

Welcome to TCM

Michaelmas 2024

The following notes are intended to provide a useful overview of life in TCM for newcomers to the Group.

Cambridge offers an ideal environment for engaging with a wide range of intellectual pursuits. A broad range of condensed matter research occurs within TCM itself, and the Group enjoys many collaborations with theoreticians and experimentalists elsewhere in Cambridge and across the world. Many of our “alumni”, including graduate students, post-docs and staff, continue to stay in contact with us long after they have left the Group. We hope that you too will find your time in TCM to be pleasurable and productive.

Claudio Castelnovo

General

Much of the information about the Group, both practical and historical, can be found on its website, <http://www.tcm.phy.cam.ac.uk>, part of which is public, part is private to Cambridge, and a very small part more restricted. A current [electronic copy](#) of this guide, with clickable links, can also be found on our intranet site.

Those maintaining the website are open to new ideas and especially offers of assistance.

The TCM web site as an important tool for informing our many members (including visitors) of our research interests and ongoing activities, as well as a forum for advertising ourselves as a Group collectively, and as individuals within it, to the wider world. You are strongly encouraged to complete a concise standardised [web profile](#) page to enable fellow members of the Group to be aware of our research activities. This can link to a personal webpage too, whether that page be hosted in TCM or elsewhere.

For those TCM members and alumni who are enthusiastic about LinkedIn, we recently created a [members and alumni group](#) there.

Socialising

Talking to other people is important; some of the best science in the Group has arisen out of chance conversations over coffee!

The social hub of TCM is its coffee area, which also contains a small selection of paper journals. Subsidised coffee (and tea) can be paid for via a tick-off credit sheet, or in cash in the cash tin. If you are not already on the list, just append your name to the end of the paper list and it will be added in the next round.

TCM organises a small number of social events each year: a Welcome party, a Christmas party, and sometimes a Summer punt or garden party. There are also occasional pub trips, popular enough for the teetotallers to attend. We are also very receptive to new ideas from any member of the Group, as long as they are inclusive, and the Head of the Group has a small fund to assist in promoting such events.

Academic and social events alike, as well as some job opportunities, get advertised on the Group’s email list, tcm-users@tcm.phy. All can post to this list. Since this list contains (by choice) many who have moved on from TCM, do please exercise a degree of restraint. Notably, a shorter list, resident@tcm.phy, reaches (approximately) all of those who have offices in TCM. More detail on subscribing and unsubscribing to our email lists can be found on our [email lists webpage](#).

Regular Group Events

Every Friday at 16:30 drinks and snacks appear in the coffee area (or outside in fine weather) providing an opportunity to socialise and celebrate the arrival of the weekend.

The main Group Seminar is held on Thursday at 14:00 during term time. Speakers are encouraged to deliver talks that can accommodate the wide range of research interests within Condensed Matter theory. Members of the Group are strongly encouraged to attend these seminars and, if at all possible, not to arrange appointments which routinely clash.

There are also several, smaller, more focused and informal Discussion Groups that the TCM group organises or contributes to. These include the [Collective Phenomenon Group Meeting](#), the [Lennard-Jones Centre](#) for materials and molecular modelling, and the [Theory of Living Matter](#) group. More details can be found under the Events menu item on <https://www.tcm.phy.cam.ac.uk/>.

For many years the PhD students have also run a [Journal club](#) on Wednesday afternoons.

Other Groups, and Departments, organise seminars too of course, and most are open to all. The website talks.cam.ac.uk is a good starting-point to find out what's on.

Lectures etc

TCM organises a series of [graduate lectures](#). These lectures are generally targeted at first year PhD students, but again all are welcome to attend.

Many other lectures are available, including those associated with the [MPhil in Scientific Computing](#), and numerous Part II and Part III (3rd and 4th year undergraduate) courses in Mathematics and Physics. There are also plenty of courses given, particularly on Computing and also modern languages, which are free to attend.

TCM's Seminar Room is well-supplied with little-used [cameras](#). This is partly so that anyone who feels that a little self-isolation might be appropriate can encourage the speaker to plug one in, and thereby not miss out.

The Cambridge Philosophical Society

This august body serves two main purposes. First, it offers small grants to over-running PhD students *who have been members of it for at least a year*. An insurance policy, costing £20 p.a., that no-one in TCM should need, but. . .

Second, it organises a small number of [free evening talks](#) each Term given by eminent scientists. These are very informative and entertaining, and are presented at a level that is comprehensible to any scientist, not just a specialist in the field.

Administration, Access and Safety

Local administrative support is provided by a team that forms the Mott Hub, based in room 419 on the first floor of the Mott building. There is also a central departmental administration team based in the Bragg Building.

There is a [Stores](#) on the ground floor of the Bragg building. It contains various items of stationery and other consumables which can be signed out. Please be mindful that the Group is charged for items signed out, and restrict your 'purchases' to those things you need for your research.

The Cavendish is formally open from 08:00 to 18:00, Monday to Friday, excluding the Christmas and Easter closure periods. (Note that the opening hours for Stores are more restricted.) From Summer 2019 all access to the Mott Building has been by entercard. This means that one must arrange to meet one's visitors, possibly at the Reception in the Bragg Building, as the Mott Building itself has no reception.

