BRISK2
BIOFUELS RESEARCH INFRASTRUCTURE

NEWS
WWW.BRISK2.EU

Issue 1 December 2017

WELCOME TO BRAND NEW BRISK2

BRISK2 partners at the BRISK2 launch. Photo courtesy of CERTH

Welcome to the new *Biofuels Research Infrastructure for Sharing Knowledge,* funded by Horizon 2020.

BRISK2 provides opportunities for biofuels researchers to access unique equipment and expertise across Europe. The most exciting part of BRISK2 is the ability to offer Transnational Access to a broader range of biofuels researchers from both inside and outside Europe, making this project truly international.

There are also new Joint Research Activities, with collaborations between project partners to investigate integrated multi-scale characterisation of new feedstocks, innovate biorefining approaches and develop system simulation tools.

As Project Coordinator at KTH, it is a pleasure to be part of BRISK2. I look forward to working with the consortium and welcoming researchers for Transnational Access.

Andrew Martin
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In this issue:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement number 731101.

BRISK2 LAUNCH

BRISK2 officially launched on 26 June 2017 with a 2-day kick-off meeting in Stockholm organised by Project Co-ordinator, KTH.

Clockwise from top: Wageningen Research, CENER and ECN

Representatives from all fifteen of BRISK2's brand new network of biofuels partners, representing research organisations from eleven European countries, met to discuss the Transnational Access and Joint Research Activities that will underpin BRISK2 until project completion in 2022.

BRISK2 follows in the footsteps of BRISK, which ran from 2011—2015 and offered Transnational Access to more than 200 researchers. BRISK2 has expanded to welcome applications from outside Europe and a broader range of proposals including biological conversion and bio-refinery, as well as thermochemical conversion.

BRISK2 aims to support more researchers than BRISK, accelerating the development of bioenergy expertise, fostering a culture of cooperation and establishing Europe as a global centre of excellence in biofuels.

Clockwise from left: VTT, BE2020+ and KTH

Alongside the initial launch, Project Co-ordinator Andrew Martin also led the meeting of the first BRISK2 Executive Committee (ExCo), consisting of representatives from seven project partners. The ExCo develops BRISK2's integration strategy, monitors overall progress and ensures goals are met in terms of quality.

The BRISK2 Advisory Board and Transnational Access (TA) Application Selection Panel (USP), consisting of experts in biofuels research, will be announced at a later date.

Read on to find out more about BRISK2 partners and the work that's underway to make the new *Biofuels Research Infrastructure for Sharing Knowledge* a success.

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TRANSNATIONAL ACCESS

BRISK2 launched the first call for applications for Transnational Access (TA) in September 2017.

Biofuels researchers are now welcome to apply to BRISK2 via the website www.brisk2.eu at any time whilst the project is active.

Pool Deadline	Selection Panel Assessment	Notification	Access Period
15 November 2017	December 2017	20 December 2017	Jan—May 2018
1 April 2018	April 2018	15 May 2018	May—Oct 2018
1 October 2018	October 2018	15 November 2018	Nov—Apr 2019
1 April 2019	April 2019	15 May 2019	May-Oct 2019

Applications will be pooled for assessment by a specially appointed panel (USP) of biofuels experts. Call dates until 2019 are available online and are summarised in the table above. Additional dates beyond 2019 will be announced in 2018. The selection panel will meet in December 2017 to assess the first batch of applications and offer initial opportunities to access equipment and expertise with BRISK2.

Applications are now welcome for access in May-October 2018 and will be pooled for the next assessment panel in April 2018. Visit www.brisk2.eu for more information or read on to discover BRISK2's partners.

