

CONFERENCE PROGRAM

Monday - July 9, 2018

- 10.00 Registration
11.30 Opening Ceremony
12.00 **Keynote lecture** *The ABE fermentation: 103 years after Weizmann's patent.* **Peter Dürre**, Ulm University (D)
13.00 **light lunch**
14.00 **Presentation** session "I - Upstream"
15.45 **Coffee Break**
16.15 **Presentation** session "II - Conversions to Butanol"
17.50 End of works
20.00 **Social dinner**

Tuesday - July 10, 2018

- 9.00 Registration
9.30 **Presentation** session "III - Downstream"
11.00 **Coffee Break**
11.30 **Presentation** session "IV - Commercialization"
12.45 Conference Closure
13.00 **Goodbye reception**

Scientific Committee

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| M.U. Alzueta (Universidad de Zaragoza, E) | P.Götz (Beuth Hochschule für Technik Berlin, D) |
| E. Bayer (Weizmann Institute, IL) | M.V. Landau (Ben-Gurion Univ. of Negev, IL) |
| R. Chirone (CNR-IRC, I) | J.M. Lopez Martinez (Universidad de Madrid, S) |
| R. Diez Antolinez (ITACyL, E) | A.Marzocchella (Università Napoli Federico II, I) |
| A. Fatjó Brugueras (IRIS, E) | I.Meynial Salles (National Inst. Applied Science,F) |
| A. Friedl (Technische Universität Wien, A) | B. Tiwari (TEAGASC, IRL) |
| P. Lettieri (University College London, UK) | |

Organizing Committee

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| A. D'Anna (Università di Napoli Federico II, I) | F. Raganati (Università di Napoli Federico II, I) |
| M. de la Feld (ENCO, I) | M. E. Russo (CNR-IRC, I) |
| L. Lisi (CNR-IRC, I) | A. Piscitelli (BIOPOX – Univ. Napoli Federico II, I) |
| A.Marzocchella (Università Napoli Federico II, I) | A. Procentese (CNR-IRC, I) |

The workshop is organized within the Waste2Fuels project and with the sponsorship of:



This Project is co-funded
by the European Union



WORKSHOP

Towards bio-butanol as fuel: biorefinery, processes and technologies

Napoli - July 9-10, 2018

Università degli Studi di Napoli Federico II
Scuola Politecnica e delle Scienze di Base
Library "F. Gasparini" - Historical section
P.le V. Tecchio, 80 – 80125 Napoli, Italy



Waste2Fuels – Grant agreement n°654623

Keynote lecture

THE ABE FERMENTATION: 103 YEARS AFTER WEIZMANN'S PATENT

Dürre P.

Session I – Upstream

Chairman: Prof. Dr.-Ing. Peter Götz

TORREFACTION AS A NEW PRETREATMENT ROUTE FOR THE BIOCHEMICAL CONVERSION OF FOOD WASTES TO BIO-BUTANOL

Brachi P., Procentese A., Ruoppolo G., Russo M.E., Chirone R.

SACCHARIFICATION OF AGRO-FOOD WASTES BY A COMMERCIAL CELLULASE COCKTAIL: KINETICS OF CELLULOSE HYDROLYSIS

Procentese A., Niglio S., Russo M.E.

THE IMPORTANCE OF PRETREATMENT ON BUTANOL PRODUCTION FROM AGROFOOD WASTES

Hijosa-Valsero M., Garita-Cambronero J., Paniagua-García A. I., Díez-Antolínez R.

BUTANOL PRODUCTION FROM LACCASE PRETREATED BREWER'S SPENT GRAIN

Giacobbe S., Pezzella C., Raganati F., Lettera V., Sannia G., Marzocchella M., Piscitelli A.

THE CELLULOSOME-PRODUCING, BUTANOLOGENIC *CLOSTRIDIUM SACCHAROPERBUTYLACETONICUM*

Levi Hevroni B., Moraís S., Bayer E. A.

ENGINEERING *C. SACCHAROPERBUTYLACETONICUM* N1-4(HMT) FOR ENHANCED BUTANOL, ACETONE PRODUCTION USING CLEAVE™

Monaghan T., Jenkinson L., Harding A., Hills C., Shepherd M

REVIVING THE WEIZMANN PROCESS FOR COMMERCIAL N-BUTANOL PRODUCTION

Meynial-Salles I., Nguyen N.P.T., Raynaud C., Soucaille P.

