**Master Programs**

1. Sustainable Drug Discovery: <https://sustainabledrugdiscovery.eu/programme/>
2. Translational Physiology and Pharmacology: <https://education.ki.se/programme/4ff22-masters-programme-in-translational-physiology-and-pharmacology>
3. Toxicology: <https://education.ki.se/programme/4tx15-masters-programme-in-toxicology>
4. Molecular Medicine and Innovative Treatment: <https://www.rug.nl/masters/molecular-medicine-and-innovative-treatment/>
5. Pharmaceutics: <https://www.ucl.ac.uk/prospective-students/graduate/taught-degrees/pharmaceutics-msc>
6. Innovative Medicine: <https://www.innovativemedicine.eu/about/general-information>

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# **Sustainable Drug Discovery MSc**

Antibiotic resistance: a race against time for the pharmaceutical industry. It is well known how this phenomenon imposes a grave danger to us all, and how now it’s only a matter of time that an infection that was once deemed curable, resists the treatment given against it. Coming from Indonesia, where a lot of antibiotics are given so easily as over-the-counter drugs, I have only realised how risky it is to prescribe and consume antibiotics for a mere cough or flu once I’ve studied abroad in the Netherlands. “Paracetamol, paracetamol, paracetamol..” joke fellow Indonesians or foreigners about general practitioners in the Netherlands only prescribing the drug for every health complaint. But after studying Pharmacy here, I understand one of the reasons behind the case: antibiotic resistance. With this understanding, I now have a goal to help develop the pharmaceutical industry and drug policy in Indonesia through my passion and interest in drug design.

My passion and interest in drug design and toxicology instilled a desire in me to gain more knowledge in drug discovery, hoping that one day I will be able to contribute to the health of people worldwide. That is how I decided to continue my studies to a higher level and was led to the International Masters in Sustainable Drug Discovery program. The program piqued my interest for a few reasons. Firstly, as an aspiring pharmaceutical researcher, the program encapsulates the whole drug discovery process and it highlights the need for sustainability within pharmaceutical research and the industry, a topic that I believe is of importance especially nowadays with growing concerns of how development and production of pharmaceuticals may negatively impact the environment. I also found the courses that they offer intriguing and fit my interests. Third is that the program is jointly organised and offers mobility between 4 universities with outstanding research in life sciences. Studying in such universities with such a high quality in teaching and focus on research, I believe, will help me gain more knowledge and prepare me for the future in more depth. The nature of the program would also benefit me in terms of social skills, open a larger career opportunity and would prepare me for the working world where I would meet different people from all over the globe.

As a passionate and hard-working person with a growing interest in learning drug design in more depth, I believe that I will be a great fit for the programme. The courses in my previous study have helped me gain basic knowledge and skills on pharmacy that I believe will help me throughout the program. Thanks to the Honours College program in university, I also got the chance to carry out literature research on various topics; opening my eyes to the diversity within pharmaceutical research. Moreover, during the first half of this year, I worked on my extended Bachelor’s project with the Chemical and Pharmaceutical Biology department of the Groningen Research Institute of Pharmacy. The project was about isolating endophytic fungi from three European medicinal plants and analysing whether they exhibit antibacterial effects. Not only did I gain more practical laboratory skills from these experiences, but I also got to develop my problem-solving skills, communication, analytical thinking and reasoning. Skills which would benefit me throughout the program.

# **Translational Physiology and Pharmacology MSc (Karolinska)**

Antibiotic resistance: a race against time for the pharmaceutical industry. It is well known how this phenomenon imposes a grave danger to us all, and how now it’s only a matter of time that an infection that was once deemed curable, resists the treatment given against it. Coming from Indonesia, where a lot of antibiotics are given so easily as over-the-counter drugs, I have only realised how risky it is to prescribe and consume antibiotics for a mere cough or flu once I’ve studied abroad in the Netherlands. “Paracetamol, paracetamol, paracetamol..” joke fellow Indonesians or foreigners about general practitioners in the Netherlands only prescribing the drug for every health complaint. But after studying Pharmacy here, I understand one of the reasons behind the case: antibiotic resistance. With this understanding, I now have a goal to help develop the pharmaceutical industry and drug policy in Indonesia through my passion and interest in drug design.

