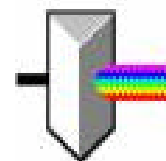


The Fluorescence Imaging Group (FIG) is a newly established group intended for the support and development of fluorescence imaging techniques including (but not limited to) Confocal and Multiphoton microscopy. The group will hold a variety of meetings that will cover issues of relevance to novices as well as experienced microscopists.



From the Editorial Desk.

Well, the year has progressed quickly and we have now had four successful meetings, held approximately bimonthly and with attendances on average of over 50 people. The committee has been meeting on a monthly basis, and has been pleasantly surprised by the level of interest and support from both the research community and suppliers. The next seminar in our series will be *Fluorescence Correlation Spectroscopy* by Dr Jag Rao and Mr Gavin Symonds on 1 November.

The final meeting this year will be **an end of year party and barbecue on 7 December**. To make this a little more interesting, we are announcing a **fluorescence micrograph competition**, with \$100 cash prize for the image judged by an experienced panel of judges (see the attached flyer). The competition will be judged and the winner announced at the barbecue. The competition is open to all, and you are all encouraged to print up an image and send it with a short description to one of the committee ASAP.

Some of the interesting activities planned for 2001 include:

Workshop: *The Principles and Practice of Deconvolution.*

Talks: *Image Analysis for Fluorescence Microscopy.*
Fluorescence Lifetime Imaging.

Society & Committee Matters

In early 2000 the committee felt that we might, by the end of the year, have made sufficient progress to formally establish the society by formulating and adopting a constitution and electing office bearers at an annual general meeting. In hindsight this was a formidable goal to set ourselves, and it is far more likely to be accomplished by the end of 2001 when we have had more time to establish some of the other activities and perhaps "rope" in a few more people to take on portfolios which we are still in the process of identifying. The committee is satisfied with the activities it has run

this year, but we are anxious for more people to become paid up members.

Ian Harper	Chair, Newsletter	☎ 9905 5635
Dean Hewish	Secretary	☎ 9662 7233
Alan Hibbs	Treasurer	☎ 9876 9822
Stephen Cody	Speakers / Liaison	☎ 9341 3155
Bridget Southwell		☎ 9344 5774

Membership.

Membership of the FIG is open to everyone and we strongly urge everyone from young students or graduates to those more experienced in digital and fluorescence imaging to join the group. FIG will endeavour to provide a forum for those wishing to learn, apply or continue development of fluorescence imaging technologies in the widest sense possible. We will endeavour to provide interesting and informative talks, seminars and workshops, and where possible to interact with technology developers and suppliers to our mutual benefit. Membership fees for individuals are nominal, in place only to cover costs of administration and provide a small reserve to expand our operation. Membership is only \$20.00 for full members and \$10.00 for registered students. Please use the membership form attached to the end of this newsletter to apply for membership.

So why the FIG should I join ?

1. Become part of a scientific and technology network sharing resources, training and expertise.
2. Gain access to news, other information and local resources (eg, a resources database detailing users, expertise & equipment) is under construction.
3. Gain entrance to seminars and regular tutorial meetings.
4. Receive informative newsletters.
5. Attend an annual conference (from 2001 onwards).
6. Learn about and understand the latest technology and research applications.

We also have a category of membership for commercial or corporate members. Contact details for supporting companies will be listed in each newsletter.

Programme of Meetings

Seminar room, CSIRO Division of Health Sciences and Nutrition, 343 Royal Parade Parkville

Format: 3:30pm, drinks and registration

4-5pm, talk, then more drinks etc.

Next Meetings

November 1

Fluorescence Correlation Spectroscopy: Technique and Applications with ConfoCor 2. Gavin Symonds, Carl Zeiss.

and

Application of Fluorescence Correlation Spectroscopy (FCS) for Ligand-Receptor Interactions. Dr Jag Rao, Imperial Cancer Research Fund, London.

December 7

End of year barbecue, CSIRO or adjacent park – Meet at CSIRO

Please note: we are always interested in locating speakers with interesting, novel or just plain challenging applications involving fluorescence imaging techniques (some meetings may have two or more speakers so please don't be shy). We are also seeking sponsors for each meeting.

Report Back: Seminar Series.

The September FIG meeting was held at the Royal Melbourne Hospital. **Professor Ken Ghigginio** of the Department of Chemistry, Melbourne University, presented a talk entitled “**The How and Why of Fluorescence – An introduction**”.

The talk gave an overview of the basic chemical and energetic factors involved in the induction of fluorescence, starting from the quantum mechanical processes of energy absorption and emission. For the microscopists present, the important lessons were basic concepts such as Stokes shift, quantum efficiency, and photo bleaching, which constantly intrude into fluorescence applications. Other concepts followed, such as fluorescence quenching, which was convincingly

demonstrated using gin and tonic (the fluorescence of quinine in the tonic is quenched by salt, the gin is optional). Multi photon fluorescence was also briefly covered. A series of colourful demonstrations capped off the presentation, of which the most spectacular was the demonstration that fluorescence could be considerably enhanced by cooling the sample in liquid nitrogen (low temperature inhibits non-productive decay of the excited molecular state). Finally the topic of chemiluminescence was raised and a demonstration of how chemiluminescence allows golf to be played at night amazed the audience. A lengthy discussion session introduced other information such as Professor Ghigginio's own research into photoactivation of porphyrins in tumour therapy. We are very grateful to Professor Ghigginio for an entertaining and informative talk that provided useful information to everybody in the audience, irrespective of their level of experience in the field.