APPLY FOR TRANSNATIONAL ACCESS NOW!
visit www.brisk2.eu

Clockwise from top left: BRISK TA visitors 2011-2015 at KTH, SINTEF, ENEA, EBRI at Aston University, CERTH, and ENEA's updraft gasification unit

PARTNERS

KTH Royal Institute of Technology in Stockholm is Sweden's largest technical university and one of Europe's leading engineering universities. *Energy* is one of five research platforms at the institution and biomass, particularly thermochemical conversion, plays a prominent role in their work. Led by Professor Andrew Martin, KTH are BRISK2's project co-ordinators as well as offering three installations to Transnational Access applicants technologies including fast pyrolysis, hydrothermal processing, gasification as well as gas, biomass and product characterisation.

www.energy.kth.se
brisk2@energy.kth.se

The Energy research Centre of the Netherlands (ECN) is Holland's largest energy research institute, active in joint efforts with industry, government authorities and research institutes on national and international levels. ECN's core activities include solar energy, wind energy, biomass, energy efficiency, environmental assessment, engineering and materials, and policy studies.

www.ecn.nl
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ECN offers technologies in combustion, gasification, pyrolysis, tar analysis and removal alongside expertise that facilitates the transition to sustainable energy systems. ECN are also BRISK2 Work Package Leaders on protocols, databases and benchmarking, promoting and supporting the availability of structured, reliable and high quality data on relevant biomass and biomass product properties.

The Karlsruhe Institute of Technology (KIT) in Germany is a unique merger of the 181 year old Karlsruhe University and the 50 year old Forschungzentrum Karlsruhe, combining a long transition of research and education and holding a leading position among Europe's largest science institutions. KIT are work package leaders developing advanced measurement techniques for enhanced process flexibility and reliability. KIT are also offering TA applicants opportunities to access equipment for hydrogenation, hydrothermal processing, fast pyrolysis and pyrolysis oil hydrodeoxygenation.

www.kit.edu
axel.funke@kit.edu

Aston University has an excellent reputation for research that makes an international impact, focusing on outcomes that make a substantial and beneficial difference to people, organisations and society. The European Bioenergy Research Institute at Aston University in the UK are BRISK2 work package leaders managing the project's promotion and dissemination, as well as providing TA opportunities with world-renowned expertise in pyrolysis (slow, intermediate and fast) with Professor Tony Bridgwater, alongside biomass preparation, bio-oil upgrading, catalysis and hydrothermal processing.

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PARTNERS

bioenergy2020+

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stefan.retschitzegger@bioenergy2020.eu

BIOENERGY 2020+ is a competence centre within the Austrian Comet programme dealing with bioenergy research, performing industrial research and pre-competitive development in energy from biomass, with the aims to strengthen direct co-operation both among the company partners and between science and industry. BE2020+ are BRISK2 work package leaders developing an integrated multi-scale characterisation of new feedstocks for thermochemical and biochemical conversion processes.

SINTEF is Norway's largest independent research organization, creating value through knowledge generation, research and innovation, and developing technological solutions for practical use. SINTEF is a multidisciplinary organisation with most of its income from bilateral industrial research contracts and participation in European or national research projects. SINTEF is a BRISK2 work package leader developing system simulation tools for comprehensive modelling of biomass conversion and bio-refinery. SINTEF offer access for TA applicants to biomass and product characterisation and analysis, pyrolysis and pyrolysis oil upgrading, and fermentation technologies.

SINTEF

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WAGENINGEN
UNIVERSITY & RESEARCH

www.wur.nl
rene.vanree@wur.nl

Wageningen University & Research centre aims to offer new perspectives of sustainable agriculture, exploring the potential of nature to improve quality of life. Based in the Netherlands, Wageningen UR is a world leader in the field of bio-economy. They are BRISK2 work package leader, innovating biorefining approaches for sustainable bio-based products. They also offer TA applicants access to equipment for catalysis, biomass fractionation, pre-treatment, separation processes, as well as screw and pressure reactors and a belt filter press.