My passion and interest in drug design and toxicology instilled a desire in me to gain more knowledge in drug discovery, hoping that one day I will be able to contribute to the health of people worldwide. That is how I decided to continue my studies to a higher level and was led to the Translational Physiology and Pharmacology Masters program offered by Karolinska Institutet. The program piqued my interest for a few reasons. Firstly, the program integrates both physiology and pharmacology in a more translational approach, aiming to accelerate the movement of research results into practice; an aspect that I find will benefit both society and the healthcare industry. I also found the courses that they offer intriguing and fit my interests. Second is that the program has close ties to pharmaceutical and biotech companies, enabling students to gain first-hand experience on leading research and getting acquainted with the working environment in the industry to prepare them for their future careers. Studying in a prestigious medical university like Karolinska Institutet will also provide me with first-hand insight on various academic research regarding healthcare, knowledge that will be highly beneficial for me as an aspiring pharmaceutical researcher.

As a passionate and hard-working person with a growing interest in learning drug design in more depth, I believe that I will be a great fit for the programme. The courses in my previous study have helped me gain basic knowledge and skills on pharmacy that I believe will help me throughout the program. Thanks to the Honours College program in university, I also got the chance to carry out literature research on various topics; opening my eyes to the diversity within pharmaceutical research. Moreover, during the first half of this year, I worked on my extended Bachelor’s project with the Chemical and Pharmaceutical Biology department of the Groningen Research Institute of Pharmacy. The project was about isolating endophytic fungi from three European medicinal plants and analysing whether they exhibit antibacterial effects. Not only did I gain more practical laboratory skills from these experiences, but I also got to develop my problem-solving skills, communication, analytical thinking and reasoning. Skills which would benefit me throughout the program.

I am aware that studying at a prestigious medical university like Karolinska Institutet will not be easy. Nevertheless, I am always up for a challenge and with the academic excellence I have maintained alongside my passion in wanting to contribute to society through drug design, I will be able to benefit from and contribute to the university community.

# Toxicology MSc (Karolinska)

Antibiotic resistance: a race against time for the pharmaceutical industry. It is well known how this phenomenon imposes a grave danger to us all, and how now it’s only a matter of time that an infection that was once deemed curable, resists the treatment given against it. Coming from Indonesia, where a lot of antibiotics are given so easily as over-the-counter drugs, I have only realised how risky it is to prescribe and consume antibiotics for a mere cough or flu once I’ve studied abroad in the Netherlands. “Paracetamol, paracetamol, paracetamol..” joke fellow Indonesians or foreigners about general practitioners in the Netherlands only prescribing the drug for every health complaint. But after studying Pharmacy here, I understand one of the reasons behind the case: antibiotic resistance. With this understanding, I now have a goal to help develop the pharmaceutical industry and drug policy in Indonesia through my passion and interest in drug design and toxicology.

My interest in toxicology stemmed from a second year course in university, and from there it grew to the present me who desires to become a toxicologist and be involved in drug regulatory sciences. That is how I came to know about the Master’s programme in Toxicology offered by Karolinska Institutet. The programme piqued my interest as it was one of the few Master’s programmes that focuses on toxicological interactions between chemicals and the human body, rather than most programmes which are about drug design as a whole. The programme is also tightly knit with the Institute of Environmental Medicine, pharmaceutical companies and national authorities; enabling students to gain first-hand experience on leading research and many real-life concerns within the area to prepare them for their future careers. Studying in a prestigious medical university like Karolinska Institutet will also provide me with first-hand insight on various academic research regarding healthcare, knowledge that will be highly beneficial for me as an aspiring drug toxicologist.

As a passionate and hard-working person with a growing interest in learning translational toxicology and drug regulation in more depth, I believe that I will be a great fit for the programme. An elective on drug toxicology and translational technology, as well as a small research projects I did on the correlation between particulate matter and the pathogenesis of Alzheimer’s, and another on microplastics and immunotoxicology; has provided me with a concrete background on toxicology that I believe will help me throughout the programme.

I am aware that studying at a prestigious medical university like Karolinska Institutet will not be easy. Nevertheless, I am always up for a challenge and with the academic excellence I have maintained alongside my passion in wanting to contribute to society through drug toxicology, I will be able to benefit from and contribute to the university community.

