Microscopy Course 2014 - lectures

Day 1: Monday 11 March - Fundamental Principles of Microscopy

Ilan		9:30	Welcome to the course
1	Richard	9.45-10.45	General introduction to light microscopy
2	Ian	10.45-12.00	Principles of microscopy and microscope anatomy
3	Ian	1.00-2.00	Contrast enhancement (phase contrast and DIC)
4	Eva	2.00-3.00	Basic Fluorescence Microscopy and sample prep
5	Richard	3.30-4.30	Basic image analysis
6	Mark	4.30-5.30	Fluorescent dyes and proteins

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Day 2: Tuesday 12 March - Imaging Cells and Tissues

7	Richard	9.00-10.00	Live cell imaging
8	Alan	10.00-11.00	Confocal, spinning discs and Multiphotons
9	Ian	11.20-12.20	Advanced widefield microscopy and bespoke systems
10	Matt	1.30-2.30	Cameras for microscopy
11	Sergi	2.30-3.30	F* techniques: FRET, FLIM, FCS, FRAP, FLIP
12	Chris L.	4.30-5.30	Single Molecule Techniques
13	Eva	5.00-5.30	Light-sheet microscopy

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Day 3: Wednesday 13 March - Advanced imaging / Applied Image handling

14	Chris L.	9.00-10.00	STED, FCS
15	Rainer	10.00-11.00	Storm/PALM techniques.
16	Ian	11.30-12.30	OMX
17	Dominic	1.30-2.30	Applied Image analysis and Matlab
18	Douglas	2.30-3.00	Image Management
19	Errin	3.00-4.00	Electron Microscopy

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AND

Day 4: Thursday 22 May – Microscope demos and image analysis
9.00-12.00 and 14.00-17.00

* DV live: Jupiter-YFP macrophages
* Spinning disk live: Jupiter-YFP macrophages
* OMX V2 dSTORM: Rainer's samples
* OMX V3 SIM: Golgi
* Olympus scanning confocal in the demo room: Golgi
* Olympus TIRF in prep area
* Lightsheet: Drosophila brain
* Image analysis

15 min demos (+ 5 min walking):
8 sessions in the morning,
8 sessions in the afternoon
(5 people per group, 80 people in total)

Microscopy Course 2014 - lectures and handout material may be downloaded from:

http://www.micron.ox.ac.uk/microngroup/2014_Lectures.php

MICRON Advanced Microscopy Course

Welcome - explanation of course outline

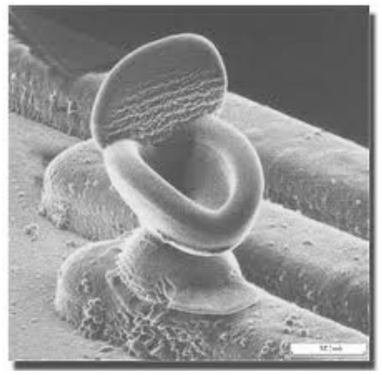
Ilan Davis, May 2014

http://www.micronoxford.com

http://www.nanoscopyoxford.com

Announcements:

Fire escapes



Toilets

Free lunch !!!

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Who are you?

A. Technician / RA
B. Post Graduate Student
C. Post Doc
D. Lab leader
E. Other

Where are you from?

A. Biochemistry Dept
B. DPAG / CNCB
C. WIMM
D. WTCHG / STRUBI
E. Physical Science Depts
F. Other Oxford
G. External

Why are you here?

A. I don't know
B. I have to be
C. I don't know much about microscopes but hope to use them in the future
D. I use microscopes and want to know more

How often do you use a microscope?

A. Never
B. Occasionally
C. Most Weeks
D. Every Day

How much training in microscopy have you had?

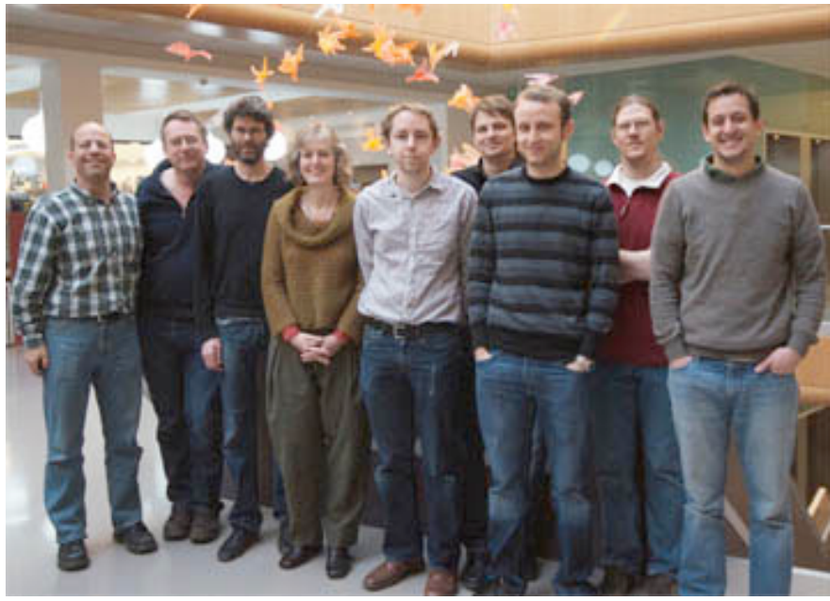
A. None
B. Undergraduate lectures
C. Undergraduate practicals
D. Shown in your lab
E. Trained in a microscope facility
F. Formal training course

What do you most hope to gain from this course?