The Centre for Research & Technology Hellas (CERTH), is a non-profit Government organisation under . CERTH's mission is to carry out fundamental and applied research with emphasis on the development of novel products and services of industrial, economic and social importance. CERTH welcomes TA applications through BRISK2 to access their fixed bed gasifier and fuel and residues analytical laboratory. Pre-treatment, gas analyses and sampling technologies are also available.

CERTH
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

www.certh.gr
panopoulos@certh.gr

PARTNERS

CENER

National Renewable Energy Center of Spain (CENER) is a technology centre specialised in applied research in the development and promotion of renewable energies. CENER has one of the most modern research infrastructures in Europe, with cutting edge experimental facilities and laboratories offering high added value services that transfers technology to stakeholders. CENER offers technologies for biomass characterisation, biomass preparation, torrefaction, gasification, fermentation and pre-treatment.

www.cener.com
idelcampo@cener.com

The National Laboratory of Energy and Geology (LNEG) in Portugal is focused on R&D activity with a mission to promote technological innovation focused on science and technology that increases competitiveness in the private sector within a framework of sustainable economic progress. LNEG has a range of facilities for BRISK2 applicants including biomass and product characterisation, fermentation, product separation, pyrolysis, microalgae production and wastewater treatment.

LNEG

www.lneg.pt
francisco.girio@lneg.pt

ENEA

ENEA, the Italian National Agency for New Technologies, Energy and Sustainable Economic Development is a public body providing research activities and services to support public, public and private enterprises. It is the second major Italian research organization whose activities mainly focus on energy efficiency, renewable energy sources, nuclear energy, climate and the environment, new technologies and electric system research. ENEA offers pressure reactors for pre-treatment and fractionation as well as technologies for hydrogen production and separation, updraft gasification and steam reforming.

www.enea.it
francesco.zimbardi@enea.it

TUDelft is the oldest technical university in The Netherlands, founded in 1842 and is characterized by its cutting edge research and first class education. TU Delft's research results in approximately 185 PhD theses and >4,000 journal publications annually. The Process & Energy department has more than 15 years of experience in thermochemical, thermal and chemical conversion of biomass, with a research focus on biorefinery. Biofuels researchers can access TU Delft's biomass characterisation, pyrolysis and gasification technologies with BRISK2.

TU Delft Delft University of Technology

www.tudelft.nl
wiebren.dejong@tudelft.nl

POLITECNICO DI TORINO

POLITO was founded 150 years ago and is a leading public university, in Europe in technical-scientific teaching and research. Politecnico di Torino has a wealth of experience as partner in common research projects with other European and international centres and offers access to equipment for biomass fractionation, biomass preparation, fermentation, fuel cells, combustion gasification and tar analysis through BRISK2.

www.polito.it
andrea.lanzini@polito.it

PARTNERS

VTT Technical Research Centre of Finland Ltd is the largest internationally networked R&D centre for applied research in Northern Europe, harnessing state -of-the-art technology to generate research and innovation that enhances international competitiveness as well as support sustainable development, employment and wellbeing in society. VTT offers eight installations to BRISK2 TA applicants including technologies for gasification, tar reform, ash analysis, biomass characterisation, catalysis, combustion and pyrolysis (fast and slow).

www.vttresearch.com
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The Graz University of Technology (Technische Universität Graz, TUG) is a public university founded in 1811 and is the second largest technical university in Austria. TUG's Institute of Thermal Engineering (IWT) is a partner in BRISK2, offering technologies in gasification, gas cleaning, tar analysis, combustion of solids and slurries, as well as fuel cell diagnostics.

