MASTER'S PROGRAMME **Nutritional Molecular Medicine and** Bioinformatics 120 CREDITS









Interactions between gut, brain and microbiota. Image courtesy of



dream designs at **FreeDigitalPhotos.nets**

This two-year international Master's programme will prepare you for a future research career in molecular medicine, with focus on the research field of nutrition-microbes-gut-brain interactions either on the doctoral level or within industry.

This problem-based learning (PBL)-based programme will provide you with in-depth understanding of the complex bidirectional signaling between the gut and the brain.

It focuses on current research on the interaction between nutrition, the intestine, the intestinal microbes, and the brain, and on the necessary bioinformatics tools to reach this understanding. Main topics are: i) how these interactions are related to a dysfunction of the gut and the brain, ii) how these can be elucidated by state-of-the-art clinical and experimental research, and iii) how these relates to clinical



Learning to use the bioinformatics toolbox in hands-on-lab: Association networks for metabolite profiles (human blood), miRNA profiles, and 2-D gene expression predictive **biosignature.** © Dirk Repsilber 2015

practice and gastroenterology.



Introduction to biomedical and clinical studies. © Robert Brummer 2014

This programme is coordinated by the cross-disciplinary Nutrition-Gut-Brain Interactions Research Centre (www.oru.se/ngbi), which has strong links to selected partners and the University Hospital. The industrial programme is intertwined with two other Master's programmes (Cardiovascular medicine and Innate Immunity in Health and Disease), each supported by three strong research environments in medicine at Örebro University. The joint courses will provide you with a broader insight into some of the general aspects of inflammation affecting public health.

QUALIFICATIONS (degree awarded) Degree of Master of Arts/Science [120 credits]

CAREER

This Master's programme will prepare students mainly for a future research career in the research field of nutrition-microbes-gutbrain interactions - either on the doctoral level or within the industry.

FOR MORE INFORMATION

http://www.oru.se/English/Education/Master-students/

Master-Programmes

All courses are taught in English. No fees for students with citizenship from the European Union (EU) or European Economic Area (EEA) countries or Switzerland.

Deadline 15th of January 2016. For late applications please contact <u>dirk.repsilber@oru.se</u> or <u>ignacio.rangel@oru.se</u>



All courses are taught in English.





Introduction to methodologies. Shown above is the Ussing Chamber system used to analyse permeability of human tissue. © John-Peter Ganda Mall 2014

