

SCIENTIFIC MEETING ON AGROSCIENCES, ENVIRONMENT, BIOTECHNOLOGIES AND BIOECONOMY

STUDENTAG RWTH/REGROUPEMENT AEBB

REIMS – HÔTEL DE VILLE – GRAND SALON MARS – MONDAY 19TH MARCH 2018.

PROGRAMME

Objectives

Respective presentations of both Universities and exchanges about crucial and inspiring issues on plant based bioeconomy. Related topics common to both institutes such as sustainable production of plant biomass, bio-based products, innovative processes and socio-economic aspects will be investigated.

This meeting has been designed to permit our respective researchers to introduce themselves and to know each other in order to build collaborative projects in case of mutual interests are identified.

MONDAY 19TH MARCH 2018

> 8.00 a.m. Opening session

Opening at the Reims City Hall (Authorities representative) - Special focus on 50 years of town twinning between Aachen and Reims.

Our meeting is organized in 5 scientific sessions covering the different aspects of the bioeconomy value chain.

> 8.15 a.m. Session 0 - Favourable ecosystems for bioeconomy development.

- **Prof. Dr Ernst SCHMACHTENBERG** (Rector of RWTH) and **Prof. Guillaume GELLE** (President of the URCA)
Welcome presentation
- **Heyke SLUSARCZYK** (BioSC central office, Research Center Jülich))
Bioeconomy Science Center
- **Christophe CLEMENT** (URCA)
RFS Condorcet - RF CNRS 3417

> 9.00 a.m. Session 1 - Sustainable production of plant-based biomass taking into account the diverse, interacting paths of its utilization while safeguarding the environmental resources soil and water.

- **Felix JAKOB** (or alternative speaker) (RWTH)
Green release for plant health

- **Ulrich SCHAFFRATH** (RWTH)

Elucidating the framework of plant-fungus interactions - from molecular analyses towards integrated plant protection

- **Essaid AIT BARKA** (URCA)

Biocontrol against plant pathogen and abiotic stresses using micro-organisms and derived elicitors

- **Claudia COSIO** (URCA)

Impact of organic and inorganic pollutants to aquatic biota

- **Emmanuel GUILLON** (URCA)

Fate of organic and inorganic pollutants in the environment

> **10.15 a.m. Coffee Break**

> **10.45 a.m. Session 2 - Chemical and microbial transformation of bio-based resources into valuable materials.**

- **Nick WIERCKX** (RWTH)

Metabolic engineering of smut fungi for the production of organic acids

- **Anne LUNZE** (RWTH)

*Analysis of the composition of the genus *Silphium* for pharmaceutical and biorefinery usage*

- **Judith LOOGEN** (RWTH)

*Efficient evaluation of cellulose digestibility by *Trichoderma reesei* Rut C30 and other cellulolytic fungi in online monitored shake flasks*

- **Bernard KUREK** (URCA)

Innovation for the valorisation of fiber-plants

- **Caroline REMOND** (URCA)

Enzymatic recovery of pentoses from lignocellulosic biomass and their enzymatic functionalization into surfactants and biologically active pentosides

- **Gabriel PAES** (URCA)

Modelling enzymatic deconstruction of lignocellulosic biomass

- **Florent ALLAIS** (AgroParisTech)

Chemo-enzymatic functionalization of lignocellulose-derived building blocks: an access to sustainable additives, monomers and polymers

- **Norbert HOFFMANN** (URCA)

Novel surfactants obtained from biomass-derived furans

> **12.15 Lunch**

> **2.00 p.m. Session 3** - Chemical engineering technologies for the transformation of bio-based resources in integrated processes

- **Philip GRANDE** (RWTH)

Advanced pulping for perennial plants: a holistic and sustainable integrated lignocellulose biorefinery concept

- **Benedikt HEYMAN** (RWTH)

Biotechnological production of itaconic acid via extractive in-situ product removal

- **Jochen BÜECHS** (RWTH)

Partially replacing stirred lab-scale bioreactors by highly parallelized shaken bioreactors with online monitoring

- **Xavier COQUERET** (URCA)

Radiation and photochemical processing of biobased materials

- **Patrick PERRE** (CentraleSupElec)

Upscaling/downscaling in processes and bio-processes: synergy between experimentation and modelling

- **Philippe JEANDET** (URCA)

New insights in the bioproduction of monomeric and oligomeric phytostilbenes by plant cell systems and evaluation of their biological activity

- **Sandrine BOUQUILLON** (URCA)

Biobased compounds for encapsulation purposes

> **3.30 p.m. Coffee Break**

> **4.00 p.m. Session 4** - Analysis, evaluation of economic conditions for and societal effects of a bio-based economy

- **Grit WALTHER** (RWTH)

Biofuels: legal measures and multicriteria evaluation

- **Sara CRAWFORD** (RWTH)

Effect-based tools, green toxicology and LCA: strategies to evaluate the risks of biobased materials

- **Martino NIEDDU** (URCA)

A reflexion of social scientist on Marquardt and al. (2010) : biorefinery's "one best way" or explorations of a technological portfolio of alternatives in Biomass transformations?

- **Nicolas BEFORT** and **Stéphane LHUILLERY** (Neoma Business School)

Which industrial strategy for which bioeconomy?

> **4.40 p.m. Session 5** - Bioeconomy and numerical sciences

- **Andrea KÖNIG** (RWTH)

Design of optimal biorefinery processes and associated biomass supply chains

- **Arnaud RENARD** (URCA)

ROMEO HPC Ecosystem for bioeconomy and numerical sciences

- **Ali BAKIRI** (URCA)

Reconstruction of HMBC correlation networks: a novel NMR-based contribution to metabolite mixture analysis

> **5.30 p.m. Closing Address**

- **"Building projects"** workshop