

## **The Master's programme in Biomolecular Sciences**

### **Shaping the future with molecular technology**

THE NETHERLANDS IS A NATION BUILT ON KNOWLEDGE. OUR ECONOMY RELIES ON PEOPLE WHO KNOW WHAT MAKES THE MODERN WORLD TICK. WITHOUT THEM, WHAT WOULD BECOME OF OUR HIGH-TECH LIFE SCIENCE INDUSTRIES (E.G. SHELL, DSM, UNILEVER), OUR AGRICULTURAL SECTOR OR OUR INNOVATIONS IN BIOTECHNOLOGY AND MEDICAL RESEARCH (IN AREAS LIKE CANCER, INFECTIOUS DISEASES, AGEING AND NEUROLOGICAL CONDITIONS)? WE NEED PEOPLE WHO HAVE LEARNED TO CONDUCT INDEPENDENT RESEARCH IN A NATIONAL OR INTERNATIONAL SETTING AND WHO ARE EQUIPPED TO FACE THE RIGOURS OF TOMORROW'S MARKET. THE MASTER'S PROGRAMME IN BIOMOLECULAR SCIENCES/MOLECULAR CELL BIOLOGY PREPARES YOU FOR THIS CHALLENGE.

### ***Why study Biomolecular Sciences/Molecular Cell Biology at the VU?***

The field of Biomolecular Sciences/Molecular Cell Biology is a core research area at the VU. Much of the faculty's research in this field has been brought together in a single organization, the Institute of Molecular Cell Biology (IMC). Occupying a position at the scientific forefront, the IMC is geared towards international research and enjoys close cooperative ties both with institutes inside the Netherlands and leading research teams further afield. This far-reaching network gives you as a Master's student the opportunity to fulfil your traineeships in a cutting-edge research environment here and abroad.

### ***The structure of the programme***

The full Master's programme in Biomolecular Sciences/Molecular Cell Biology takes two years and is worth 120 credits. It is also possible to take individual sections of the programme, leading to degree component certificates at Master's level. Most of the tuition is in English.

The classes consist of:

- |                                |               |
|--------------------------------|---------------|
| • Compulsory courses           | 27 credits    |
| • Core options/selected topics | 12 credits    |
| • First traineeship            | 30-36 credits |
| • Second traineeship           | 30-36 credits |
| • Literature survey            | 9 credits     |
| • Elective options             | 12 credits    |

### ***An overview of the compulsory courses***

Formative Academic Skills (9 credits)

Subjects include Ethics, History of Science and Scientific writing in English.

A choice of three out of five of the following set courses:

September: Integrative Bioinformatics and Genomics

October: Molecular Microbiology

November: Developmental Biology

December: Parasitology

January: Formative Academic Skills (see above)

February: Biological Fluorescence.

This programme gives a thorough grounding in the subjects and methods of the Institute, as well as providing a solid preparation for one or more traineeships.

### ***Core options/selected topics***

The aim of the core options and selected topics is to provide you with in-depth knowledge of various areas. They deal with both theoretical and practical aspects. Your choice of courses will depend on your own interests and the focus of your research traineeships. It is also possible to take a tutorial in order to fill in any gaps in your existing knowledge. A number of short courses and intensive courses are available in the areas

of mass spectroscopy, protein purification, protein synthesis and other subjects from the programme run by BioCentrum Amsterdam.

### ***Traineeships***

Your traineeships will account for approximately 70 of your credits. You can choose between two traineeships of equal length, or one longer traineeship (with a maximum of 40 credits) and one slightly shorter traineeship (with a minimum of 30 credits). Your first traineeship should preferably be within the VU. You are free to fulfil your second traineeship outside of the VU, at an institute abroad, for example.

### ***Literature survey***

As a Master's student you are also required to carry out a literature survey. You are expected to complete this task independently to a large extent, though you will, of course, have expert guidance from one of the teaching staff. You can also determine your own topic and research question. Your literature survey can focus on a scientific question but may also take a more applied or social approach.

### ***Job opportunities***

As a Master's graduate, you can embark on a research career in the field of biomolecular sciences/molecular cell biology in industry, the academic world or other research institutes, within the Netherlands or abroad.

### ***Admission requirements***

Direct admission to the Master's programme in Biomolecular Sciences/Molecular Cell Biology is possible with a Bachelor's degree in biomedical sciences or biology from a university in the Netherlands. If you have a Bachelor's degree in another subject (e.g. chemistry, physics, qualification as a research technician) obtained at a university or institute of higher education in the Netherlands or abroad, the Examination Board will decide whether to admit you. It may set additional requirements if necessary.

### ***Enrolment***

Vrije Universiteit  
Student Services, main building  
De Boelelaan 1105  
1081 HV Amsterdam, The Netherlands  
Telephone +31 (0)20 444 5020 (10 a.m. - 5 p.m. local time)

### ***Further information and registration***

Information on the Internet: [www.falw.vu.nl](http://www.falw.vu.nl)

Contact:

Dr H.S. van Walraven  
Dept. of Structural Biology (Room H-225)  
Prof. B. Oudega (Room M-548)  
Dept. of Molecular Microbiology  
Institute of Molecular Cell Biology  
De Boelelaan 1085  
1081 HV Amsterdam, The Netherlands  
Telephone +31 (0)20 444 7177  
E-mail: [rieky.van.walraven@falw.vu.nl](mailto:rieky.van.walraven@falw.vu.nl) or [bauke.oudega@falw.vu.nl](mailto:bauke.oudega@falw.vu.nl)

No rights may be derived from the contents of this brochure.