

A photograph of two male scientists in a laboratory setting. They are both wearing dark safety goggles and purple long-sleeved shirts. They are focused on a piece of scientific equipment, which appears to be a scanning electron microscope (SEM) or a similar high-magnification instrument. The scientist on the right is adjusting a component of the machine. In the foreground, a computer monitor displays a blue and white image, likely a microscopic view. The background shows a typical lab environment with glass partitions and various equipment.

Welcome to IMM!

An Introductory Guide for
new IMM Members

**Institute for
Molecules and Materials**
Radboud University



1. Preface

Welcome to the Institute for Molecules and Materials (IMM) at Radboud University in Nijmegen. This guide provides information about our institute and its research facilities. And we give you an introduction in academic integrity, research data management, the graduate school for molecules and materials and scientific and non-scientific IMM activities.

We wish you a pleasant time at the IMM and good luck with your research.



Floris Rutjes
Director IMM



Ralph Jaspers
Managing Director IMM

2. About IMM

The Institute for Molecules and Materials (IMM) is the largest research institute within the Faculty of Science, comprising about half of the physics groups and all of the chemistry groups at Radboud University. IMM consists of 22 research groups with approximately 65 tenured staff members and 120 PhD candidates. The institute has an annual budget of €25 million, of which roughly 65% is obtained from research grants and contract research. About 30 PhD candidates graduate each year. The large research facilities High Field Magnet Laboratory (HFML) and Free Electron Lasers for Infrared Experiments (FELIX) Laboratory are scientifically embedded within IMM.

Mission and objectives

IMM is an interdisciplinary research institute for chemistry and physics at Radboud University. Our mission is to perform fundamental research to understand, design and control the functioning of molecules and materials at the highest international standards. Our institute is a centre of excellence that trains the next generation of leaders in science and entrepreneurship. We actively explore and promote the interaction with business and industry for the application of our fundamental research..

Research at IMM is focused on three closely connected themes, supported by the unique research facilities:

1. *Structure and Dynamics of Molecules*, this theme focuses on the constellation and motion of the atoms within molecules, molecular complexes, molecular and atomic collisions, and even chemical reactions.
2. *Chemistry of Complex Systems*, this theme involves the design, synthesis and characterisation of molecules and molecular assemblies in order to elucidate structure and function of natural systems.
3. *Spectroscopy of Quantum Materials*, this theme focuses on the study of properties of matter dominated by interactions between quantum particles, quantum coherence and quantum correlations and topology.

With its unique infrastructure and expertise, the institute is ideally positioned to answer some of the most pressing questions in the areas described above. IMM therefore aims to act as a key player in these fields. IMM actively promotes the scientific interplay between researchers from different backgrounds with a specialisation in physics, chemistry and biochemistry, and it offers a multi-disciplinary research programme with strong interactions between the research groups.

Research facilities

The national and international position of the IMM is enhanced by the availability on the university campus of a number of large-scale experimental research facilities, including:

HFML-FELIX

HFML-FELIX builds and uses high field magnets and infrared/Terahertz free-electron lasers to create extreme conditions that drive matter into previously inaccessible states and phases. This allows us to:

- investigate the properties and functionality of molecules and materials
- realize fundamental scientific breakthroughs across a broad spectrum of disciplines
- tackle societal challenges in the areas of Health, Energy and Smart Materials.

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www.ru.nl/hfml-felix

Magnetic Resonance Research Center

The large-scale facility develops new techniques to optimize sensitivity and information content of NMR spectra and to apply these methods to target specific topics in materials research in terms of local structure and dynamics addressing structure/function relationships.

