

Materials from biomass

Summer School

September 12th-16th, 2022

NTNU in Trondheim, Norway



Norwegian University of Science and Technology, The main building, Trondheim

NTNU NANO
ENABLING TECHNOLOGY



 **NTNU**
Faculty of Natural Sciences
Department of Chemistry

Welcome to the BioMAT Summer School in Trondheim!

We are pleased to announce that the **BioMat** Summer School now finally is a reality, and we hereby welcome -in special-the «in person attendants», and of course also all the digital attendants. Due to COVID-19 we have postponed the Summer School several times, since it was originally planned to be organised in June 2020.

BioMat is organized by Norwegian University of Science and Technology, NTNU (Trondheim, Norway) in collaboration with University of Bucharest (Romania) in the frame of GREENCAM project. **BioMat** is directed to MSc and PhD students, postdocs and early-career Principal Investigators. Also, professors and researchers from academia and industry with expertise in the field of biomass valorization are invited to participate in the summer school.

The Summer School is dedicated to the research and industrial areas of biomass valorization leading to biofuels and the production of various value-added products. The main aim of this summer school is to offer an overview on the new and innovative aspects from biomass valorization field. Also, the promotion of novel and original strategies related to the production of materials from biomass are considered together with their most important applications at lab as well as industrial scale.

We are very happy to announce that professor Vasile I. Parvulescu (University of Bucharest, Romania) will be presenting his work -in person-at the conference. We are, however, sorry for the inconvenience with the Blue Air trouble, which is the reason that we now also must have digital lectures. However, we are happy to introduce the green online lectures from professor Simona Coman, associate professor Madalina Sandulescu-Tudorache, Dr. Octavian Pavel, Dr. Bogdan Cojocaru and Dr. Delia Popescu, all Department of Organic Chemistry, Biochemistry and Catalysis, Faculty of Chemistry, University of Bucharest, Romania.

We are also very thankful and wish to give a special welcome to our local university and industry lecturers: Associate professor Størker Moe (Department of Chemical Engineering, NTNU), MSc. Anna Koziol (NTNU and Crakow University), Dr. Filippo Bisotti (SINTEF), professor Turid Rustad, (Department of Biotechnology, NTNU), CEO Celine Sandberg (Agoprene), Dr. Christian Karl (SINTEF), Dr. Amalie Solberg (RISE-PFI) and Dr. Kristin Syverud (RISE-PFI).

We wish to thank The Education, Scholarship, Apprenticeships and Youth Entrepreneurship Programmer—EEA Grants 2014-2021, Project No. 18-Cop-0041 for financing the GREENCAM project. We are also very thankful to The NTNU Nano IMPACT Fund for financial support and to Department of chemistry, NTNU, for support..

Trondheim September 8, 2022

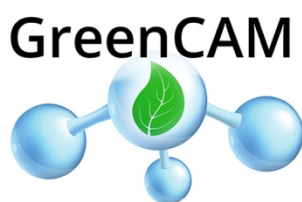
We hope you will enjoy the Summer School and Trondheim!

Elisabeth E. Jacobsen, NTNU project Manager GREENCAM

Kristoffer G. Paso, Department of chemical Engineering, GREENCAM Team Member

Solon Oikonomopoulos, Department of chemistry, GREENCAM Team Member

Disclaimer: This Summer School is realised with the EEA Financial Mechanism 2014-2021 financial support. Its content (text, photos, videos) does not reflect the official opinion of the Programme Operator, the National Contact Point and the Financial Mechanism Office. Responsibility for the information and views expressed therein lies entirely with the author(s).