At all times, not just outside the above open hours, your presence should be logged on the [electronic out of hours register](#), either via the terminals at (some) doors, or by web access. This may sound tedious, but we are assured that this list is considered as definitive in the event of a fire! Entercards can be provided via the Hub administration, provided that one has

attended a safety course.

The lift must not be used when the fire alarm is sounding, and it should not be used for transporting people out of hours, as rescue arrangements are likely to be slow. It is possible to place goods in the lift, and then summon it to the required floor.

Fire alarms, and the automatic fire doors, are tested early on Monday mornings. All should be familiar with at least two different exit routes from their office. More health and safety information can be found on the [Health & Safety Pages](#) of the Departmental website. The Departmental Safety Officer is Saba Alai.

Mail

Incoming mail ends up in the pigeonholes outside room 546. If you are expecting something urgent, you may wish to check the TCM pigeonhole outside Stores directly, where some incoming mail is staged.

Larger items result in emails from Stores to arrange collection or delivery.

Outgoing mail is sent via the Hub or Reception. UK mail is sent second class unless otherwise specified (and there should be a good reason for doing so), and should always have a return address stamped on the back of the envelope. University mail should have 'UMS' written in the top right where the stamp would otherwise be placed. It is collected from Physics daily, generally between 10am and 11am. Personal mail, correctly stamped, may be posted into the 'private' Royal Mail postbox which is between the two double-doors leading to the main Cavendish Reception from which collection is mid-afternoon. There is a Post Office in the West Hub from which stamps may be purchased.

Food

The Cavendish Canteen has closed permanently. Canteens on this site which are open to all include [West Café](#) in the Hauser Forum and the [West Hub](#). For opening times, check online.

There are also vending machines in the foyer outside the main Physics lecture theatres, and in the old Cavendish Canteen.

TCM operates a coffee (and tea) system providing self-service fresh hot beverages at below cost price. There is a short demonstration at the start of each academic year on how to use the coffee machine safely, and it is cleaned by a rota of PhD students. Issues with the machine should be reported to Claudio Castelnovo. Please do your best to maintain this facility by regularly returning and cleaning coffee cups.

The fridge in the coffee area is intended for the storage of milk for the coffee system only. There is a second fridge by the lift which is available for people to store small amounts of food, such as lunches. There is also a microwave by the lift. *Do not* use the microwave unattended: it has triggered many fire alarms, and evacuating the building is expensive and disruptive. . .

Offices & Office Equipment

Room 545 is a small meeting room. It is usually free, but is bookable via the paper sheet on its door. It is intended, in part, to assist those suffering multi-occupancy offices to have discussions with others.

Some items of basic stationery are kept in the stationery cupboard by the lift. The Hub office should also keep some more precious items such as whiteboard pens. Other items should be signed out of Stores. But please don't be frivolous as the Group has to pay for those items.

There is a colour photocopier, which also scans to USB stick or email, in room 523.

Laser printers are found in the coffee area and room 523. Spare toner should be underneath them, and one is welcome to replace toner cartridges as necessary. Old cartridges should be returned to Stores for recycling. A poster printer also exists in room 523.

A store of paper for printers and photocopiers exists in the wooden cupboard by room 535, and maybe closer to the printers too. Its ultimate source is Stores, which keeps shorter hours than many people in TCM. Staplers exist above this cupboard. Discarded staples should be discarded into bins, not into the mechanism of printers.

All offices contain a telephone, though many are disabled. Calls to University numbers are free, and to standard land-based numbers in the UK, EU and US fairly cheap. Some phones will be restricted as far as making external calls is concerned. Voicemail is available only if a phone is registered to a single person. If this is the case, its display will show that person's name, and not a generic 'room 549.'

Bins exist in all offices for waste. Waste is recycled, but food waste should be put in the bin under the coffee machine, batteries in the bins by Stores, and electrical waste (including simply leads) disposed of via Stores or the Computer Officer.

Computing

Computing in TCM is distinct from the lab-provided service, and requests for support should be directed at support@tcm.phy.cam.ac.uk, not the Physics IT support address. Keen, technologically able, PhD students may wish to join the team behind support@tcm.

Very little support is provided for personal laptops, etc. – the Group simply supports a number of Linux desktops, several larger machines, and associated printers, file servers and a webserver. The Group is trying to negotiate an arrangement where contributions can be made towards laptops. For current arrangements, please consult with your supervisor or equivalent.

Laptops are supported with wireless, access to printers, and desktop monitors which have spare VGA or HDMI sockets. (The desktops all use DVI for their connections to the monitors. It is best if these leads are not unplugged.)

Desktops are used remotely by people running calculations: they are not personal machines.

The University outsources mail provision to Microsoft. One should note that its spam filter is very intolerant of emails coming from outside Microsoft, including from people in Cambridge (and TCM) who refuse to use it. So do check your spam folder daily...