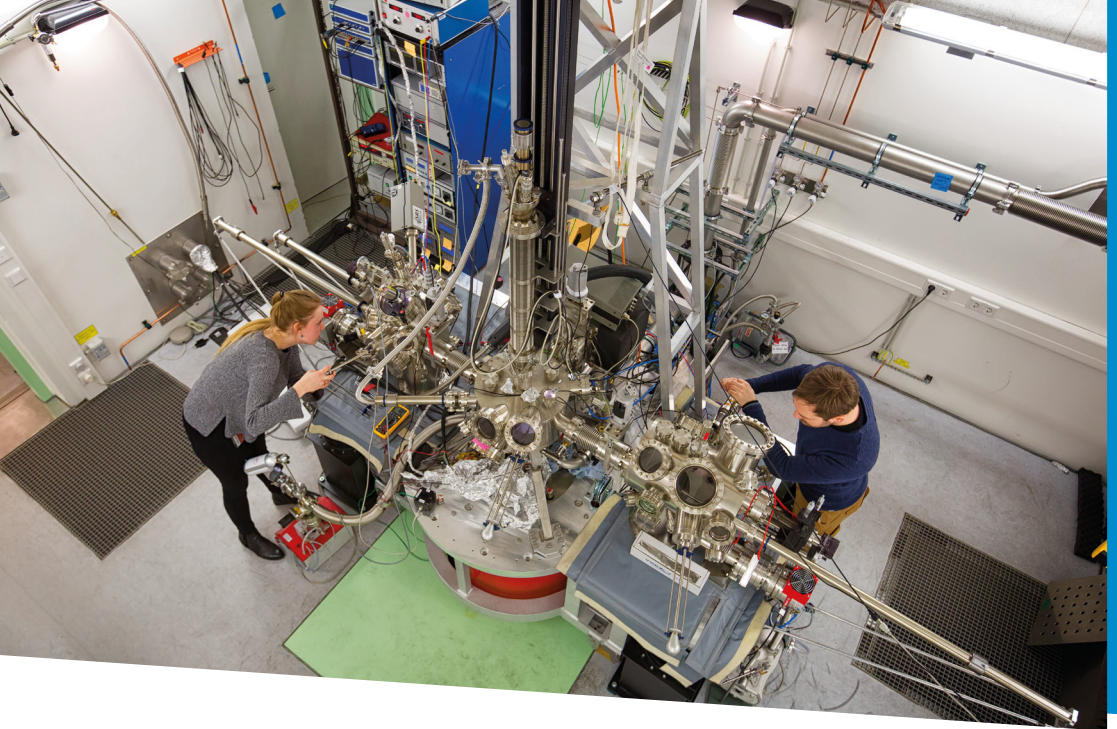
Contact person: Arno Kentgens

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www.ru.nl/science/magneticresonance





SPiN Lab

A Scanning Probe laboratory (SPiN Lab) with a wide range of Scanning Tunnelling Microscopy (STM) and Atomic Force Microscopy (AFM) techniques.

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Trace Gas Facility

A Trace Gas Facility for the application of laser diagnostics in biology and medicine.

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Other facilities

- A Solar Cell Research Facility with dedicated growth, processing and analysis equipment for solar cell research, including Clean Rooms and an Outdoor Calibration Facility.

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- A Thin Film Growth Laboratory, in which materials and thin films can be grown with atomic precision.

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- X-ray crystallography service facilities, with diffractometers for both single and powder X-ray diffraction.

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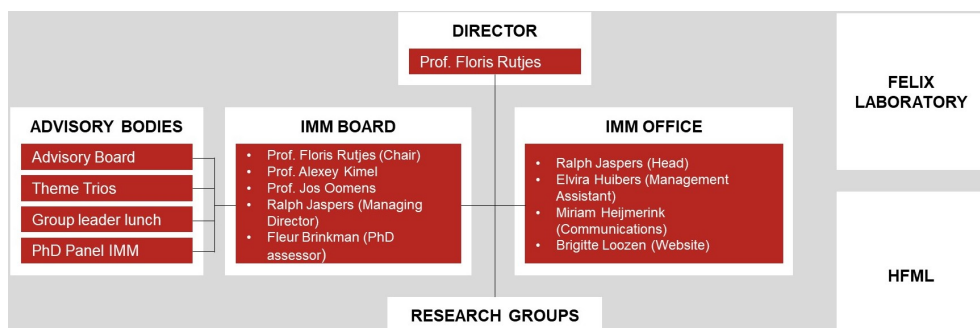
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A variety of equipment is available from the Faculty of Science's General Instrumentation (GI) service department, including light and electron microscopes, techniques for the analysis of single elements or amino acids, plate readers, etc. For more information on the GI, visit www.ru.nl/science/gi/.

