

Computing / IT in SPAT (Oct. 2016)



Computing and IT resources “*in*” SPAT

<http://www.sp.ph.ic.ac.uk/computing>

spathelp@imperial.ac.uk

My role “SPAT Help”

- **>90% Research, <10% Group IT support / liaison**
- Oversee management of SPAT Linux servers
- Provide advice for specific project requirements
- Engage with ICT on planning
 - Infrastructure requirements (e.g. faster networking, mission-critical resilience)
 - Operating system needs (e.g. Research builds)
- SPAT Departmental Representative (~ 3 meetings / year)
 - Group requirements
 - Teaching-related needs (e.g. lecture theatre facilities, software packages in UG labs)
- **Not here to:**
 - Debug / compile your code
 - Fix your PC / laptop

SPAT Resources: Hardware – PCs & printers



Scanner PC located in H710

IC Domain – Log in using IC Username & Password



Printers on level 6M (H6M67B)
HP Color Laserjet MFP 680M

Printers on level 7 (H710)
HP Laserjet P4015
HP Color Laserjet M651dn
Photocopier

**TONER
RECYCLING**

Huxley

Level 3 – opposite walkway entrance

Level 6 – outside post room

Ground – post room

Blackett

Level 2 – Stores

Level 5 – Near goods lift

<http://www.sp.ph.ic.ac.uk/computing/printing.html>

SPAT Resources: SPAT Linux (NAS) Servers



3 General Group NAS servers:

eos.sp.ph.ic.ac.uk (main file server)
spatstorage.sp.ph.ic.ac.uk
spat-nas.sp.ph.ic.ac.uk

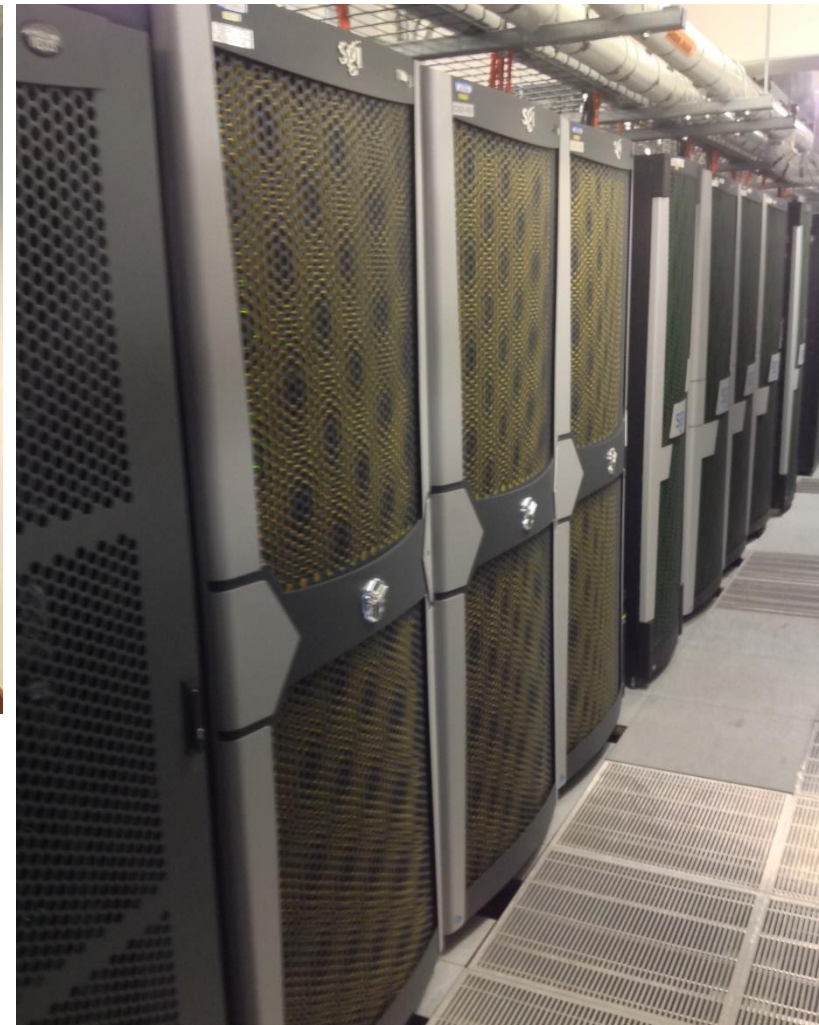
20+ Dedicated Project NAS servers:

embarr.sp.ph.ic.ac.uk
gerb-nas.sp.ph.ic.ac.uk
iasi.sp.ph.ic.ac.uk
spat-ocean.sp.ph.ic.ac.uk
wrfstore.sp.ph.ic.ac.uk