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Submission deadline for abstracts for student posters: **July 31**

Send submission to: elisabeth.e.jacobsen@ntnu.no



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GREENCAM for tomorrow

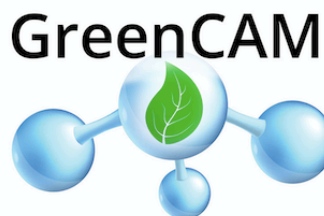
 **UNIVERSITY OF
BUCHAREST**
— VIRTUTE ET SAPIENTIA —

BioMat Topics:

- T1 Materials from agriculture biomass residues
- T2 Materials from forest biomass
- T3 Materials from food biomass waste
- T4 Energy crops
- T5 (Bio)chemical system for biomass conversion
- T6 Biomass valorization leading to advanced materials

Scientific committee:

Elisabeth Jacobsen, NTNU
Madalina Sandulescu, UniBUC
Kristofer Paso, NTNU
Solon Oikonomopolous, NTNU
Simona Coman, UniBUC



Monday September 12, 2022

Zoom link morning session:

<https://NTNU.zoom.us/j/94927845106?pwd=aC85VmFBOEMyNVVkdHdaQzlvOW85Zz09>

Meeting ID: 949 2784 5106

Passcode: 885703

Zoom link evening session:

<https://NTNU.zoom.us/j/95972843003?pwd=YmFaM1RMQmxKME10bk9SKzN4dU0wUT09>

Meeting ID: 959 7284 3003

Passcode: 500147

Session chair: Kristofer Paso		
09:00-09:05	Words of welcome Assoc. Prof Elisabeth Jacobsen, NTNU	D3-114 Zoom
09:05-09:35	Formation of furans during steam explosion of biomass Assoc. prof. Størker Moe, NTNU	D3-114 Zoom
9:35-10:05	Fungal Biocomposites MSc Anna Koziol, NTNU and Crakow University	D3-114 Zoom
10:05-10:15	Short break	
10:15-12:00	Steam explosion soft model for softwood chips pre-treatment Dr. Filippo Bisotti, SINTEF	D3-114 Zoom
12:00-13:00	Lunch	Element Cantina
13:00-14:00	Filippo Bisotti, cont.	D3-114 Zoom
Facilitator: Kristofer Paso		
14:00-14:15	Short Break	
14:15-15:30	Graphenes as multifunctional materials for energy production Prof. Vasile I. Parvulescu, UniBucharest	D3-114 Zoom

Tuesday September 13, 2022

Zoom link morning session:

<https://NTNU.zoom.us/j/91386109046?pwd=UHd5NVU0V0pVdWVkaTdjM0lDc3NWUT09>

Meeting ID: 913 8610 9046

Passcode: 781336

Zoom link evening session:

<https://NTNU.zoom.us/j/99906259707?pwd=REtRtNzdQc1NkQzlsWGpJaGNjK0lXUT09>

Meeting ID: 999 0625 9707

Passcode: 895470

Session chair: Madalina Sandulescu-Tudorache		
09:00-11:00	LAB demonstration for students Assoc. prof. Solon Oikonomopoulos, NTNU	D2-203
11:00-11:30	Coffee break	Element Cantina
11:30-13:00	Short poster presentations, posters 1, 2, 3, 5	R6 Zoom
13:00-14:00	Lunch	Element Cantina
Facilitator: Madalina Sandulescu-Tudorache		
14:00-14.30	Beech wood bio-oil catalytic upgrading at laboratory pilot plant scale: evaluation of the biofuel and carbon deposits PhD cand. Albert Miro i Rovira, NTNU	R6 Zoom
14.30-15.10	Chemical recycling of plastic waste Assoc. prof Kumar Ranjan Rout, NTNU/Quantafuel	R6 Zoom
15:10-15:30	Tour with demonstration of pyrolysis device by Albert Miro i Rovira in the Chemical engineering Hall. All present students	

Wednesday September 14, 2022

Zoom link morning session:

<https://NTNU.zoom.us/j/96554064615?pwd=RzN0TkR5ZVAzeWpFVDhXbzVaSTB6Zz09>

Meeting ID: 965 5406 4615

Passcode: 791949

Zoom link evening session:

<https://NTNU.zoom.us/j/96235435711?pwd=UzZxL1pGeFNXSU1ZaWZuRWxTbHI0QT09>

Meeting ID: 962 3543 5711

Passcode: 621483

Session chair: Elisabeth Jacobsen		
09:00-09:45	Biomass valorization based on the enzyme biocatalysis – an important issue for developing a sustainable circular economy Assoc. prof. Madalina Sandulescu-Tudorache, UniBucharest	R6 Zoom
09:45-10:00	Short break	
10:00-11:15	Discussion with Madalina Sandulescu-Tudorache Group Work	R6 Zoom
11:15-11:30	Coffee break	Element Cantina
11:30-13:00	Chemo-catalytic concepts for biomass conversion to bio-chemicals: a way towards innovative catalytic technologies for a future sustainable economy Prof. Simona Coman, UniBucharest	R6 Zoom
13:00-14:00	Lunch	Element Cantina
Facilitator: Elisabeth Jacobsen		
14:00-14:30	Adsorptive materials from waste-a perspective MSc student Marian-Gabriel, Gâsnac, UniBucharest	R6 Zoom
14:30-14:50	Poster 5: Biomass valorization by enzymatic grafting of lignin Dr. Sabina Ion, UniBucharest	R6 Zoom
14.50-15.10	Biocatalytic method for lignin derivatization with dimethylcarbonate MSc student Iulia-Maria Constantin, UniBucharest	R6 Zoom

Thursday September 15, 2022

Zoom link morning session:

<https://NTNU.zoom.us/j/97843522083?pwd=SFJld3lJZ3QzbWhmWHZDSS9ZTEhhZz09>

Meeting ID: 978 4352 2083

Passcode: 168148

Zoom link evening session:

<https://NTNU.zoom.us/j/99569043644?pwd=eWVvUnJWbVJFY3lKSzZ2WUJCblFXdz09>

Meeting ID: 995 6904 3644

Passcode: 398027

Session chair: Bogdan Cojocaru		
09:00-09:45	Biomass and Sustainable Bioeconomy: Dimensions and Challenges Dr. Delia Popescu, UniBucharest	R6 Zoom
09:45-10:00	Short break	
10:00-11:00	Discussion with Delia Popescu Group Work	R6 Zoom
11:00-11:30	Coffee break	Element Cantina
11:30-13:00	The impact of layered materials with tailored properties in the synthesis of fine chemicals Dr. Octavian Pavel, UniBucharest	R6 Zoom
13:00-14:00	Lunch	Element Cantina
Facilitator: Delia Popescu		
14:00-15:00	Hybrid organic-inorganic composites for photocatalytic environment remediation Dr. Bogdan Cojocaru, UniBucharest	R6 Zoom

Friday September 16, 2022

Zoom link morning session:

<https://NTNU.zoom.us/j/98309714719?pwd=eWdmd043WDRSR0tMQ3FhWUpxTWpEQT09>

Meeting ID: 983 0971 4719

Passcode: 251062

Zoom link evening session:

<https://NTNU.zoom.us/j/93269859859?pwd=dUhFRDZlNnVTQ0lscmhDT2IMKzk0dz09>

Meeting ID: 932 6985 9859

Passcode: 922321

Session chair: Simona Coman		
09:00-09:45	Proteins from marine side streams Prof. Turid Rustad, Department of Biotechnology, NTNU	R6 Zoom
09:45-10:00	Short break	
10:00-10:30	Agoprene Alginate Foams - A sustainable alternative to oil-based foams CEO Celine Sandberg, Agoprene	R6 Zoom
10:30-13:00	Use of sidestreams to produce biodegradable plastics in a circular economy perspective Dr. Christian Karl, SINTEF	R6 Zoom
13:00-14:00	Lunch	Element Cantina
Facilitator: Simona Coman		
14:00-14:30	Alginates - Physiochemical properties and state-of-the-art applications Dr. Amalie Solberg, RISE-PFI	R6 Zoom
14:30-15:00	Nanocelluloses in tissue engineering-effects of surface chemistry Dr. Kristin Syverud, RISE-PFI	R6 Zoom
15:00-15:05	End of summer School Prof. Kristofer Paso	R6 Zoom