Organisation

IMM Board and IMM Office

IMM is headed by a director and governed by a board consisting of the director, two IMM tenured scientific staff members and the managing director. A representative of the PhD candidates attends the weekly board meetings. The organogram shows the organisational structure of IMM and the institute's advisory boards. HFML and FELIX Laboratory are scientifically embedded within IMM. The IMM Office, headed by the managing director, handles all management affairs.



IMM Advisory Board

The Advisory Board advises the IMM Board, both on request and at its own initiative, with regard to the strategy, positioning, priorities and choices of themes and programmes in IMM's field of operations.

IMM Education Committee

The IMM Education Committee is the most important advisory board for all educational issues, such as PhD candidate training. This committee is responsible for education and consists of the managing director, three tenured scientific staff members and two PhD candidates. The committee typically meets three to four times per year.

PhD Coordinator

The IMM Managing Director also acts as PhD coordinator for IMM. For general and non-scientific questions about PhD tracks, please contact the IMM Office or the PhD Coordinator by e-mail at imm@ru.nl.

Activities for all IMM members

IMM organises several activities for its members, such as:

- A monthly colloquium during which a leading scientist presents his or her work. Each colloquium is preceded by a short presentation by one of the institute's PhD candidates.
- Monthly colloquia organised by each research theme with more detailed talks on topics related to this specific theme.
- The annual sIMMposium held every October. During this two-day scientific event we give the floor to our junior scientists (post-docs and PhD candidates) for oral and poster presentations.
- A New Year's reception, during which we present our annual Thesis Awards.



3. Academic Integrity

Accountability and responsibility are essential for academic integrity and we would like to draw your attention to the Dutch Research Code of Conduct. The Dutch code of conduct for academic and scientific practice was compiled at the request of the Association of Universities in the Netherlands (VSNU). It is based on the following principles:

1. **Honesty and scrupulousness:** academic practitioners are honest and forthright about their research and its applications. Scientific and scholarly activities are performed scrupulously and should remain unaffected by the pressure to achieve.
2. **Reliability:** every academic practitioner supports and strengthens the fundamental reliability of science and scholarship through their own conduct. Academic practitioners conduct and report on their research and transfer their knowledge through teaching and publishing in a reliable manner.
3. **Verifiability:** presented information is verifiable. Whenever research results are published, it is made clear what the data and conclusions are based on, from where they originate and how they can be verified.
4. **Impartiality:** in their scientific or scholarly activities, academic practitioners are led solely by academic interest, and they are always prepared to account for their actions.
5. **Independence:** academic practitioners operate in a context of academic freedom and independence. Where restriction of this freedom cannot be avoided, it is clearly stated.

You can find the complete Code of Conduct on the VSNU website (www.vsnul.nl), by searching for “code of conduct”.

Each year IMM offers a course on scientific integrity, which all IMM members may attend. If you would like to sign up for this course, please contact the IMM Office (imm@ru.nl).

The board aims to maintain a transparent organisational structure. Please do not hesitate to contact IMM's managing director or the IMM Office (imm@ru.nl). If you doubt the scientific integrity of co-workers, please contact IMM's managing director immediately.

4. Research Data Management at the IMM

Adequate management and storage of research data is essential for individual researchers, the scientific community and society. IMM produces a diverse set of data, ranging from the synthesis of molecules and materials, mechanical drawings and software, to state-of-the-art characterisation of material properties and molecular interactions. The policy of IMM for the production, storage and management of research data is outlined in the data management policy document.