The UIS is responsible for Raven, a web-based sign-on system which will give you access to many resources, including many scientific journals. Many of you will also use a variety of Cambridge and national supercomputer centres.

Computing in TCM is described in more detail on its [intranet site](#) and in the [Introduction to Computing in TCM](#) booklet.

Research and Publishing

TCM has a library of theses, located outside 537, and with an [online signout system](#).

It also has a library of scientific books distributed amongst various shelves and offices. There is an incomplete [online catalogue](#).

The Cavendish contains the Rayleigh Library; the Centre for Mathematical Sciences has the [Betty and Gordon Moore Library](#) which contains most scientific periodicals and the University Library's working collections in the physical sciences, engineering and mathematics. The main [University Library](#) (UL) is quite extensive, has a nice tea-room, but rarely worth visiting for research purposes. Most on-line journals can be accessed either directly from a Cambridge computer, or [after authentication by Raven](#). The UL maintains a [list](#) of them.

Staff and members of the University should be entitled to access to the BGM and University libraries. Others may need extra forms presenting.

When publishing, please always include TCM and Cavendish Laboratory in your address. If you have no account on the University's publication database, Symplectic, and you have no TCM co-author who does either, please let your host or the Head of Group know of your publications from work done whilst in TCM. This mostly applies to sabbatical visitors.

There are also conditions on Open Access if you, as any author on a paper, are either REF-eligible¹ or RCUK-funded² (including those holding EPSRC studentships). The rules for this are complex, and keep changing. In some cases it is necessary to pay extra charges so that the journal publishes in a suitable fashion, and fortunately there is a central University fund, provided by RCUK, for meeting these charges. The practical message is that after receiving final acceptance of a

¹Are an independent researcher funded by the University or its Colleges: approximately JRF, SRA or UTO, but not a PostDoc or student

²RCUK = UK Research Councils, such as EPSRC

paper, but before agreeing to any particular sort of Open Access (terms such as ‘green’ and ‘gold’ are often used) or signing a copyright transfer form, one should contact the University’s Open Access team by uploading the accepted version via www.openaccess.cam.ac.uk. One can expect a response well within a week. If RCUK-funded, the paper must also carry an acknowledgements section which acknowledges the grants by grant number. (Visitors, i.e. those not funded through the University or its Colleges, do not need to worry about this.)

If presenting a poster at a conference, please consider printing out a fresh copy on your return in order to decorate the corridors of the Group.

When submitting a corrected thesis, the University Library requires that a hard-bound copy is presented to it. It is expected that you will also wish to leave a hardcopy with TCM for its [paper thesis library](#). TCM will pay for its copy, and the Department will pay for the UL copy. Please talk with the Hub regarding the means of reimbursement (currently the University copy is reimbursed through the Graduate Office and the TCM copy through the Hub, and separate receipts might be required).

Teaching

The Department will encourage you to participate in various teaching/demonstrating duties in return for small amounts of money. This is certainly good experience. Colleges will also be seeking supervisors to give the standard IA and IB undergraduate supervisions in Physics and Maths for Natural Sciences. These are better paid, but more intellectually challenging (in general). There is no absolute requirement to participate in either, and certainly no requirement for theoreticians to demonstrate practicals of which they have no understanding!

The Cavendish has a small number of bookable supervision rooms, bookable via the Hub administration. It may be possible to use the TCM Seminar Room, or room 545, for supervisions too, but this is not their primary purpose. (Note that, even if booked, you run the risk of being displaced by more urgent needs!) With the consent of your colleagues, it may be possible to use your office, but generally these are not suitable, save for the single-occupancy offices of staff members.

One should not teach to excess. Four hours of supervisions a week, or six of demonstrating, are generally plenty, and students should inform their supervisors how much they are doing.

PhD Students

In addition to having an academic Supervisor, all PhD students have a named academic ‘Adviser’ (formerly called ‘second supervisor’) appointed by the end of their first Term. The Adviser is always a TCM staff member. Students should aim to meet with their Adviser every six months or so with a view to discussing progress and future plans informally and in general terms, and thus gain the benefit of a second viewpoint.

Funds are available to support PhD students wishing to attend conferences and workshops, and to purchase books, software or equipment. Purchases of any significance, whether from Group funds or RTSG, must always be authorised by one’s Supervisor.

PhD students, and other members of the Group, should feel free to approach any staff member of the Group to discuss academic matters.

PhD students with pastoral concerns, including of bullying or harassment, should feel free to raise them with the Head of Group, or any other suitable staff member of the Group, alongside the usual channels of support in their College, or in the Department.

(TCM rarely hosts MPhil research students, so tends to refer to graduate students as PhD students, even though it almost always means PhD and MPhil students.)

Trades Unionism

One (ghost) author of this document cannot resist mentioning that the Trades Union which protects the interests of academic and research staff at UK universities, and is the sole representative body for employees on the board of the USS pension scheme, is the UCU. PhD students intending to stay in academia can currently join for free. More information at <http://www.ucu.cam.ac.uk/>. The UCU can offer advice and support on work-related matters to members. It cannot offer financial advice to anyone, nor advice about study-related matters to students.