Graz University of Technology

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JOINT RESEARCH ACTIVITIES

WP	Work Package (WP) Title	Work Package Leader
1 & 2	Overall BRISK2 project management & coordination of Transnational Access	KTH
3	Promotion and dissemination	Aston University
4	Protocols, databases and benchmarking	ECN
5	Integrated multi-scale characterisation of new feedstocks for thermochemical and biochemical conversation processes	Bioenergy 2020+
6	Advanced measurement techniques for enhanced process flexibility and reliability	KIT
7	Innovative biorefining approaches for sustainable bio-based products	Wageningen Research
8	Development of system simulation tools for comprehensive modelling of biomass conversion and bio-refinery	SINTEF

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RIG LIST—SUMMARY

Partner	Country	Equipment Available
Aston University	UK	Biomass characterisation, biomass preparation, bio-oil upgrading, catalysis, hydrothermal processing, pyrolysis: analytical, catalytic, fast, intermediate, and slow
Bioenergy 2020+	Austria	Biomass characterisation, combustion, gasification, torrefaction, pyrolysis, aerosols, ash analysis, tar analysis
CENER	Spain	Biomass characterisation, biomass preparation, torrefaction, gasification in BFB, fermentation, biomass pre-treatment and fractionation, biological conversion
CERTH	Greece	Downdraft gasification
ECN	Netherlands	Combustion, gasification in BFB, pyrolysis, indirect gasification, tar analysis/removal
ENEA	Italy	Pressure reactor for pre-treatment and fractionation, hydrogen separation, membrane reactor, updraft gasification, hydrogen production, separation, steam reforming
KIT	Germany	Fast pyrolysis in twin screw, hydrogenation, hydrothermal processing, pyrolysis oil hydrodeoxygenation
KTH	Sweden	Alcohol-water separation, catalytic reactor up to 35 bar, combined heat and power, biomass, gas and product characterisation, gasification integrated with PV and wind, catalysts, combustion, fast steam pyrolysis
LNEG	Portugal	Biomass pre-treatment and fractionation, digestion, fermentation, product separation, hydrothermal, pyrolysis, microalgae production, photobioreactor, separation processes, wastewater treatment
Politecnico di Torino	Italy	Biomass fractionation, biomass preparation, digestion, fermentation, fuel cell, combustion, gasification, tar analysis
SINTEF	Norway	Product characterisation and analysis, biomass characterisation, pyrolysis, pyrolysis oil upgrading, biomass characterisation, fermentation
TU Delft	Netherlands	Autoclave, biomass characterisation, pyrolysis, gasification in BFB, tar analysis/ removal
TU Graz	Austria	Gasification in BFB, gasification, gas cleaning, tar analysis, fuel cell with diagnostics, combustion of solids and slurries
VTT	Finland	Gasification, tar reformer, ash analysis, biomass characterisation, catalysts, combustion, gasification, Fischer-Tropsch, pyrolysis fast, pyrolysis slow, combustion in BFB and CFB, gasification in BFB and CFB
Wageningen Research	Netherlands	Screw reactor, pressure reactor, biomass fractionation, pre-treatment, catalysis, belt filter press, fermentation, biochemical conversion, biomass preparation, separation processes, biomass and product characterisation

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HOW TO APPLY FOR TRANSNATIONAL ACCESS

Applications for Transnational Access (TA) are now open. Biofuels researchers from industry and academia are welcome to apply via the new BRISK2 website at www.brisk2.eu.

Applications for TA must fulfil strict eligibility criteria:

- The minimum level of qualification required is Bachelor of Science (BSc) or equivalent in a relevant Science or Engineering discipline.
- Applications can only be made to host organisations within the BRISK2 network and outside that of the applicant's own country and organisation
- Priority will be given to applicants who do not normally have access to similar research facilities within the country they are based
- Priority will be given to first time applicants
- Applications are welcome from across the world. However, the majority of grants will be available to EU member and Horizon 2020 associated states.

BRISK2 Application Steps

1. **Contact** your preferred BRISK2 project partner and discuss the viability of your proposal. Contact information is on page 10.
2. **Complete** the Transnational Access Application Form available at www.brisk2.eu/how-to-apply under consultation with your BRISK2 project partner.
3. **Submit** the completed PDF form via the BRISK2 website.