People involved in research data management

- *IMM Director*: responsible for implementation of data management at the institute level.
- *Institute data coordinator*: responsible for implementation of data management policy throughout the institute and oversees the department data officers. The data steward is also the link between the institute and the university.
- *Department data officer*: the data officer is responsible for their department's data management. (S)he is appointed by the head of department and compile two data management documents: a data organisation structure and a data management plan. The data officer oversees the implementation of these documents within the department, the training of new members in RDM practices, and the drafting and monitoring of rules for data archiving, security, and version control where needed.
- *Your role*: ultimately, all researchers in IMM are responsible for the acquisition, documentation and storage of their own research data. To facilitate this process, IMM researchers are asked the following.



- *At the start of your time at IMM*

When you join IMM, make sure you meet your department's data officer and understand how data is produced and stored within your department. Make sure to comply with the procedures of your department when working on your research project.

- *At the end of your stay at IMM*

Please be aware that when you leave the university, your data will remain the property of the university. You should therefore make sure that all data is stored in the manner described in your department's Data Organisation Structure. Make sure you plan an exit meeting with your department's data officer to check that this is actually the case.

Research data management documents

- *Data Organisation Structure*: This document summarizes which data is generated by the department, how it is documented, what storage facilities are in place and how these are organized.
- *Data Management Plan*: This document outlines the department policies for data storage, making data available and for people joining and leaving the department. These policies should be in line with data management requirements of funding agencies, such as NWO and ERC.

Both documents are updated annually, and are reviewed by the data steward and IMM board to ensure they comply with the data management policy of IMM. They can be made available upon request by the data officer.

Links

- <https://www.ru.nl/rdm/>
- <https://www.ru.nl/rdm/vm/policy-documents/>

5. Training opportunities

Radboud courses

Radboud University offers various courses and coaching opportunities for employees. Examples include language training sessions and courses on leadership, communication and presentation. There are also many possibilities for career advice and personal coaching. For more information, consult RadboudNet (www.radboudnet.nl)

If you have any questions about the training opportunities and the reimbursement of training expenses, please contact the Human Resources Department.