# Molecular Medicine & Innovative Treatment at RUG

January 2020. News reports started to emerge about an unknown virus spreading rapidly that contributed to respiratory problems and deaths. I remember always keeping an eye on the news for updates about the virus. COVID-19, they called it; the virus which completely changed my life as a university student. In a blink of an eye, I found myself stuck in front of my laptop listening to online lectures for the next couple of years, waiting for the practical courses as they were the only means that I could attend university in-person. As a pharmacy student, it was interesting to see lecturers talk about the pandemic and the latest solutions that the pharmaceutical industry had come up with. From the virus first being identified to the development and administration of the vaccines, I was astonished at the speed that the pharmaceutical industry took action. From the drug discovery process usually taking 20 years, it only took about a year for the COVID-19 vaccines to roll out. People would agree that COVID-19 and the search for a vaccine and cure is this century’s greatest episode in healthcare.

The pandemic only instilled a greater passion in wanting to gain more knowledge in drug discovery, hoping that one day I will be able to contribute to the health of people worldwide. That is how I decided to continue my studies to a higher level and was led to the Molecular Medicine and Innovative Treatment program at University of Groningen. The program piqued my interest for a few reasons. Firstly, as an aspiring biopharmaceutical researcher, the program is both research-oriented and tied to both the University Medical Centre Groningen and Groningen Research Institute of Pharmacy, enabling me to expand my interests and hopefully gain research experience in a hospital setting. I am particularly interested in the Drug Innovation specialization that they offer, as it encapsulates research from the development of a molecule to health policymaking. Second is that the university is known for its academic excellence and research, making it one of the leading universities in the world. Studying in a university with such a high quality in teaching and focus on research, I believe, will help me gain more knowledge and prepare me for the future in more depth. University of Groningen is also globally-oriented and full of diversity, therefore a melting pot of different cultures. Staying in a culturally diverse environment, would benefit me in terms of social skills, open a larger career opportunity and would prepare me for the working world where I would meet different people from all over the globe.

As a passionate and hard-working person with a growing interest in learning drug design in more depth, I believe that I will be a great fit for the programme. The courses in my previous study have helped me gain basic knowledge and skills on pharmacy that I believe will help me throughout the program. Thanks to the Honours College program in university, I also got the chance to carry out literature research on various topics; opening my eyes to the diversity within pharmaceutical research. Moreover, during the first half of this year, I worked on my extended Bachelor’s project with the Chemical and Pharmaceutical Biology department of the Groningen Research Institute of Pharmacy. The project was about isolating endophytic fungi from three European medicinal plants and analysing whether they exhibit antibacterial effects. Not only did I gain more practical laboratory skills from these experiences, but I also got to develop my problem-solving skills, communication, analytical thinking and reasoning. Skills which would benefit me throughout the program.

Being a part of the MMIT program will introduce me to more in depth research within the biopharmaceutical industry and will prepare me to become a researcher/scientist. After my studies, I aim to become either a researcher focused on drug innovation working either in an academic institution or the pharmaceutical industry. I am also interested in spreading the knowledge that I have gained through teaching. I am very keen on joining the program and would like to apply for the Abel Tasman Talent Program scholarship to help fund my studies.

Studying at a university as prestigious as the University of Groningen will not be easy. Nevertheless, I am always up for a challenge and with the academic excellence I have maintained alongside my passion in wanting to contribute to society through drug design, I will be able to benefit from and contribute to the university community.

# MSc Pharmaceutics at University College London

January 2020. News reports started to emerge about an unknown virus spreading rapidly that contributed to respiratory problems and deaths. I remember always keeping an eye on the news for updates about the virus. COVID-19, they called it; the microbe which completely changed my life as a university student. In a blink of an eye, I found myself stuck in front of my laptop listening to online lectures for the next couple of years, waiting for the practical courses as they were the only means that I could attend university in-person. As a pharmacy student, it was interesting to see lecturers talk about the pandemic and the latest solutions that the pharmaceutical industry had come up with. From the virus first being identified to the development and administration of the vaccines, I was astonished at the speed that the pharmaceutical industry took action. From the drug discovery process usually taking 20 years, it only took about a year for the COVID-19 vaccines to roll out. People would agree that COVID-19 and the search for a vaccine and cure is this century’s greatest episode in healthcare.