Total ~ 1PB RAID-ed hard disk storage
150+ CPU Cores (non-parallelised max 40)
System RAM up to 0.5TB (512GB)

http://www.sp.ph.ic.ac.uk/computing/linux_servers.html

Departmental & College Resources: Data Centres



Hosted Servers

College HPC (CX1 & CX2)

CX1: 25986 cores (192 max), 128*GB, 2.0PB

CX2: 14000 cores (1728 max), 128GB, 0.5PB

* some new 256GB

<http://www.imperial.ac.uk/admin-services/ict/self-service/research-support/hpc>

Departmental & College Resources: Data Centres

SAF Data Centre

Hosted Servers
(DR Systems)



Infinity Data Centre (Slough)


Hosted Servers (DR Systems)
Rolling 5 year contract



SPAT: SOFTWARE – IDL, Exceed

Only 2 software packages: (install from spatstorage:/disk1/install)


Exelis Vis IDL (v8.5.1)



IDL. Discover What's In Your Data.

IDL is the trusted scientific programming language used across disciplines to extract meaningful visualizations from complex numerical data. With IDL you can interpret your data, expedite discoveries, and deliver powerful applications to market. Additionally, IDL is a truly cross-platform solution, providing support for today's most popular operating systems, including Microsoft Windows®, Mac OS X, Linux, and Solaris.

Development Environment



Quickly create programs and build applications with the IDL Development Environment.

Language

```

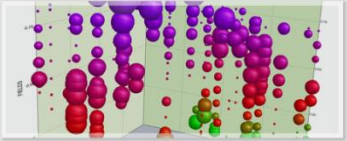
; Read an unformatted binary file containing digital elevation data
file = file_which('elevation.dat')
dem = read_binary(file, data_dims=[64,64])

; Display the elevations as a filled contour plot.
p = contour(dem, n_levels=15, rgb_table=27, /fill, plot=0)

; Change the color of the axes.
foreach ax, p.axes do ax.color = 'dark slate gray'
        
```

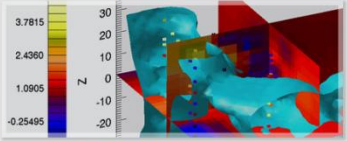
The IDL programming language is easy to learn, easy to use, and requires fewer lines of code than other programming languages.

Graphics



Create high-quality graphic data visualizations to help interpret your data.

Analysis



Get specific statistical, analytical, and numerical information from your data with IDL.

OpenText Exceed (v15)

OPENTEXT

Connectivity Solutions	Products	Solutions	Services	Customers	Partners	Downloads		
<div> <div> <h4>Products</h4> <ul style="list-style-type: none"> Products Overview Exceed onDemand Managed File Transfer Version 14 Products Exceed Products <ul style="list-style-type: none"> Exceed Exceed Freedom Exceed PowerSuite Exceed 3D Exceed XDK Security Products Terminal Emulation Content Middleware Network File System </div> <div> <h4>Exceed</h4> <p>A market and technology leading PC X server that empowers Windows users with cost-effective access to X Window applications on UNIX and Linux hosts with unparalleled performance and strong security.</p> <p>As the highest performing PC X server on the market, Exceed allows business users access to UNIX and Linux-based X Window applications from the comfort of their Windows desktop. For over 20 years, Exceed has been offering organizations options to reduce the complexity of their IT infrastructures. Gone are the days when Windows and expensive UNIX workstations had to share valuable office resources, Exceed cost-effectively replaces UNIX workstations. It improves user productivity through better data exchange among applications on different platforms, and streamlines business workflow.</p> <p>As the leader in the PC X server market, Exceed continues to be the gold standard that others follow. With performance that is at least 10% faster than the closest competing solution, and with over 72% of the market share, Exceed is the de facto PC X server solution that 90% of Fortune 100 companies rely on. Whether they are designing automobiles or aircraft, accessing medical imagery, managing financial risks, or monitoring massive transit systems, Exceed is at the heart of the process.</p> <p>To ensure tight integration with corporate security policies and industry regulations, Exceed is certified for Microsoft Windows Vista. It comes equipped with a FIPS 140-2 validated cryptographic module to ensure secure connections.</p> <p>Key Features and Benefits:</p> <table border="1"> <tr> <td>Speed</td> <td>X Server</td> </tr> </table> </div> </div>							Speed	X Server
Speed	X Server							

