

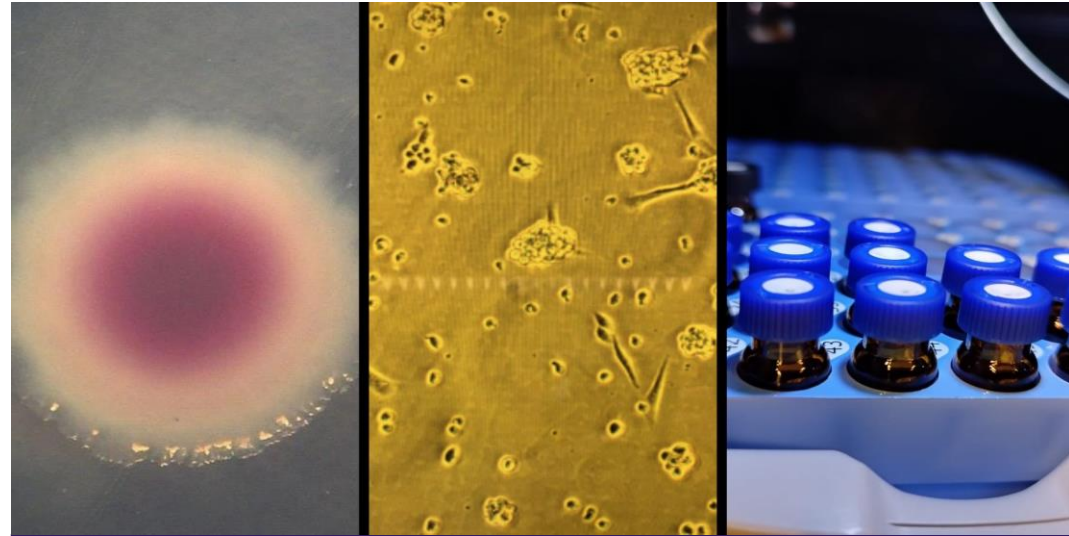


Registration :



<https://hs-flensburg.de/form/anscicon>

Thank You to Our Supporters



AnSciCon 2024

PROGRAMM

Annual Scientific Conferences of
Applied Bio and Food Sciences 2024
on January 9th, 2024

Online Programm

(Link to the meeting room is provided after registration)



WELCOMING WORDS FROM LECTURERS FOR CONFERENCE PARTICIPANTS

Dear conference participants,

we wish you a happy and healthy new year and are delighted to present what is probably the first major highlight of this year: The scientific conference of the Master's program Applied Bio and Food Sciences.

The students of the programme have organized the conference independently and are not only hosting the conference today but also presenting the results of their project work from this semester.

The projects deal with current issues in applied science in the field of medical biotechnology as well as food technology and cover topics such as the cloning and biotechnological production of proteases from the gut bacteria of Dengue fever transmitting mosquitos, the development of animal free media for the cultivation of muscle stem cells to be used in the production of in vitro meat, or the implementation of an HPLC based method for the quantification of amino acids in food products.

The results are presented by talks and a digital poster session, but you also have the possibility to discuss these interesting topics with the students directly after the presentations or in breakout rooms. We are particularly proud of the international character of the conference. All arrangements were done in an international context, jointly between students of Flensburg University of Applied Sciences together with students from our partner university i.e. Universitas Jember in Indonesia. This international character shows us in a special way how science connects people and how digitalization enables valuable collaboration even across long distances.

The success of the projects is based on the efforts put by the students into their projects and the planning of the conference. We, as the lecturers, congratulate the project teams to this success and wish the best for today.

We thank you for joining in and wish you an exciting conference, with interesting presentations and inspiring discussions.

Lecturers and Project Sponsors of the Master's study Applied Bio and Food Science

Dr. Holger Rehmann

Prof. Dr. Andreas Nicolai

Prof. Dr. Antje Labes

Prof. Dr. Kartika Senjarini

Prof. Dr. Birte Nicolai



INTRODUCTION

Global challenges such as climate change, water shortage and the lack of raw materials have increasingly been calling for sustainable and innovative solutions, especially in the last decade. The bioeconomy aims to produce, develop and use biological resources to meet the human needs for raw materials, products and services. Through the international cooperation of Flensburg University of Applied Sciences (Germany) and the University of Jember (Indonesia), projects have been funded again this year to address these problems and provide possible solutions. For example, the SERRALYSIN project focuses on serralysin protein activity in DENV infection inside *Aedes aegypti*. The results of this research project support WHO strategy for monitoring Dengue vector. The project MEAT-Growth deal with the topic of "in-vitro meat", which could become a possible future alternative to conventional meat production. Within the project Amino Acid-the quantitative analysis of proteinogenic amino acids plays a crucial role in various scientific disciplines, ranging from biochemistry to nutrition and medicine.