APPLICATIONS NOW OPEN

Individuals or teams of researchers are eligible to apply. BRISK2 will cover the cost of travel and subsistence up to the value of €1200 per visit

Transnational Access is coordinated by KTH

Applications can be made online. General enquiries can be sent to:

Vera Nemanova at brisk2@energy.kth.se

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PARTNER CONTACTS

Biofuels researchers interested in applying for Transnational Access are invited to submit applications after consultation with the project partner of their choice. Direct dialogue with project partners can be initiated using the contact details below:

Project Partner	Contact	Email
Aston University	**Scott Banks**	s.banks@aston.ac.uk
Bioenergy 2020+	**Stefan Retschitzegger**	stefan.retschitzegger@bioenergy2020.eu
CENER	**Inés del Campo**	idelcampo@cener.com
CERTH	**Kyriakos Panopoulos**	panopoulos@certh.gr
TU Delft	**Wiebren de Jong**	wiebren.dejong@tudelft.nl
ECN	**Jaap Kiel**	kiel@ecn.nl
ENEA	**Francesco Zimbardi**	francesco.zimbardi@enea.it
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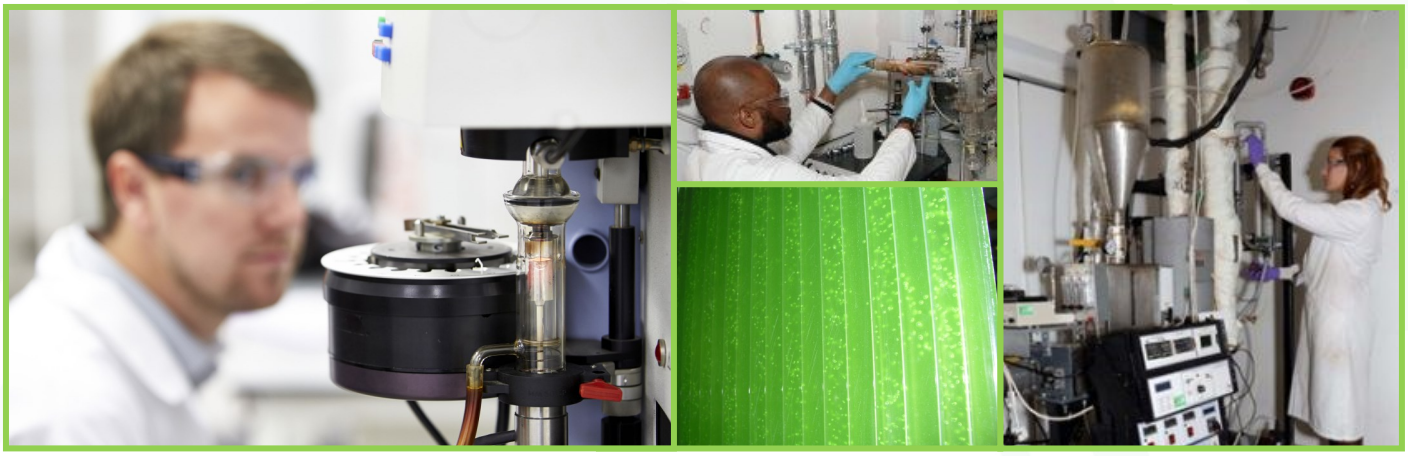
KIT	**Axel Funke**	axel.funke@kit.edu
KTH	**Vera Nemanova**	brisk2@energy.kth.se
LNEG	**Francisco Girio**	francisco.girio@lneg.pt
Polito du Torino	**Andrea Lanzini**	andrea.lanzini@polito.it
SINTEF	**Bernd Wittgens**	bernd.wittgens@sintef.no
VTT	**Sanna Tuomi**	sanna.tuomi@vtt.fi
Wageningen Research	**René van Ree**	rene.vanree@wur.nl



PROGRESS MEETING

BRISK2 at KIT

From 4th—5th September 2017, BRISK2 partners met at the Karlsruhe Institute of Technology in Germany for productive talks on Joint Research Activities and to make final preparations for the launch of Transnational Access. BRISK2 partners also enjoyed a comprehensive tour of KIT's extensive biomass conversion facilities and gasification plant.