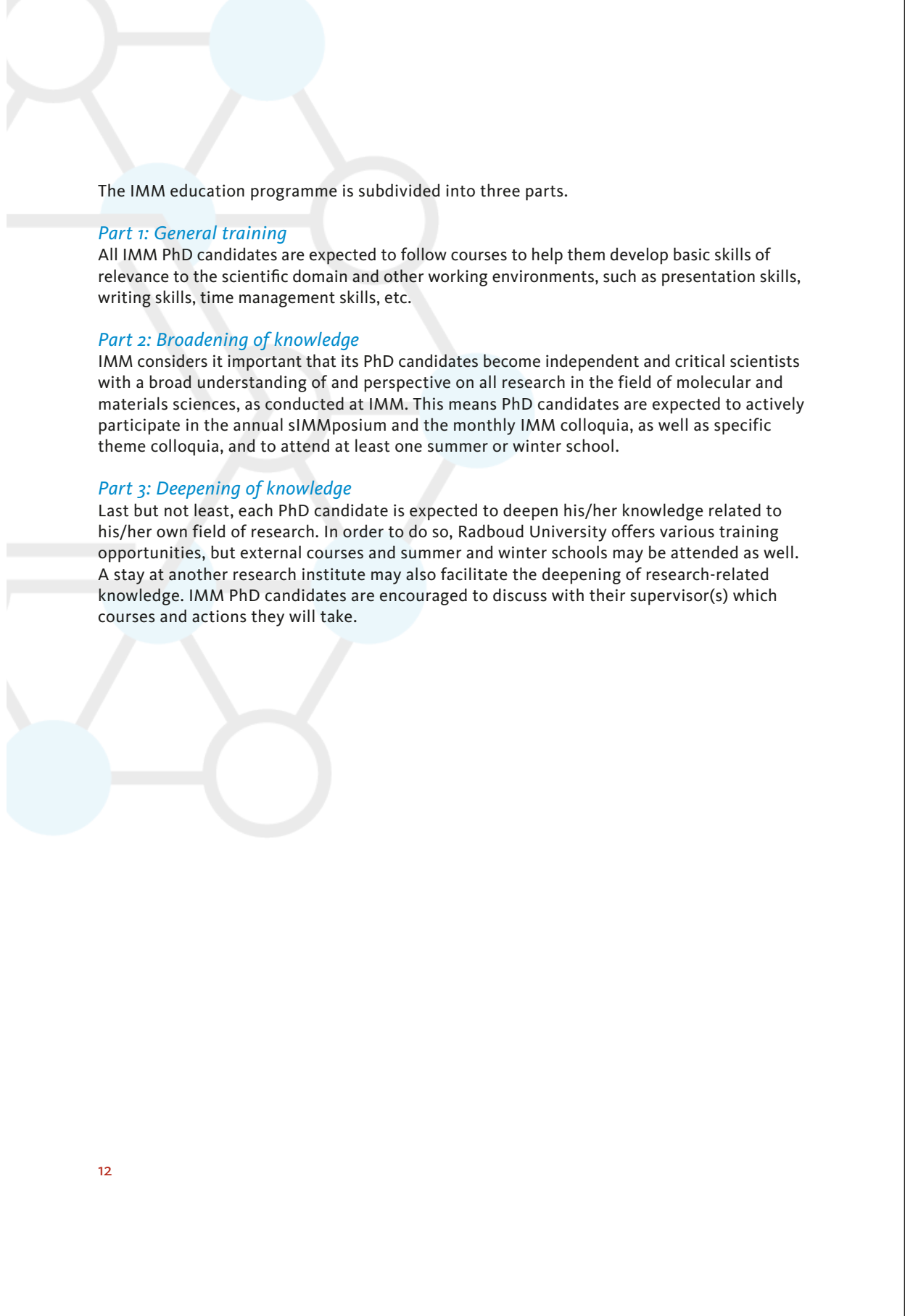
Graduate School for Molecules and Materials

The Graduate School for Molecules and Materials (GSMM) is part of IMM and provides an attractive and challenging environment for talented young researchers by offering a dedicated training program. All IMM PhD candidates are enrolled in GSMM, but the courses offered are open to all IMM employees.

Training programme

All IMM PhD candidates are expected to take part in the IMM training programme, which consists of courses, colloquia and symposia. IMM works with so-called year groups: all PhD candidates that started in a certain year are placed in a year group and will follow mandatory courses together, if at all possible.





The IMM education programme is subdivided into three parts.

Part 1: General training

All IMM PhD candidates are expected to follow courses to help them develop basic skills of relevance to the scientific domain and other working environments, such as presentation skills, writing skills, time management skills, etc.

Part 2: Broadening of knowledge

IMM considers it important that its PhD candidates become independent and critical scientists with a broad understanding of and perspective on all research in the field of molecular and materials sciences, as conducted at IMM. This means PhD candidates are expected to actively participate in the annual sIMMposium and the monthly IMM colloquia, as well as specific theme colloquia, and to attend at least one summer or winter school.

Part 3: Deepening of knowledge

Last but not least, each PhD candidate is expected to deepen his/her knowledge related to his/her own field of research. In order to do so, Radboud University offers various training opportunities, but external courses and summer and winter schools may be attended as well. A stay at another research institute may also facilitate the deepening of research-related knowledge. IMM PhD candidates are encouraged to discuss with their supervisor(s) which courses and actions they will take.