Report on the 3D Live Cell Imaging Course held recently in Vancouver.

If it's not diffraction it's statistics - the 5th annual course on 3D Microscopy of Living Cells.

The 3D live cell imaging course organised by Prof. Jim Pawley at the University of British Columbia during the northern summer break is a fantastic opportunity to learn about live cell microscopy. The course is long (12 days), full of exciting ideas (15 Faculty and 30 students), lots of different instruments (12 microscope setups) and rather chaotic! The setting, at the University of British Columbia is magnificent - with snow capped mountains just across the water!

The course involved optics, fluorescent probes, practical confocal microscopy, live cell microscopy, 2-photon microscopy, deconvolution, video rate confocal microscopy, image processing - and lots more. The mornings were packed full of lectures and the afternoon and evenings dedicated to laboratory work. Many participants brought their own projects (including cells). I was involved in teaching various aspects of live cell imaging and providing a guiding hand to an enthusiastic group of four students throughout the 2 week course. The course provided a great opportunity to compare the different instruments available (laser scanning confocal, wide-field/deconvolution, multi-photon, Nipkov disk confocal). Each of the different types of instruments was found to be suited to particular experimental approaches. One of the striking messages to come out of

the course is that it is easy to get an image (most of the time), but getting meaningful live cell images is difficult!

I did manage to slip through on the middle Sunday and go walking to Lake Garibaldi - in the snow! After the course I had 3 days with Jim Pawley in his remote cabin in the lovely islands north of Vancouver!

.... a great course - Alan Hibbs.

Directory of Fluorescence Imaging for Australia/New Zealand.

We are also in the process of gathering information to set up an Australia & New Zealand fluorescence imaging database. Such a database would contain details of people, labs and general resources such as the sort of imaging equipment and facilities you have, as well as specific expertise and skills. You are encouraged to complete the attached form for inclusion in the Australasian Fluorescence Imaging Directory, and to send it to Dr Ian Harper (marked attention FIG database, Dept Anatomy & Cell Biology, Monash University, Clayton, VIC 3800. Note that this may also be a great way to promote your research lab in general !

Corporate News: Products and Info

We will gladly run advertisements for companies under a paid advertisement scheme. Adverts will only be accepted for items relating to the interests of the group. As this newsletter and society is still

being organised we have set initial charges at \$20/quarter page, \$40/per half page,\$80 per full page, for ads to run 2 newsletter issues. Our initial mailing list is to about 100 people. Companies to send ads electronically to the editor.



Advertisers Contact Details

Biocon, Dr. Alan R. Hibbs, 7 Walhalla Drive, Ringwood East VIC 3135.

Bio-Rad Laboratories Pty Ltd, P.O. Box 210, Regents Park, NSW 2143; Tel 02-9914 2800, or 1800 672954.

BioScientific Pty Ltd, P.O.Box 78 Gympie, NSW 2227, Tel. 1800 25 1437.

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Membership Application

- \$20 Ordinary member
- \$10 Student member
- corporate sponsor

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Email				

AUSTRALASIAN FLUORESCENCE IMAGING RESOURCE DATABASE

PERSONAL

Name & Title/Position :

.....

Institute/Department/Company address :

.....

Mailing address if different :

.....

Tel number : Email :

Microscopy experience :

Discipline :

Area of research.....

Teaching facilities / courses offered (relating to optical, fluorescence, digital and confocal microscopy) :

.....

.....

INSTRUMENTATION (tick the relevant box and include additional details* if you wish)

Fluorescence microscope: with intensified/video/digital camera:

.....

.....

Confocal microscope: year of purchase

*

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Multi Photon microscope year of purchase

*

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Imaging Techniques / Other equipment: FLIM, FRET, FRAP, CO-LOCALISATION, etc.

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Return to: Dr Ian Harper, Department of Anatomy & Cell Biology, Monash University, Clayton VIC 3800, AUSTRALIA

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Wallac UltraVIEW

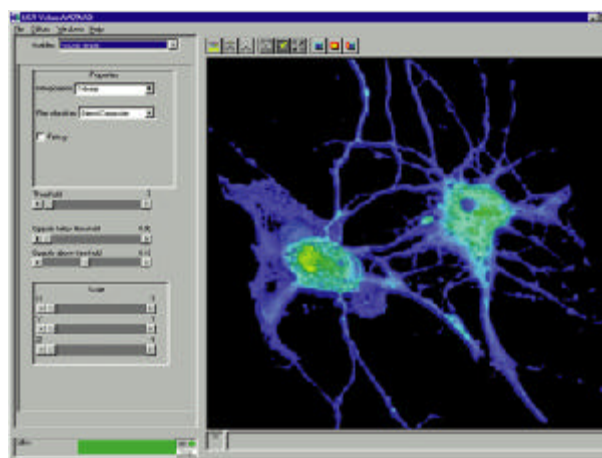


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Looking for a Manual on Confocal Microscopy?

This 200 page manual was produced for introductory courses in Confocal Microscopy - and is now available from BIOCON

Confocal Microscopy for Biologists

an Intensive Introductory Course

June 2000

by

Alan R Hibbs

BIOCON,
7 Walhalla Drive
Ringwood East
ahibbs@ihug.com.au

03 9876 9822

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