

AIMMS 2014 annual meeting: many attendants, diverse programme

On Thursday 10 April, the 2014 annual meeting of the Amsterdam Institute for Molecules, Medicines and Systems took place. Over 160 staff members, post-docs, PhD and Master's students attended the event and were updated on AIMMS' research and the STAR graduate programme through key-note lectures, pitches, posters and oral presentations.

The 2014 annual meeting of AIMMS started with a warm welcome of director Prof. Nico Vermeulen. He first provided the audience with a general introduction of AIMMS and its research. Vermeulen also placed the institute into the perspective of O|O – the new building AIMMS will be moving to in 2015 – and the Amsterdam Beta Cluster: the collaboration of the science faculties of VU University and the University of Amsterdam. AIMMS is major part of the human life science cluster.

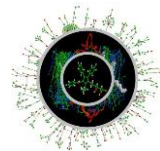


STAR graduate programme

Subsequently, Prof. Frank Bruggeman provided an update to the AIMMS [STAR graduate programme](#). STAR is an abbreviation for scientific top training in antimicrobial research and highly important to characterize the yet unknown microbial physiology of pathogens, study resistance mechanisms to antibiotics and identify potentially novel drugs and drug targets. STAR research unites the disciplines molecular biology, medicinal chemistry, drug safety, bioinformatics and systems biology, which are essential to discover and develop new drugs that can combat pathogens.

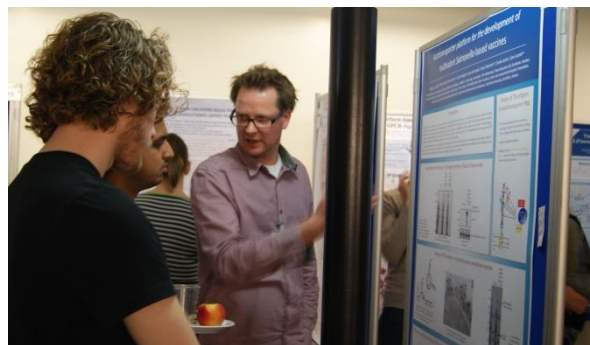
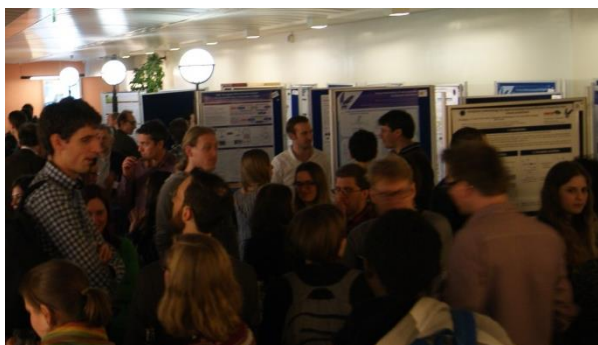
Last September, AIMMS received an NWO graduate programme grant that provides funding for 4 PhD students. Meanwhile, 23 candidates from AIMMS-related Master's programmes in Biomolecular Sciences, Drug Discovery and Safety, and Bioinformatics and Systems Biology were selected for the first stage of the STAR programme last month.

Frank Bruggeman gave the attending candidates the opportunity to introduce themselves to the public and in particular also to the AIMMS principal investigators. Then 11 PI's provided 3-minute pitches to the STAR students and the audience to inform them on and interest them in their research. The session with pitches was chaired by STAR project leader Dr. Jacqueline van Muijlwijk and encompassed diverse topics: energy metabolism, neglected parasitic diseases, protein-protein interactions, cytochrome P450s as new targets, personalized network-based drug design, novel drug targets, new intervention strategies for tuberculosis, innovative synthetic routes for new antibiotics, nanobodies as therapeutics and drug resistance.