Karlsruher Institut für Technologie

NEW WEBSITE FOR BRISK2

BRISK2's new website was launched in July 2017 with partners pages, rig lists and application process. New content is coming soon, including detailed downloadable partner profiles. Next year there'll also be case studies and reports from biofuels researchers benefitting from BRISK2, as well as a growing presence on social media. Keep up to date at www.brisk2.eu.

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Shaping Biorefinery Futures – Request for Input

IEA Bioenergy Task 42 facilitates the commercialisation and market deployment of environmentally sound, socially acceptable and cost-competitive biorefinery systems and technologies, advising policy and industrial decision makers.

Task 42, whose members include BRISK2 partners Wageningen Research and ENEA, provides an international platform for collaboration and information exchange between SMEs, GOs, NGOs, RTOs and universities. The current work programme, which runs until 2018 looks at biorefinery systems, product quality, the evolving bioeconomy as well as communication, dissemination and training. Recent workshops in Sweden and Belgium have focused on the role of industrial biorefineries in low carbon and circular economies.

The new work programme, which will run from 2019-2021, is now being drafted. All stakeholders such as SMEs, industry, policy makers, NGOs, research institutes and universities active in the biorefinery/ bioeconomy sector are invited to contribute ideas for the new programme in answer to the following questions:

- What biorefinery/bioeconomy data are you looking for?
- What kind of assessment tools are still lacking?
- What type of reports or papers provide added value to your activities?
- Do you need any biorefinery or bioeconomy based training?
- Do you want to be more closely involved in Task 42 activities?

Ideas, input and requests are invited from all stakeholders by the end of 2017 and should be emailed to **secretariat.bbp@wur.nl** stating in the subject line: 'IEA Bioenergy Task 42—Input 2019-2021'.

For more information visit Task 42's new website www.task42.ieabioenergy.com

IEA Bioenergy

WAGENINGEN
UNIVERSITY & RESEARCH

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BIOENERGY NEWS

Indirect Land Use Change Investigated

BRISK2 partners CENER have joined forces with Netherlands Environmental Agency (PBL), Wageningen Economic Research and Wageningen Environmental Research to complete a study for the European Commission. It provides a systematic analysis of the latest available scientific research and evidence on indirect land use change (ILUC) and greenhouse gas (GHG) emissions associated with biofuels and bio liquids production.

Raw material for biofuel production cannot be obtained from land with a high carbon stock or high biodiversity value due to EU mandatory sustainability criteria. However this does not necessarily protect land from being used to produce raw materials for other purposes in unsustainable ways or prevent displacement of agricultural production. The study, coordinated by CENER, recognises the challenges inherent in determining the effects of ILUC and recommends mitigation options. The full report can be accessed online here.

Goizeder Barberena Ibanez
gbarberena@cener.com
www.cener.com

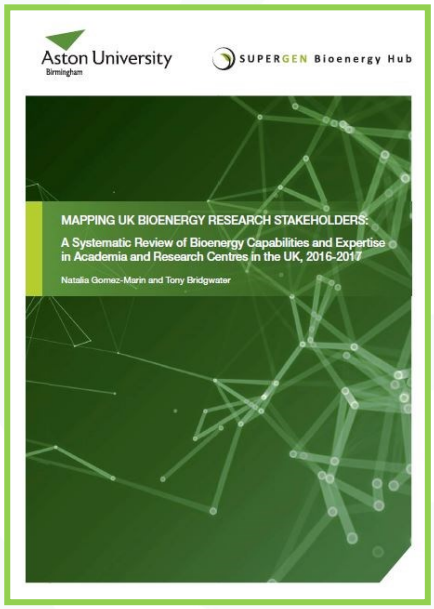
UK Bioenergy Mapped

Bioenergy is the largest contributor to global renewable energy supply but needs to triple its contribution by 2050 to support sector decarbonisation and safeguard future generations.