6. Teaching

IMM is involved in the teaching activities of the Education Institute for Mathematics, Physics and Astronomy (WiNSt) and of the Education Institute for Molecular Sciences (MW). These provide both Bachelor's and Master's courses in physics, chemistry and other disciplines.

Whether or not you are expected to take part in the teaching activities for undergraduate students in your department depends on the position you hold. In general, PhD candidates and assistant, associate and full professors are actively involved in teaching. Post-docs, researchers and technicians are encouraged to take part in teaching, but are usually not formally required to do so. If you would like to be involved in teaching, please contact your group leader and/or the teaching coordinator of your research group. The teaching coordinator schedules the teaching activities for your group. More information can be obtained from him/her.



7. Counselling and annual appraisal interviews

Confidential Counsellor

The confidential counsellor for the IMM is Ger Pruijn. Freya Senf acts as confidential counsellor for members of the biomolecular chemistry group, headed by Ger Pruijn. The tasks of the confidential advisor include:

- acting as go-to person when you have a problem or conflict in relation to your training, support and/or evaluation;
- approaching, in consultation with you, the most suitable agent to handle and if possible solve the problem;
- annually reporting on his/her activities to the director of the research institute.

Annual appraisal interview

The purpose of an annual appraisal interview is to enhance the quality of your performance. During the annual appraisal interview, the objectives of the organisation are converted into individual objectives. During this interview, you and your supervisor will discuss work and development objectives. You and your supervisor will also evaluate the progress regarding the development objectives from the past year and you make specific agreements on objectives for the following year.



The annual appraisal interview has three important characteristics:

- **Reciprocity**
Both you and your supervisor share your opinion on your performance in the past year. Together you agree on your future. The performance of your supervisor is also discussed.
- **Result orientation**
Clear agreements are made on the results to be achieved. Arrangements are also made concerning the guidance by your supervisor. The agreements must correspond to the objectives of your department and IMM.
- **Developmental orientation**
If you have any further development needs, you can mention these during the annual appraisal interview. Conversely, your supervisor may also indicate the developments that he/she expects of you. You and your supervisor may agree to facilitate these developments in the form of education, coaching/training, job rotation, secondments, sabbaticals, etc.

A general format of the annual appraisal interview form can be found on RadboudNet. The Human Resources Department offers training courses on conducting annual appraisal interviews. If you have any questions about the annual appraisal interview, please contact the Human Resources Department.

8. Travel grants

In addition to the resources from the project and group budgets, IMM and the Faculty of Science have several travel grants available:

- Radboud University participates in the Erasmus/Lifelong Learning Programme (LLP) created by the European Commission. This programme offers PhD candidates (and other scientific staff) the opportunity and the necessary funding to visit another university, institute or company in Europe. The minimum stay is five days and the maximum stay is six weeks. For further information contact Jos Brommers (International Office).
- There are several other travel grants available to PhD candidates before or immediately after graduation, such as the VSBfonds and Mohrmann Stipendia.

9. Contacts

The following is a list of contacts that may be useful during your time at IMM:

IMM Director	Floris Rutjes; floris.rutjes@ru.nl
IMM Managing Director	Ralph Jaspers; ralph.jaspers@ru.nl
IMM Board	Floris Rutjes (chair); floris.rutjes@ru.nl Jos Oomens; jos.oomens@ru.nl Alexey Kimel; alexey.kimel@ru.nl Ralph Jaspers; ralph.jaspers@ru.nl
IMM Office	Elvira Huibers; imm@ru.nl
IMM Communications	Miriam Heijmerink; imm-communication@ru.nl
IMM PhD Coordinator	Ralph Jaspers; ralph.jaspers@ru.nl
IMM PhD representative/ PROBE contact	Fleur Brinkman; fleur.brinkman@ru.nl
Confidential Counsellor	Ger Puijn; G.Puijn@ncmls.ru.nl

Contact information

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Sign up for our newsletter at www.ru.nl/imm/newsletter ! We gladly keep you updated on the latest IMM news and research results.