Poster presentations

During lunch, the STAR candidates had ample opportunity to discuss ideas and possibilities with the respective PI's. Also 43 AIMMS post-docs, PhD and Master's students presented their research posters in M0, generating lively discussions with the participants. Jury members Dr. Eelco Ruijter, Dr. Dirk Bald, Dr. Henry Vischer and Frank Bruggeman visited all posters, graded them and selected the three best posters and presenters. Their names were announced at the end of the plenary session.



Oral presentation competition

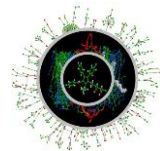
The 160 attendees reconvened after lunch for the oral presentation competition of 5 PhD students performing interdisciplinary projects in two AIMMS research groups. [Reka Ötvös](#) started with a lecture on a miniaturized analytical platform she developed for rapid screening and identification of bioactive compounds in complex mixtures like animal venoms, which are important sources for new biologically active molecules. Then [Angelina Huseinovic](#) talked about her work on a genome-wide screen to identify genes and mechanisms involved in paracetamol-induced toxicity in yeast.

[Matthijs van Lint](#) continued with a presentation on acetogenins: remarkably selective tumor growth inhibitors. Subsequently [Petra Krumpochova](#) presented her research on the underlying mechanisms of the Warburg effect with an integrated metabolomics approach. [Marjolein Glas](#) concluded with a talk on a new potential antimicrobial drug target for which she performed a screen to identify possible inhibitors. Under guidance of Dr. Maikel Wijtmans, the audience voted for the best oral presentation of these PhD students.

Human life science lectures

After a short tea break, the programme continued with keynote lectures in the field of human life sciences. Dr. Renée van Amerongen of the Swammerdam Institute for Life Sciences at UvA provided a greatly illustrative lecture on her research on stem cells, the Wnt signaling pathway, how Wnt-responsive cells build and maintain complex tissues and the translation of this knowledge to cancer research and regenerative medicine. Van Amerongen utilizes the mouse mammary gland as a model system for cell growth and regeneration and performs lineage tracing of Wnt-responsive cells in various stem cell lines. Her next challenge is to understand the interplay between aberrant Wnt-signaling and other oncogenic lesions.

Then Prof. Bas Teusink of the System Bioinformatics group took the stage for a presentation about his [recent Science-published](#) work on imbalanced reactions in glycolysis in yeast – the essential pathway for energy metabolism in most organisms. Teusink and PhD student Johan van Heerden discovered this imbalance arises from the fundamental design of the glycolysis pathway,



causing cells to undergo growth arrest. This leads to the co-existence of viable and unviable cells in one population. Teusink concluded that metabolic heterogeneity can determine cell fate.

Award winners

Prof. Hubertus Irth, vice-dean of the Faculties of Exact and Earth and Life Sciences concluded the plenary session with an update on the collaboration with Faculty of Science of UvA, both on research and education level. Subsequently, he announced the prize winners of this annual meeting. Irth awarded the oral presentation prize to Marjolein Glas of the Medicinal Chemistry and Molecular Microbiology research groups for her talk *Towards novel antibiotics: targeting the essential bacterial cell division protein FtsQ*. The prize for the best contribution to the plenary discussion went to Michiel den Braver, PhD student in the Molecular Toxicology group.



The three poster presentation awards went to one Master's and two PhD students. Raymond de Wit, PhD student in the Target and Systems Biochemistry group received a prize for his poster *CXCR4 specific nanobodies: potential therapeutics for WHIM syndrome*. Master's student Maurice Steenhuis is performing his major research project in the Molecular Microbiology group and was awarded for his poster *Development of a fluorescence-based assay to identify compounds that interfere with bacterial autotransporter biogenesis*. Marjolein Glas also received a poster prize for her identically named poster.

The annual meeting concluded with an Indonesian buffet dinner and drinks served by study association VCSVU. All in all, it was a pleasant and informative day in which the future of AIMMS's research and the STAR programme was put on the map for all beneficiaries, from Master's students to staff members.