The pandemic only instilled a greater passion in wanting to gain more knowledge in drug discovery, hoping that one day I will be able to contribute to the health of people worldwide. That is how I decided to continue my studies to a higher level and was led to the MSc Pharmaceutics program at University College London. The program piqued my interest for a few reasons. Firstly, as an aspiring pharmaceutical researcher, the program encapsulates the whole drug discovery process and it is strongly tied to the UK pharmaceutical industry, therefore I would have gained sufficient knowledge and experience to pursue a career in the industry. Second is that I found the courses that they offer intriguing; I am particularly keen on the ‘Analysis and Quality Control’, ‘Nanomedicines’ and ’Formulation of Natural Products and Cosmeceuticals’ courses. Third is that the university is known for its academic excellence and research, making it one of the leading universities in the world. Studying in a university with such a high quality in teaching and focus on research, I believe, will help me gain more knowledge and prepare me for the future in more depth. University College London is also globally-oriented and full of diversity, therefore a melting pot of different cultures. Staying in a culturally diverse environment, would benefit me in terms of social skills, open a larger career opportunity and would prepare me for the working world where I would meet different people from all over the globe.

As a passionate and hard-working person with a growing interest in learning drug design in more depth, I believe that I will be a great fit for the programme. The courses in my previous study have helped me gain basic knowledge and skills on pharmacy that I believe will help me throughout the program. Thanks to the Honours College program in university, I also got the chance to carry out literature research on various topics; opening my eyes to the diversity within pharmaceutical research. Moreover, during the first half of this year, I worked on my extended Bachelor’s project with the Chemical and Pharmaceutical Biology department of the Groningen Research Institute of Pharmacy. The project was about isolating endophytic fungi from three European medicinal plants and analysing whether they exhibit antibacterial effects. Not only did I gain more practical laboratory skills from these experiences, but I also got to develop my problem-solving skills, communication, analytical thinking and reasoning. Skills which would benefit me throughout the program, especially the MSc Pharmaceutics research project.

Studying at a university as prestigious as University College London will not be easy. Nevertheless, I am always up for a challenge and with the academic excellence I have maintained alongside my passion in wanting to contribute to society through drug design, I will be able to benefit from and contribute to the university community.

# International Master’s in Innovative Medicine

January 2020. News reports started to emerge about an unknown virus spreading rapidly that contributed to respiratory problems and deaths. I remember always keeping an eye on the news for updates about the virus. COVID-19, they called it; the microbe which completely changed my life as a university student. In a blink of an eye, I found myself stuck in front of my laptop listening to online lectures for the next couple of years, waiting for the practical courses as they were the only means that I could attend university in-person. As a pharmacy student, it was interesting to see lecturers talk about the pandemic and the latest solutions that the pharmaceutical industry had come up with. From the virus first being identified to the development and administration of the vaccines, I was astonished at the speed that the pharmaceutical industry took action. From the drug discovery process usually taking 20 years, it only took about a year for the COVID-19 vaccines to roll out. People would agree that COVID-19 and the search for a vaccine and cure is this century’s greatest episode in healthcare.

The pandemic only instilled a greater passion in wanting to gain more knowledge in drug discovery, hoping that one day I will be able to contribute to the health of people worldwide. That is how I decided to continue my studies to a higher level and was led to the International Master in Innovative Medicine. The program piqued my interest for a few reasons. Firstly, the program is jointly organized between 3 universities with outstanding research in life sciences. Studying in universities with such a high quality in teaching and focus on research, I believe, will help me gain more knowledge and prepare me for the future in more depth. Secondly, as an aspiring biopharmaceutical researcher, I am interested in gaining more experience and knowledge on molecular medicine, a field which this program offers within two universities. Third is that the mobility that the programme offers would benefit me in terms of social skills, open a larger career opportunity and would prepare me for the working world where I would meet different people from all over the globe.

As a passionate and hard-working person with a growing interest in learning drug design in more depth, I believe that I will be a great fit for the programme. The courses in my previous study have helped me gain basic knowledge and skills on pharmacy that I believe will help me throughout the program. Thanks to the Honours College program in university, I also got the chance to carry out literature research on various topics; opening my eyes to the diversity within pharmaceutical research. Moreover, during the first half of this year, I worked on my extended Bachelor’s project with the Chemical and Pharmaceutical Biology department of the Groningen Research Institute of Pharmacy. The project was about isolating endophytic fungi from three European medicinal plants and analysing whether they exhibit antibacterial effects. Not only did I gain more practical laboratory skills from these experiences, but I also got to develop my problem-solving skills, communication, analytical thinking and reasoning. Skills which would benefit me throughout the program, especially the MSc Pharmaceutics research project.