http://www.sp.ph.ic.ac.uk/computing/spat_software.html

Departmental Software & Resources



Students get their first taste of Imperial in Welcome Week



Risky and fundamental research highlighted in President's autumn letter

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Juno Committee

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Teaching Information

Research Information

Human Resources

Promotions and Development

General Information

Committees and Meetings

Computing

Contacts

Facilities

Mechanical Instrumentation Workshop

Physics Forms

Home / Faculty of Natural Sciences / Departments, Institutes and Centres / Department of Physics / Staff Information / Computing

Computing

If you have any questions that this page can't answer, you can always try the [College's ICT pages](#)

Computing Committee	+
Storage Space	+
Buying Computers	+
Computer Software and Licensing Information	+
Printing	+
Electronic Resource Access	+
Help!	+

Departmental Software

Computer Software and Licensing Information

Mathematica

To obtain Mathematica please visit the following links. All members of Physics are now entitled to download and use a full version of Mathematica, so please distribute this information as widely as possible. The procedure for obtaining a license and a legal copy of the software is slightly different for students and staff. The instructions should be followed from the websites below:

- [Student](#)
- [Staff](#)

Intel Compilers and Labview

The Intel compilers and Labview are free for all staff and postgraduate students to install on College owned computers. Please contact the [Service Desk](#) if you would like them to be installed.

Matlab

Matlab is free for all staff and students – registration details differ depending on your status but the [information is on the ICT website](#)

Other software

A range of other software is available – check the [Software Shop website](#) or contact the Service Desk [for more details](#).

<http://www.imperial.ac.uk/physics/staff/computing>

College: Software Shop

- Range of software available free to download and install on College-owned systems
- Additional software available for purchase
- Advice on hardware purchasing

Imperial College London

Students get their first taste of Imperial in Welcome Week

Risky and fundamental research highlighted in President's autumn letter

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Information and Communication Technologies

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Shop

Software Shop

- Free software for students
- Microsoft Office 365
- Discounted software for students
- Free software for staff
- Discounted software for staff
- Pay for software
- Use software licences
- Register for a download in the Software Shop
- Send a licence form and payment
- Contact the ICT Shop
- FAQ: Software
- Hardware Shop

Home / Administration and support services / Information and Communication Technologies / Shop / Software Shop

Software Shop

We offer a variety of general and subject specific software programs and packages for free to both students and staff. Some of the software we offer, while not free, is available to you as a member of College at a discounted price.

Once you have completed College's [online registration process](#), you can download and install [Microsoft Office 365](#) software for free. We plan to roll out this offer to staff in Autumn 2015.

How do I...?

Students

- [Get free software for students](#)
- [Download free Microsoft Office 365 software for students](#)
- [Get discounted software for students](#)

Staff

- [Get free software for staff](#)

I want to...

- [Register for a download in the Software Shop](#)
- [Send a licence form and payment](#)

I need help

- [Contact the ICT Shop](#)
- [FAQ: Software](#)



<http://www.imperial.ac.uk/admin-services/ict/shop/>

software
hardware



New mission to detect Marsquakes is back on track, says Imperial expert



Surgical procedure for aortic aneurysm associated with long-term mortality risk

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Information and Communication Technologies

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Training and resources

Resources and services

- Laptop surgery
- Gartner IT strategy resources
- Survey software (Qualtrics)
- Microsoft Office 365
- Free software for staff
- Discounted software for staff
- Free software for students
- Discounted software for students
- Run programs overnight (HTCondor)
- lynda-com
- ICT training

Home / Administration and support services / Information and Communication Technologies / Training and resources / Resources and services

Resources and services



Free for all College members

- Laptop Surgery
- Gartner IT strategy resources
- Qualtrics
- lynda.com
- Microsoft Office 365



Resources for staff

- Free software programs and packages
- Discounted software programs and packages



Resources for students

- Free software programs and packages
- Discounted software programs and packages
- Run programs overnight (HTCondor)

Free Microsoft Office 365

You can use your College credentials to get Microsoft Office 365 software for free.

