

Welcome to CMS!

We are delighted that you have chosen to join our collaboration of dedicated students, physicists, engineers, technicians and support staff from nearly 60 countries on 6 continents. Although you may be focused on one particular aspect of CMS, over the coming months and years you will have opportunities to participate in all aspects of the experiment, including operating the detector, analysing data and contributing towards the detector upgrades. You will make presentations and may have the opportunity to co-author documents. Our aim is that you get as much from CMS as possible, whilst contributing to its excellent performance (and future!).

Where do I start?

We understand that the scale of CMS – the detector, collaboration and physics goals – can be intimidating to newcomers, and you may indeed be asking yourself “where do I start?” Rest assured that despite its size, information is at hand in order to help you integrate into the collaboration and start playing your part quickly and efficiently. A good place to start is the internal CMS Web Site – <https://cms-info.web.cern.ch>, which will be accessible as soon as your CMS registration is completed. In particular, there is a section devoted to [newcomers](#). Here you will find useful links to the [Secretariat](#) (for administrative procedures and much more), the [CMS Induction Course](#) (to learn all about the detector and the collaboration – slides/recordings of previous courses can be downloaded from indico), and resources such as an introduction to the [offline analysis tools](#). You will also find a link to the [CMS Code of Conduct](#), which summarises our commitment as a collaboration to being professional and inclusive in all regards. The [CMS Constitution](#) is the document that governs our collaboration. As the collaboration evolves, so do these documents, to reflect changes in organization and governance.

How do I learn about CMS, the detector, the collaboration, the software tools, procedures etc.?

CMS recently celebrated its 30th anniversary and, as part of the celebrations, a half-day [symposium](#) (you need to scroll down to Tuesday afternoon!) was held, covering the history, current status and future of CMS. This is an excellent overview, and the linked [video](#) has nice interviews with some of the founders of CMS.

There are a variety of trainings available, including [safety courses](#) (some of which are mandatory, especially for working at the CMS site or in other labs around CERN), technical training courses (software, firmware, hardware), [CMS-organized schools](#) (such as the regular Data Analysis Schools) and [collaborative, managerial and leadership](#) trainings offered by CMS. Helping to operate the CMS detector is an important part of being a collaborator, and training to become one of the people who look after CMS (Shift Leader, DAQ Shifter, Technical Shifter, DQM Shifter, Trigger Shifter) is [available to everyone](#). You may also develop your expertise in one of the CMS sub-systems (e.g. sub-detectors, trigger system, offline & computing etc.), which is both challenging and fulfilling. Again, training for these things is always available – just contact the appropriate System Manager for details.

Will I be able to see the CMS detector?

Hopefully! It is always impressive to see the detector, and can help put into context the operations, upgrades and analysis, but during LHC operations it is not possible to enter the CMS experimental cavern (UXC55). During the year-end technical stops (YETS, normally between December-March), when the LHC is not running, access to UXC55 is possible. There may be other periods during the year when visits are possible – LHC week-long stops are sometimes a possibility. If you become responsible for part of the detector hardware you may necessarily need to access the UXC55 for repairs/maintenance. Depending on exactly when you visit, CMS may be in its “open” or “closed” configuration. In its “closed” configuration the magnet is normally on, so there are restrictions on what can be taken into the cavern (no pacemakers, ferromagnetic tools, credit cards etc.; phones work ok!).

Note that the “service cavern” (USC55), which houses the off-detector readout/control, safety and powering systems for the detector, can always be visited, even during LHC operation.

The Induction Course for newcomers always features a visit to the experimental site, with a tour of USC55 and, when possible, UXC55. Your supervisor should be able to help organize a visit to CMS when possible.

How will my work be recognized?

There are many mechanisms in CMS to recognize your valuable contributions to all aspects of the experiment and collaboration. You will have many occasions to present your work directly, in group/project meetings inside CMS. And, should the work be sufficiently mature for wider dissemination, you may be selected to present it at a national or international conference. The CMS [CINCO tool](#) keeps track of all talks at these conferences. As your experience and knowledge grows, you may be selected to lead teams of various sizes, either at your institute or at a national or international level. This will require managerial and leadership qualities, as well as technical understanding, and training for such roles is available, as mentioned above.

If you work predominantly for one of the sub-system projects (operations and/or upgrades) you may co-author system-specific technical papers from day one. To become [a co-author of the physics-analysis papers](#) produced by the CMS Collaboration you will need to be a CMS member for at least a year and should participate to the operations/upgrades activities that are crucial to the continued excellent performance of the detector, through the “[Experimental Physics Responsibilities](#)” (EPR) mechanism. The initial amount of EPR required to become an author will also enable you to become familiar with many aspects of CMS, which will certainly help you to understand how the detector works and will contribute to your understanding of the data. Maintaining authorship requires a continuous participation to these maintenance and operation activities, which also helps you keep up to date with the evolution of CMS.

You may also wish to participate in activities of the [CMS Communications Team](#), including being a CMS guide for [public, school and VIP visits](#) (an excellent way to become more familiar with the detector and its history), by writing your own [blogs](#), or making [videos](#) outlining your work. You may also wish to take part in “[Masterclasses](#)” for high-school students to analyze CMS data – a great opportunity to teach and inspire the next generations! Suggestions for new content and initiatives are always welcome!

Who can I turn to for help?

Your first point of contact should be your primary supervisor at your main institution (university, national lab or CERN). It is your joint responsibility to have regular contact with your supervisor, as frequently as needed. Your supervisor should be approachable and take an active interest in your research, as well as your professional and personal development, and demonstrate that they care about your welfare. Additionally, they should help with project management (e.g., by setting clear, realistic goals and deadlines) to ensure you complete a healthy amount of work within your funding period. They should be proactive and be able to help you for most topics but are of course not expected to know everything, so may sometimes suggest, or put you in touch with, experts for further help so they can also learn new topics with you. They should also keep you informed of networking events, job advertisements and introduce you to members of their professional network to enable you to access as many opportunities as possible. Each institute also has a Team Leader, who serves as the formal link between your institute group and CMS: you can always turn to the Team Leader for help when needed.