Session II – Conversion to butanol

Chairman: Prof. Dr. Peter Dürre

PLATFORMS CHEMICALS FROM AGRICULTURAL WASTE THROUGH BIOCONVERSION AND FERMENTATION PROCESSES

Cimini D., D'Ambrosio S., Ventrone M., Zaccariello L., Alfano A., Schiraldi C.

BIOREACTOR CASCADES FOR BUTANOL PRODUCTION: FROM MATHEMATICAL MODEL TO PILOT PLANT

Gotz P., Naschitzki N., Trippel S., Karstens K.

BIO-FUEL PRODUCTION BY SYNGAS PRODUCTION

Ruggiero G., Raganati F., Russo M.E.

EFFECT OF MgO DISPERSION ON CATALYTIC CONVERSION OF ETHANOL INTO BUTANOL

Apuzzo J., Cimino S., Lisi L.

CONVERSION OF AQUEOUS ETHANOL TO BIO-BUTANOL WITH HYDROPHOBIC CARBON-PROMOTED HYDROXYAPATITE CATALYST

Landau M., Herskowitz M.

CONVERSION OF AQUEOUS ETHANOL AND ABE MIXTURE TO THE BIO-GASOLINE BLENDING STOCK WITH ZN(CD)-ZR BASED CATALYST

Landau M., Herskowitz M.

Session III – Downstream

Chairman: Dr. Hijosa-Valsero María

BIO-BUTANOL DOWNSTREAM PROCESSING: REGENERATION OF ADSORBENTS AND SELECTIVE EXCLUSION OF FERMENTATION BY-PRODUCTS

Goerlitz R., Weisleder L., Wuttig S., Trippel S., Karstens K., Goetz P., Niebelschuetz H.

INTEGRATED ABE FERMENTATION-ADSORPTION PROCESS FOR ENHANCED BUTANOL PRODUCTION BY *CLOSTRIDIUM ACETOBUTYLICUM*

Raganati F., Procentese A., Olivieri G., Russo M.E., Salatino P., Marzocchella A

PERVAPORATION AS AN EFFICIENT DOWNSTREAM OPTION FOR ABE FERMENTATION

Shindler D. N., Miltner M., Kirchbacher F., Wukovits W., Friedl W.

ASSESSMENT OF HEAT DEMAND OF A PERVAPORATION/RECTIFICATION HYBRID PROCESS FOR ABE RECOVERY

Kirchbacher F., Kerschbaum B., Wukovits W., Friedl A.,

SOLAR-DRIVEN TORREFACTION OF A LIGNIN-RICH BIOGENIC RESIDUE IN A FLUIDIZED BED REACTOR

Tregambi C., Chirone R., Montagnaro F., Salatino P., Solimene R.

COMPARATIVE INVESTIGATION OF EXTRACTION FROM BIOMASS AFTER ABE FERMENTATION USING POWER ULTRASOUND AND MICROWAVE ASSISTED EXTRACTION

Zangh Z., Tiwari B.K.

Session IV – Commercialization

Chairman: Dr. -Ing. Walter Wukovits

LIFE CYCLE ASSESSMENT THROUGHOUT THE NEXT GENERATION OF BIO-BUTANOL

Chirone R., Marzocchella A., Bareschino P., Lettieri P.

RESEARCH ON THE USE OF BUTANOL-GAS OIL BLENDS IN HEATING BOILERS

Fonseca Gonzalez N., Bayona J.L.L., García Torrent J., Casanova Kindelán J., Holgado N.F., Lopez Martínez J.M.

SOOT FORMATION IN THE PYROLYSIS OF 1-BUTANOL: ECO-TOXICOLOGICAL STUDY

Pernia R., Pearson T., Millera, A., Bilbao R., Sirignano M., De Falco G., D'Anna A., Sorrentino R., Alzueta M.U.

SIZE DISTRIBUTION AND FUNCTIONALITIES OF PARTICLES FORMED IN PREMIXED ETHYLENE/BUTANOLS FLAMES

Sirignano M., Ciajolo A., D'Anna A., Russo C.

OPTICAL INVESTIGATIONS OF COMBUSTION PROCESS IN A CI ENGINE FUELLED WITH BUTANOL BLENDS

Tornatore C., Marchitto L., Valentino G.