Office 365

Microsoft

Best practice & common needs

Linux Servers

- Recent effort to upgrade software / standardise (increase /home)
- /home directory for **high value files** only (backed up)
- /group (etc.) directories for data storage / backups / etc..
- common paths / environments (watch out for spathelp emails)

Office 365

Remote working

Exchanging / transferring large files

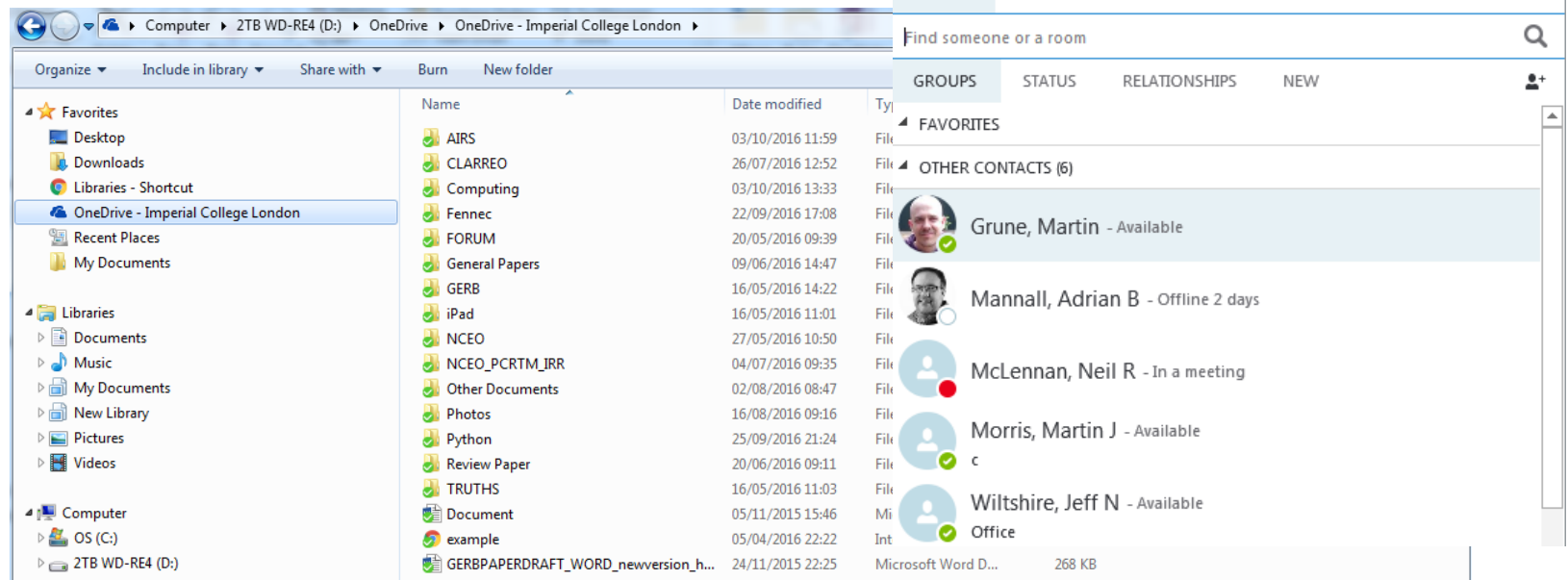
Webpages

Training Courses

Help spathelp

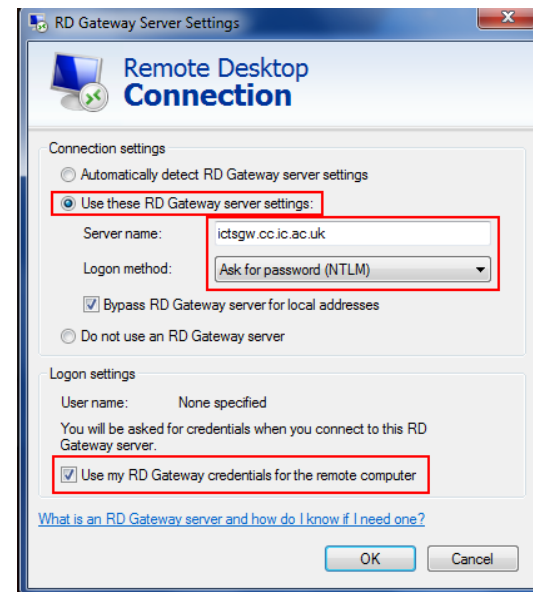
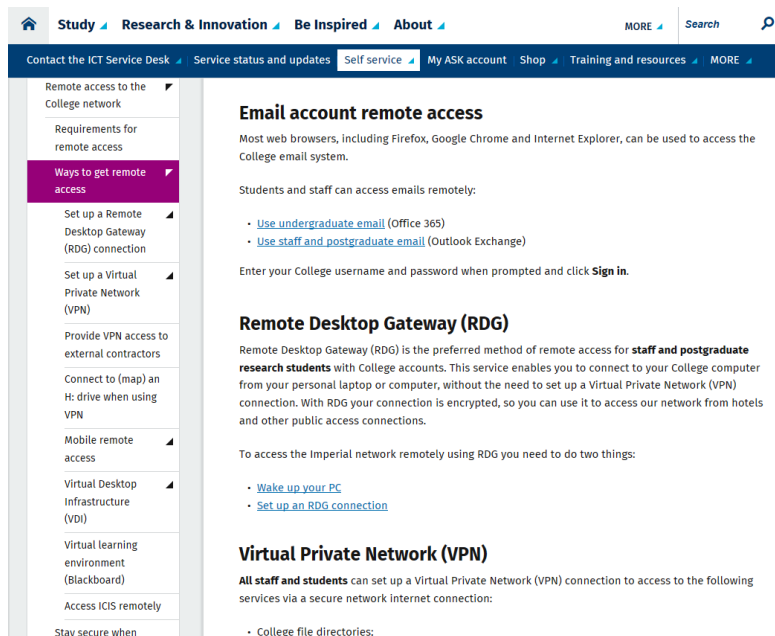
Office 365 – Emails and applications

- Email access via web interface / Outlook
- Onedrive for business
- Skype for Business
- Personal installation of Office (5+5)



Remote Access to College Systems / PCs

1. Access to SPAT Linux servers – restricted to those which are accessible through the College firewall via SSH (**Port 22**). Otherwise, accessible using the College VPN service, or via your desktop PC using Remote Desktop connection.
 - spat-nas.sp.ph.ic.ac.uk accessible through College firewall
2. Windows Desktop PC – Access through College RDG (or via VPN)



[Home](#) [Login](#)

If you are a member of Imperial College, you may login here:

Login

Avoid having to verify your email address,
and drop-off files to non-Imperial users.

Anyone may perform the following activities:

Drop-off


 Drop-off (*upload*) a file for a member of Imperial College (**email verification required**).

Pick-up

 Pick-up (*download*) a file dropped-off for you.

Save it once, see it everywhere.

Access your documents securely from anywhere with Box for Android, iOS, Windows, or Blackberry.



- Current limit 2GB
- I can temporarily enable larger transfer via http or https / (password protected)
- Onedrive / Dropbox
- Box 'unlimited storage'
 - Team folders
- "nCrypted Cloud"

Webpages

1. “**Personal**” Webpage on local SPAT server:

http://www.sp.ph.ic.ac.uk/computing/setting_up_my_personal_webpage.html

2. **Professional** Webpage (PWP) on College Webservers:

Professional Web Pages (PWPs) provide an Imperial College London standard for displaying online content about your research, publications and measures of esteem. Most of the content on your webpage is fed from College systems such as Symplectic Elements. Other content can be supplemented by you using the content editor.


<http://www.imperial.ac.uk/admin-services/ict/self-service/research-support/research-support-systems/pwp/>

(Re-vamp of webpages have lead to very long links!)