TIME TABLE

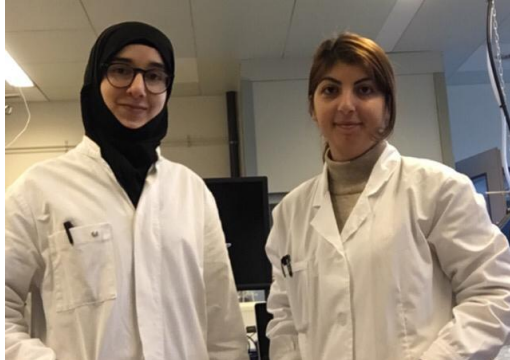
Tuesday, January 9th, 2024

Germany (UTC+1): 9:00-11:25, [Indonesia \(UTC+7\): 15:00-17:25](#)

09.00-09.15	Time to enter	
15.00-15.15	Conference	
09.15-09.20	Opening words	Moderator
15.15-15.20		
09.20-09.25	Welcoming words from	President of FUAS Dr.
15.20-15.25	President of FUAS	Christoph Jansen
09.25-09.30	Welcoming words from	President of
15.25-15.30	University of Jember	University of Jember
		Dr. Ir. Iwan Taruna
09.30-09.35	Introductory words for	Prof. Dr. Kartika
15.30-15.35	Indonesian project	Senjarini, S.Si., M.Si
09.35-10.05	SERRALYSIN Team	Arimbi Putri, Junior
15.35-16.05	Presentation	Karim, Nuraini Kirana
10.05-10.20	Discussion	Moderator
16.05-16.20		
10.20-10.30	Coffee break	Operator
16.20-16.30		
10.30-10.35	Introductory words for	Dr. Holger Rehmann
16.30-16.35	Germany Project	
10.35-11.05	MEAT GROWTH Team	Megi Karaulashvili,
16.35-17.05	Presentation	Sana Kanbour
11.05-11.20	Discussion	Moderator
17.05-17.20		
11.20-11.50	Amino Acids Binal	Binal Bhaliya
17.20-17.50	Bhaliya Presentation	
11.50-12.05	Discussion	Moderator
17.50-18.05		
12.05-12.10	Closing	Moderator
18.05-18.10		
12.10	Poster Session	
18.10		



MEAT-GROWTH



Microbial Expression of Growth Factors for Enhanced Tissue culture in Meat Production

Given the global challenges associated with conventional meat production, including resource and energy consumption, as well as concerns for animal welfare, the concept of cultured meat has emerged as a promising solution. Cultivated meat presents an opportunity for a more sustainable, ethical, resilient, and healthy food system. Advancing from laboratory experimentation to pilot-scale production, the primary hurdle in realizing large-scale in vitro meat culture is the substantial cost, particularly related to the production expenses of cell culture media and growth regulators. This project aims to optimize the production of vital growth factors in *Escherichia coli*. The subsequent investigation will assess the efficacy of these factors in cell culture systems, addressing the fundamental question of whether producing and utilizing growth factors through bacterial expression systems is both effective and economically viable for supporting serum-free tissue culture.



SERRALYSIN

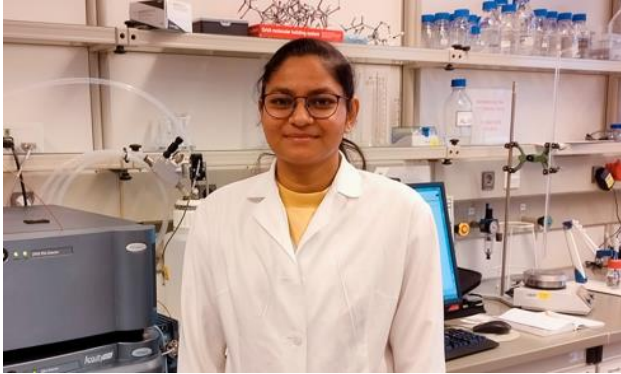


Molecular Characterization and Heterologous Expression of Serralysin from Mosquito Associated Bacteria : *Serratia Marcescens*

Serralysin is a protease produced by *Serratia marcescens*. This protease is known to impact *Plasmodium sp.* transmission in *Anopheles sp.* *Serratia marcescens* bacteria can be found associated with mosquito. Besides in *Anopheles sp.*, *Serratia marcescens* is also associated with *Aedes aegypti*. The focus of this project is to design the primer both for serralysin isolation and serralysin gene insertion into pET20b_2HIS_Doro and pGEX6P3 as compatible expression vector that has two different protein tag. This project's results can be used later for further research about serralysin protein activity in DENV infection inside *Ae. aegypti*. The results of this research project support WHO strategy for monitoring Dengue vector. Therefore, this project is also intended to serve basic data on vectors monitoring strategy to support study on the epidemiology development of Dengue Fever.



AMINO ACID



Analysis of Proteinogenic Amino acids by using Waters High Performance Liquid

Amino acids are the building blocks of proteins, which are essential for almost all biological processes. They are found in every cell and tissue in the body and play critical roles in nutrient transport, tissue repair, and the synthesis of enzymes and neurotransmitters. The project aims to develop a robust analytical method utilizing High-Performance Liquid Chromatography coupled with Mass Spectrometry (HPLC-MS) for the precise quantification of proteinogenic amino acids. The challenge of sensitivity and selectivity in the detection of amino acids is addressed by employing a pre-column derivatization technique using fluorenylmethyloxycarbonyl chloride (FMOC-Cl). This derivatization enhances the ionization efficiency and improves the detection limits of the amino acids during mass spectrometric analysis, allowing for a detailed quantification even at low concentrations.



OUR LECTURERS



Prof. Dr Hans Udo peters



Prof. Dr. Antje Labes



Dr. Holger Rehmann



Prof. Dr. Kartika Senjarini



Prof. Dr. Andreas Nicolai



Prof. Dr. Birte Nicolai

