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 mechanisms 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.

AUTUMN 1994: Models for Man. Durham University September 13-14th
A joint meeting of the BSDB and the Developmental Pathology Society organised by Jonathan Slack, Cheryll Tickle and Bob Anderson

Have you noticed that textbooks of human embryology remain resolutely descriptive while every issue of Development is bulging with new data about developmental mechanisms, and every grant proposal stresses the importance of developmental biology for human welfare? The Autumn meeting of next year will attempt to tackle this gap by asking just how much more we do know, or should know, about human development, arising from the dramatic advances of the last decade. We shall look at several systems in the body, review their descriptive embryology, find what has been learned from recent mouse or chick experiments and enquire whether we can understand any better the commoner congenital abnormalities found in man.
Sessions will cover: preimplantation development, axis formation, the neural tube, the integument, the limbs, the face, the heart and the kidney.

The current list of speakers is: R. Anderson, J. Bard, V. Bolton, A. Copp, J. Emery, H. Eyal-Giladi, N. Fagg, M. Ferguson, C. Jahoda, M. Johnson, R. Krumlauf, W. Lamers, J. Lewis, R. Markwald, P. Martin, G. Morris-Kay, D. Poswillo, J. Slack, I. Theslaff, C. Tickle, P. Thorogood, R. Winter

MODELS FOR MAN: The molecular basis of normal and abnormal development
University of Durham, September 13th & 14th

A joint meeting of the BSDB with the Developmental Pathology Society.
Scientific organizers: Jonathan Slack, Cheryll Tickle and Bob Anderson
Local organizer: Colin Jahoda

Have you noticed that textbooks of human embryology remain resolutely descriptive while every issue of Development is bulging with new data about developmental mechanisms, and every grant proposal stresses the importance of developmental biology for human welfare ? This year's Autumn meeting will attempt to tackle this gap by asking just how much more we do know, or should know, about human development, arising from the dramatic advances of the last decade. We shall look at several systems in the body, review their descriptive embryology, find what has been learned from recent mouse or chick experiments, and enquire whether we can any better understand the commoner congenital abnormalities found in Man.The full programme for the meeting follows on pages 2-3..


AUTUMN MEETING
DURHAM UNIVERSITY
SEPTEMBER 13-14TH 1994
Copp (London)
Tickle (London)
Lewis (Oxford)
Bolton (London)
Winter (London)
Jahoda (Durham)
Krumlauf (London)
Thesleff (Helsinki)
Emery (Sheffield)
Martin (London)
Slack (Oxford)
Poswillo (London)
Thorogood (London)
Lamers (Amsterdam)
Johnson (Cambridge)
Eyal-Giladi (Jerusalem)
Ferguson (Manchester)
Markwald (S. Carolina)
Morriss-Kay (Oxford)
Anderson (London)
Bard (Edinburgh)
Fagg (London)
MODELS FOR MAN
The molecular basis of normal and abnormal development
for further information contact: Dr. J. Slack, ICRF Developmental Biology Unit, Department of Zoology,South Parks Road, Oxford, OX1 3PS

EMBRYOS AND MONSTERS.
The molecular basis of malformations in human development.

Proposal for 13-14 September 1994, Durham University.

Format is 8 blocks of 3 lectures each of 25 mins + 5 mins dicussion.

Day 1:

Introductory

Human preimplantation development	V.Bolton, King's College Hosp.
Early inductive interactions	J.Slack, Oxford.
Morphogenesis of gastrulation	H.Eyal-Giladi, Jerusalem.
Coffee	

Axis formation

Descriptive	A.Lumsden, Guy's Hosp. MS
Hox genes	R.Krumlauf, Mill Hill
Symmetry and isomerisms	N.Brown, St. George's MS.
Lunch	

Neural tube

Descriptive	G.Morriss-Kaye, Oxford.
Mechanisms of closure	A.Copp, Inst. Child Health.
Spinal malformations	J.Emery, Sheffield.
Tea	

Integument and placenta

Local org. slot 1	C.Jahoda, Durham.
Local org. slot 2	ditto.
Placenta	H.Fox, Manchester.

Day 2:

The limb

Descriptive	J.Lewis, Oxford.
Pattern formation mechanisms	C.Tickle, UCLMS.
Limb malformations	R.Winter, Inst. Child Health.

Coffee

The face

Descriptive	P.Thorogood, Inst. Child Health.
Palatal fusion	M.Ferguson, Manchester.
Malformations of face	D.Poswillow, Guy's Hosp. MS.

Lunch

The Heart (AV cushions)

Descriptive	W.Lamers, Univ. Amsterdam.
Growth factors and epithelial-mesenchymal transition	R.Runyan, Iowa.
Heart malformations	R.Anderson, Nat. Heart & Lung Inst.

