh EH8 9AG, Scotland.
Tel: 0131-650-2999
Fax: 0131-650-6545
e-mail: jamie.davies@ed.ac.

Treasurer

Jonathan Bard (1994-1999)

Dept of Anatomy,
Edinburgh University Medical School,
Teviot Place, Edinburgh EH8 9AG, Scotland.
Tel: 0131 650 3107
Fax: 0131 650 6545
e-mail: jblb@festival.ed.ac.uk

Publications Secretary

Vernon French (1995-2000)

ICAPB, University of Edinburgh,
Kings Buildings, West Mains Rd,
Edinburgh EH9 3JT, Scotland.
Tel: 0131 650 5480
Fax: 0131 667 3210
e-mail: Vernon.French@ed.ac.uk

Graduate Representative

Alison Wilkie

MRC Human Genetics Unit,
Western General Hospital, Crewe Road,
Edinburgh EH4 2XU, Scotland.
Tel: 0131 332 2471 ext 3401
e-mail: Alison.Wilkie@hgu.mrc.ac.uk

Committee Members

Julie Ahringer (1997-2002)

University of Cambridge,
Department of Genetics, Downing Street,
Cambridge CB2 3EH.
Tel: 01223 333971
Fax: 01223 333992
e-mail: jaa@mole.bio.cam.ac.uk

Andy Furley (1998-2003)

Developmental Genetics Programme,
The Krebs Institute, University of Sheffield,
Firth Court, Western Bank,
Sheffield S10 2TN
Tel: 0114 222 2354
Fax: 0114 222 2788
e-mail: A.J.Furley@Sheffield.ac.uk

Elizabeth Jones (1995-2000)

Dept of Biological Sciences,
University of Warwick,
Coventry CV4 7AL.
Tel: 01203 523523 ext3061
e-mail: ea@dna.bio.warwick.ac.uk

Robert Kelsh (1998-2003)

Developmental Biology Programme,
Department of Biology and Biochemistry,
University of Bath, Claverton Down,
Bath BA2 7AY
Tel: (0)1225 323828
Fax: (0)1225 826779
e-mail: bssrnk@bath.ac.uk

Ottoline Leyser (1995-2000)
Dept of Biology,
University of York, P.O.Box 373,
York YO1 5YW.
Tel: 01904 432837 ex4333
Fax: 01904 432860
e-mail: hmoll@unix.york.ac.uk

Paul Martin (1997-2002)
Departments of Anatomy & Surgery,
University College London,
Gower St, London WC1E 6BT.
Tel: 0171 419 3362
Fax: 0171 380 7349
email: paul.martin@ucl.ac.uk

Paul Scotting (1996-2001)
Dept of Biochemistry,
University of Nottingham,
Queens Medical Centre, Clifton Boulevard,
Nottingham NG7 2UH.
Tel: 0115 9709367
Fax: 0115 9422225
e-mail: paul.scotting@nottingham.ac.uk

Paul Sharpe (1994-1999)
Dept of Craniofacial Development,
Guy's Tower, UMDS Guy's Campus,
London SE1 9RT.
Tel: 0171 955 2687
Fax: 0171 955 2704
e-mail: psharpe@hgmp.mrc.ac.uk

Daniel St. Johnston (1995-2000)
Wellcome/CRC Institute, Tennis Court Rd,
Cambridge CB2 1QR.
Tel: 01223 334127
Fax: 01223 334089
e-mail: ds139@mole.bio.cam.ac.uk

Jean-Paul Vincent (1996-2001),
MRC Laboratory of Molecular Biology,
Hills Road, Cambridge CB2 2QH.
Tel: 01223 402272
Fax: 01223 412142
e-mail: jpv@mrc-lmb.cam.ac.uk

BSCB Officers

Ron Laskey (President)
Wellcome/CRC Institute, Tennis Court Rd,
Cambridge CB2 1QR.
Tel: 01223 334106
e-mail: ral19@mdle.bio.cam.ac.uk

Birgit Lane (Secretary),
Dept of Anatomy, The University,
Dundee DD1 4HN, Scotland.
Tel: 0382 231181
e-mail: blane@anatphys.dundee.ac.uk

Murray Stewart (Meetings Secretary)
MRC Laboratory of Molecular Biology,
Hills Rd, Cambridge CB2 2QH.
Tel: 01223 402463,
e-mail: ms@mrc-lmb.cam.ac.uk

Stuart Kellie (Treasurer)
Yamanouchi Research Institute (UK),
Littlemore Hospital, Oxford OX4 4XN.
Tel: 01865 747100
e-mail: skellie@yam-res.co.uk

John Tooze (Publications Secretary)
ICRF, PO Box 123,
44 Lincoln's Inn Fields,
London WC2A 3PX.
Tel: 0171 269 3497
Fax: 0171 269 3482

DEVELOPMENT Editor-in Chief

Chris Wylie,
Institute of Human Genetics,
University of Minnesota, School of Medicine,
Box 206 Mayo, 420 Delaware Street SE,
Minneapolis, MN 55455,
USA.
Tel: 001 612 625 9429
Fax: 001 612 626 7031

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