A. Whether you should use a microscope
B. Knowing which microscope to use
C. Microscopy techniques for a particular application
D. What is new in microscopy
E. Understanding the theory of microscopy
F. More practical understanding

THANKS to everyone

Particularly Eva Wegel
also Wellcome trust 4 year programme Chromosomes in Heredity and Development and Susan Baylis - Medical Sciences Skills Training



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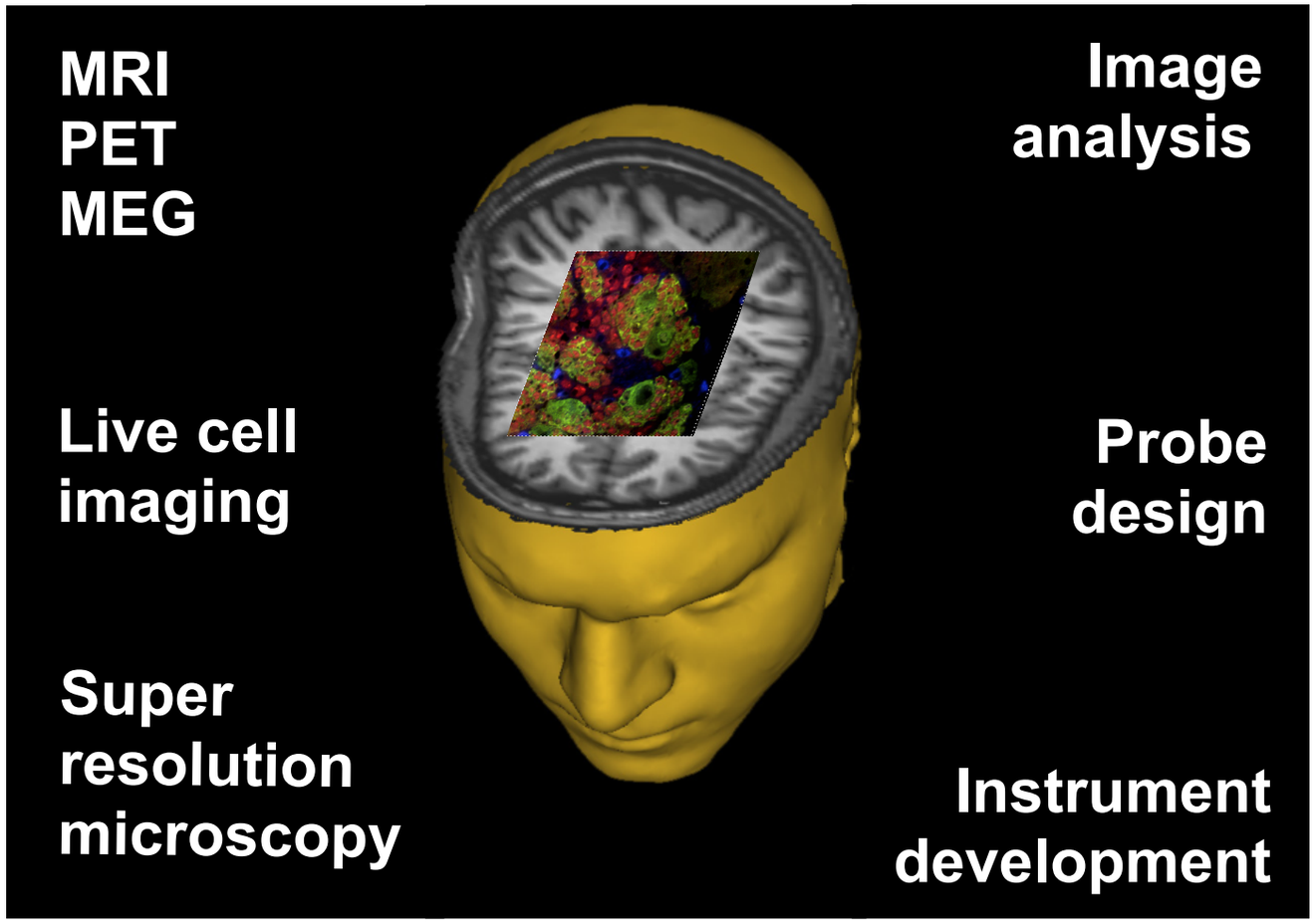
David Pino (david.pinto@bioch.ox.ac.uk) - Image Analyst
Sebastian Schubert - NANO post doc

Guest Speaker
Matt Preston (mpreston@photometrics.com)

Fully Funded PhD Opportunities

Oxford - Nottingham Biomedical Imaging
EPSRC/MRC Centre for Doctoral Training



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http://onbicdt.org

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EPSRC Engineering and Physical Sciences Research Council

MRC Medical Research Council