Tea

The kidney

Descriptive	P.Martin, UCL MS.
Induction mechanism, Wilm's gene.	J.Bard, Edinburgh.
Kidney malformations	T.Risden, Inst. Child Health.

"MODELS FOR MAN"

The molecular basis of normal and abnormal development

Programme

Monday 12th September

Welcome reception
Dinner

Tuesday 13th September

PREIMPLANTATION DEVELOPMENT

Mouse and Man	M. Johnson (Cambridge)
Human preimplantation development	V.Bolton (London)

Coffee

AXIS FORMATION

Early inductive interactions	J. Slack (Oxford)
Morphogenesis leading to gastrulation	H.Eyal-Giladi (Jerusalem)
Hox genes	R.Krumlauf (Mill Hill)

Lunch

NEURAL TUBE

Introduction	G.Morriss-Kay (Oxford)
Mechanisms of closure	A.Copp (London)
Spinal malformations	J.Emery (Sheffield)

Tea

INTEGUMENT

Skin	C.Jahoda (Durham)
Tooth	I.Theslaff (Helsinki)

Dinner

Poster session

Wednesday 14th September

THE LIMB

Introduction	J.Lewis (Oxford)
Pattern formation mechanisms	C.Tickle (London)
Limb malformations	R.Winter (London)

Coffee

THE FACE

Introduction	P.Thorogood (London)
Palatal fusion	M.Ferguson (Manchester)
Malformations of face	D.Poswillo (London)

Lunch

THE HEART

AV cushions	W.Lamers (Amsterdam)
Growth factors and epithelial-mesenchymal transition	R.Markwald (South Carolina)
AV septal defects	R.Anderson (London)

Tea

THE KIDNEY

Introduction	P.Martin (London)
Induction mechanism, Wilm's gene.	J.Bard (Edinburgh)
Kidney malformations	N.Fagg (London)

Special Conference Dinner

END OF MEETING

Registration and abstract forms for this meeting can be found in the Centre Section of this Newsletter.

The organisers gratefully acknowledge SmithKline Beecham Pharmaceuticals for financial support.

MEETING REPORT

BSDB Autumn Meeting: "MODELS FOR MAN" Durham, September 94.

Despite the rain, Durham was a wonderful setting for the conference, the stunning cathedral and castle dominating the hill just above St. Chads. The meeting was a joint endeavour by the BSDB and the Developmental Pathology Society. A collaboration that everyone attending the conference agreed was very successful, the pathologists offering a new angle on developmental mechanisms, even if it was a rather grim one at times.

The meeting started with two talks discussing pre-implantation development which high-lighted the difficulties, both moral and legal, of working with human embryos. Given the strict guide lines and limited material it is amazing how much has been learnt, although, as Martin Johnson pointed out, the "normality" of the early human embryos studied in vitro is debatable. The constricting legal limitations make the use of animal models to learn about human development a clear necessity. The question is thus how good are the models and not whether they should be used.

The next session examined some of the parallels between mouse, chick and frog development, the similarities being particularly striking at early stages. This was made clear by Jonathan Slack who compared the expression patterns of many genes involved with mesoderm induction, giving evidence relating to the role of the TGFß and FGF families in the frog, chick and mouse. From careful examination of early stages H. Eyal-Giladi suggested that the mouse blastula be re-appraised as a morula, so that it could then be compared directly with the patterns seen in the frog and chick. The strength of the similarities discussed are reassuring in that they imply that the human embryo will follow a similar pattern of gene expression, even if its actually morphology is different.

In later sessions the Neural tube, Kidney, Limb, Face, Heart, and Integument were discussed. Each session was divided into three talks. The first introduced each topic often in a highly entertaining manner, as characterised by Julian lewis's introduction to the limb and Paul Martin's to the kidney. The second more specialised talk contained specific examples of mouse and chick experiments. One of the more unusual experiments was found in the integument section where I was particularly impressed with Colin Jahoba's wife for letting him experiment with hair growth on her own arms to show the similarity of mouse and human hair development. The final talk in each session was by a pathologist, who described some of the consequences of errors in the development of the system just discussed. Those of us new to the field found we had to brace ourselves ready for the onslaught of slides of abnormal babies. These talks just go to emphasise the complexity of development and make it even more amazing how often things develop correctly. Despite the ease with which you could get lost in the pathologist's lexicon of dysraphisms and other deformities the talks held the attention and were the topic of many lively discussions afterwards.

This conference, by bringing the two fields together, has hopefully promoted the application of the emerging understanding of animal models to therapeutic uses.

Abigail Tucker,
ICRF Developmental Biology Unit,
Oxford