Useful webpages &

← → ↻ ↗ ⓘ www.sp.ph.ic.ac.uk/computing/

Imperial College
London



[Group computing home](#)

Space & Atmospheric Physics

Group Specific Computing Information

Last updated: 05th Aug 2016

You are in: [Group computing home](#)

Hardware

[Sun SOLARIS workstations](#)

The information contained in these local webpages are designed to help you understand what local computing facilities we have, how to access them and also what software is available as a member of the [SPAT Physics](#) Group.

Please remember - the main onus is on **you** to use your initiative to find out what is available. Some SPAT specific information can be found on these webpages, but you are therefore strongly advised to seek help in the order of:

1. Use your own initiative and search for answers:
 - Asking your office mates and colleagues for help
 - Searching on <http://www.google.co.uk>
2. Information and Communications Technology (ICT) helpdesk:
 - Telephone (internal) 49000
 - Email service.desk@imperial.ac.uk
 - Webpage <http://www.imperial.ac.uk/ict> ** **VERY** USEFUL
3. SPAT computing co-ordinator (Rich)
 - Email spathelp@imperial.ac.uk
 - Open Office: Fridays 2 - 5.30pm

3 main mailing Lists for SPAT

spat@imperial.ac.uk
atmos@imperial.ac.uk
space@imperial.ac.uk

To visit the [Imperial College ICT webpages](#) for most of your general computing needs, which includes software that is available to members of Imperial College.

Information from ICT about working from home can be found [here](#).
Information about computing webpages can be found [here](#).
SPAT Help's Brief Intro 13-Oct-2014 is [here](#).

The most commonly enquired about software packages are:

- OpenText eXceed (X Windows software, previously known as Hummingbird eXceed)
- Exelis VIS IDL
- Mathworks MATLAB
- Microsoft Office (Word, Excel, Powerpoint, etc.)
- Microsoft Windows Operating Systems (Windows 7, 8 upgrades)
- Symantec Endpoint (Antivirus)

NB: Microsoft Visual Studio ** No longer covered by the Microsoft Campus Agreement **

At present, **only** the eXceed and IDL software are distributed via SPAT (email spathelp@imperial.ac.uk), the remaining software should be obtained directly from the [ICT Software Shop](#).

FAQs

- [Getting help](#)
- [Accessing Sun Workstations](#)
- [Accessing Linux Servers](#)
- [Linux filesystems /net/hostname](#)
- [How much disk space am I using?](#)
- [Setting up my personal webpage](#)
- [Computing equipment purchase](#)
- [Computing equipment disposal](#)

SITE INFO

These pages are maintained by
"spathelp"
Email: spathelp@imperial.ac.uk

Training courses

Continuing professional development

Short courses ▲ Upcoming courses Useful information ▲ Blackboard About us ▲ Contact us ▲

Cutting edge courses for professionals working in science, technology and medicine.

TOP LINKS

[Upcoming courses](#)

[Useful information](#)

[Contact us](#)

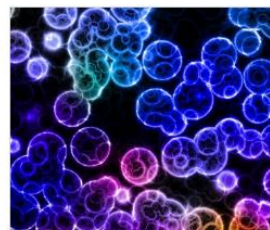


Medical and healthcare

2 of 6



Upcoming courses / All



EVENT TRAINING COURSE

17 October 2016, 09:00 – 17:00

Science and Evidence in Paediatric Practice

St Marys Campus



EVENT TRAINING COURSE

26 October 2016, 09:00 – 17:00

Linux for HPC Beginners

South Kensington Campus



EVENT TRAINING COURSE

14 November 2016, 09:00 – 17:00

Food Allergy

St Marys Campus

15 November 2016, 09:00 – 17:00

Training Course **Power minimisation in Low-Noise High-speed Analog ICs**

16 November 2016, 09:00 – 17:00

Training Course **Allergic Gastrointestinal Disease**

21 November 2016, 09:00 – 17:00

Training Course **Metals and Energy Finance**

05 December 2016, 09:00 – 17:00

Training Course **Paediatric allergy - basic introduction**

Suggestions / new technologies / software

If you've discovered any old/existing/new technologies/software that may be of wider benefit to the Group let me know!

Email: spathelp@imperial.ac.uk