In light of this, SUPERGEN Bioenergy Hub and the European Bioenergy Research Institute at Aston University have recently completed a substantial study of bioenergy research in the UK. *Mapping UK Bioenergy Research Stakeholders: A Systematic Review of Bioenergy Capabilities and Expertise in Academia and Research Centres in the UK, 2016-2017* provides a current, holistic overview of bioenergy research across UK.

Co-authored by Dr Natalia Gomez-Marin and BRISK2 Work Package Leader Professor Tony Bridgwater, the report is currently available online from the European Bioenergy Research Institute website.

A limited number of print copies are also available by emailing p.try@aston.ac.uk.



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BIOENERGY EVENTS

BRISK2 SPONSORS EUBCE 2018

BRISK2 will be sponsoring the 26th European Biomass Conference & Exhibition next year from 14-17 May at the Bella Center in Copenhagen, Denmark.

EUBCE 2018 is supported by the European Commission, UNESCO, the World Council for Renewable Energy and the European Biomass Industry Association. It represents a world leading platform for the collection, exchange and dissemination of cutting edge research in the field of biomass, with an R&D conference programme covering the full scope of biofuel activities, from biomass and conversion technology through to industrial application and policy strategy.

For more information on BRISK2's presence at EUBCE2018, contact Pippa Try at p.try@aston.ac.uk.

European Biomass Conference & Exhibition

14-17 May 2018

Copenhagen, Denmark

www.eubce.com

Sponsored by

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Energy From Waste Conference 2018
February 28—March 1, 2018—London, UK

Advanced Bio-economy Leadership Conference
February 28—March 2, 2018—Washington DC, US

ECO-BIO
March 4-7, 2018 - Dublin, Ireland

33rd International Conference on Solid Waste Technology and Management
March 11-14, 2018 - Annapolis, US

WorldBioMarkets
March 20-22, 2018—Amsterdam, The Netherlands

Gasification 2018
March 28-29, 2018—Frankfurt, Germany

9th International Conference on Biofuels & Bioenergy
March 29-30, 2018—Edinburgh, Scotland

9th Annual Congress on Biofuels & Bioenergy
April 16-17th, 2018 - Dubai, UAE

REGATEC
May 3rd - 4h, 2018 - Toulouse, France

EUBCE
May 14th - 18th, 2018 - Copenhagen, Denmark

Pyro2018
June 3-8, 2018—Kyoto, Japan

International Conference on Biomass
June 17th - 20th, 2018 - Bologna, Italy

World Bioenergy Congress and Expo
July 2nd - 4th, 2018 - Frankfurt, Germany

KEY CONTACTS

TA & General Enquiries to brisk2@energy.kth.se

BRISK2 Project Co-ordinator

Work Package 1 & Executive Committee (ExCo) Leader

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Transnational Access Co-ordination

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Promotion & Dissemination

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Work Package 4 Leader—

Protocols & Benchmarking

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Work Package 5 Leader—

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Stefan Retschitzegger

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Work Package 6 Leader—

Advanced Measurement Techniques

Nicolaus Dahmen

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Work Package 7 Leader—

Biorefining Approaches

Carl Safi

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Work Package 8 Leader—

System Simulation Tools

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Contributions for the next BRISK2 newsletter are invited. Please submit articles with photos to:

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This newsletter was produced by the European Bioenergy Research Institute at Aston University, UK on behalf of BRISK2, EU Grant Agreement number 731101. Any opinions or material contained within this newsletter are those of contributors and do not necessarily reflect the views of EU Horizon 2020 or Aston University.