Your peers in the CMS group in which you will be working should also be happy to help, as should the conveners, coordinators and managers of these groups. You can also get help and advice from CMS bodies such as the [Career Committee](#) or the [Young Scientists Committee](#). The Young Scientists Committee also organises events and initiatives to help newcomers, including their Job Matching Events and Newcomers’ Tours, where you can be shown around the areas of the CERN site that you will need on a day-to-day basis.

You may wish to participate in one of the mentoring schemes available to CMS collaborators, such as the [LHC Early Career Mentoring Program](#), or the [Women in Technology Mentorship Program](#). A CMS-specific mentoring scheme is currently under development, to help you navigate through the particulars of the CMS collaboration. In case of issues, in addition to the people mentioned above you may wish to turn to the [CMS Diversity & Inclusion Office](#), or to the [CMS Collaboration Board](#) team, who will be happy to talk, to try to help resolve problems. The D&I office also has an Anonymous Message Box for any ideas, concerns etc. that you may wish to express confidentially to the D&I chairs. Many institutes, including CERN, has an “Ombuds”, who can offer impartial help/advice and, if requested, mediation in issues. All institutes, including CERN, have a Medical Service, many of which include psychologists, who can also help in particular cases.





Communication

There are multiple online communication methods used in CMS for announcements and discussions, including [CMS News](#), [Mattermost](#), [CMS Talk](#) and, of course, email through e-groups. The CERN [Indico](#) system is used to organize meetings and archive talks (including recordings). Talking to people is absolutely key to getting the most out of your time with CMS, not only with your peers and immediate hierarchy in group/project work and meetings, but with other members of the collaboration in formal or informal settings. Most CMS meetings are open to the whole collaboration, and of particular interest may be the [CMS Weekly General Meeting](#), at which the Spokesperson team updates everyone on the status of the detector, analyses and collaboration, and the meetings of the [Collaboration Board](#), the governing body of the CMS collaboration. During [CMS Weeks](#), normally following the [opening plenary](#), there is an informal “CMS Chat” open to the whole collaboration to discuss any topic, over a drink and a snack, with the Spokesperson and Collaboration Board Chair teams, as well as the sub-system managers and coordinators.

Next Steps

The above is just a taster of the opportunities and information available to you, as a CMS member. The more you put into the collaboration, the more you will get out of it. There are countless possibilities for you to evolve as a member of our collaboration and we wish you every success. Take part!

<p>CMS internal web site https://cms-info.web.cern.ch</p>		<p>CMS internal web site, page for newcomers https://cms-info.web.cern.ch/cms-collaboration/newcomers/</p>	
<p>CMS Secretariat pages https://cms-secretariat.web.cern.ch/</p>		<p>CMS Induction courses https://indico.cern.ch/category/14397/</p>	
<p>CMS Online Software Tools https://twiki.cern.ch/twiki/bin/view/CMSPublic/WorkBook</p>		<p>CMS Code of Conduct https://cms-docdb.cern.ch/cgi-bin/DocDB/ShowDocument?docid=13847</p>	
<p>CMS Constitution https://cms-docdb.cern.ch/cgi-bin/DocDB/ShowDocument?docid=3035</p>		<p>CMS Safety https://cmssafety.web.cern.ch/</p>	
<p>CMS Schools https://cms-info.web.cern.ch/management/schools-committee/</p>		<p>CMS Management & Leadership Training https://indico.cern.ch/category/16072/</p>	
<p>CMS Shift Training etc. https://cms-info.web.cern.ch/coordination/run-coordination-rc/</p>		<p>CMS CINCO (for conferences) https://cms-mgt-conferences.web.cern.ch/conferences/conf_listing.aspx</p>	
<p>CMS publications (papers) http://cms-results.web.cern.ch/cms-results/public-results/publications/index.html</p>		<p>CMS Experimental Physics Responsibilities (EPR) https://cms-docdb.cern.ch/cgi-bin/DocDB/ShowDocument?docid=14257</p>	
<p>CMS Communications https://cms-info.web.cern.ch/cms-internal/communications/</p>		<p>CMS visits https://cms.cern/node/2111</p>	
<p>CMS Career Committee https://cms-info.web.cern.ch/management/career-committee/</p>		<p>CMS Young Scientists Committee https://cms-info.web.cern.ch/management/young-scientists-committee/</p>	
<p>LHC Mentoring https://lhc-mentoring.web.cern.ch/</p>		<p>WIT Mentoring https://wit-hub.web.cern.ch/</p>	
<p>CMS Diversity & Inclusion https://twiki.cern.ch/twiki/bin/view/CMSPublic/CMSDiversityOffice</p>		<p>CMS Collaboration Board https://cms-info.web.cern.ch/management/collaboration-board/</p>	
<p>CMS News https://cms-info.web.cern.ch/cms-news/</p>		<p>Mattermost https://mattermost.web.cern.ch/cms-exp/</p>	

<p align="center">CMS Talk https://cms-talk.web.cern.ch/</p>		<p align="center">CMS Indico Category https://indico.cern.ch/category/6803</p>	
<p align="center">CMS Weekly General Meeting https://indico.cern.ch/category/677</p>		<p align="center">CMS Weeks https://indico.cern.ch/category/154</p>	
<p align="center">CMS Week Plenary https://indico.cern.ch/event/118006/5/timetable/</p>	