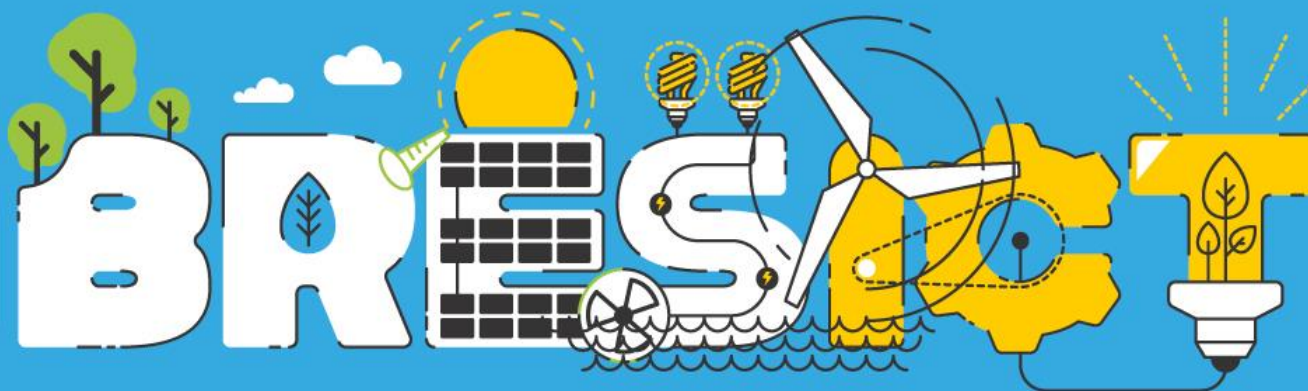


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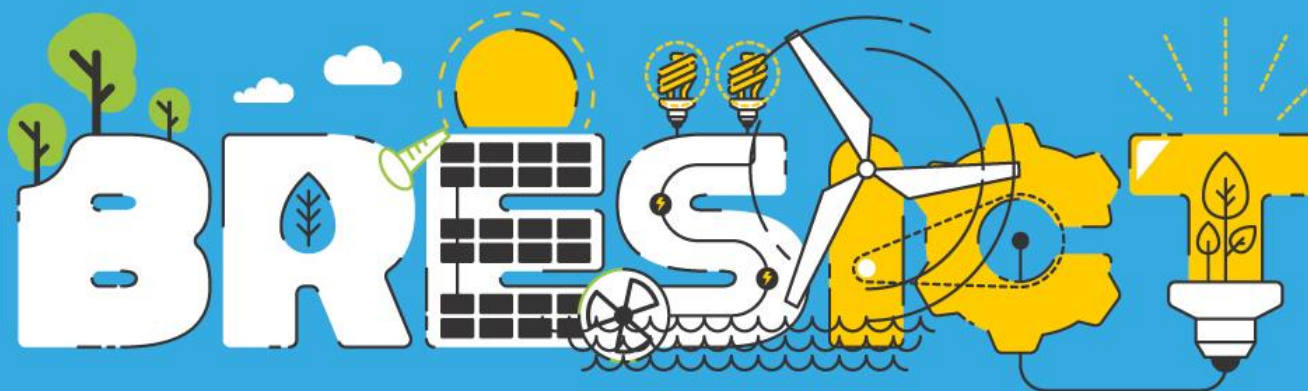
Biorefineries and Renewable Energies Supported on ICT

February 17, 2020
Scientific - academic programme

TIME	ACTIVITY		
7:00 am. 8:00 am.	REGISTRATION		
8:00 am. 8:30 am.	OPENING - Dra. Maritza Rondón - Rector Universidad Cooperativa de Colombia, Dr. Andrés Mantilla - Director Instituto Colombiano del Petróleo		
8:30 a.m. 9:00 a.m.	Conference Opening		
	Biorefinery Symposium	Renewable Energy, Water and Air Symposium	Industry 4.0 for energy, water, air and biorefineries symposium
9:00 am. 9:30 am.	KNS1 - Alberto Coz Fernandez - University of Cantabria – Spain "Time to the coffee break: can coffee waste materials be used in a circular economy?"	KNS1 – Damian Kasperczyk - Ekoinwentyka – Poland "Development and adaptation of the technology of air biotreatment in trickle - bed bioreactor to automotive painting industry"	KNS1 - Fernando Macho - Servicios Empresariales Comunitarios, S. L. – Spain "The inescapable use of Artificial Intelligence and Deep learning with convolutional neural networks in the optimization of any renewable energy and biorefineries".
9:30 am. 10:00 am.	KNS2 – Janka Dibdiakova - Norwegian Institute of Bio Economy Research - Norway "Bioprospecting: Norwegian forest bioeconomy and bioproducts"	Paper 17 - Experimental Analysis on Cooling Designs for Photovoltaic Panels – Picay L. Jorge L., Maradey L. Jessica G.	Paper 51 - Design a virtual power plant for the control and administration of plants and renewable energetic Infrastructure in the Colombian environment. Gómez Mario, Colmenares Q., Ramón F., Maestre G., Gina P.
10:00 a.m. 10:30 a.m.	COFFEE BREAK		
10:30 a.m. 11:00 a.m.	Paper 9: Definition of the methodology for the evaluation of MSW final disposal alternatives trough LCA in Colombia – Caicedo C. Diana M., Sandoval C. John J., Ramírez Paola, Colmenares Q. Ramón F., Stringfello Anne	KNS2 - Kim Stansfield - Warwick University - United Kingdom "Constructive Alignment of Sustainable Resource Developments and The Voice of the Coastal Community Using Modern QFD"	Paper 14 - Sustainability applications in the edificio de ingeniería eléctrica of the Universidad Industrial de Santander – Bucaramanga - Parrado D. Alejandro, Osma P. German, Ordoñez P., Gabriel
11:00 a.m. 11:30 a.m.	KNS3 – Juan Carlos Colmenares – Institute of Physical Chemistry of the Polish Academy of Sciences – Poland "Solar energy and water in the biorefinery concept"	Paper 41: Evaluation of the tip speed ratio and power coefficient using a numerical study of a lift-based spherical turbine for in-pipe installation - Oscar Monsalve Cifuentes, Jonathan Graciano Uribe, Diego Andrés Hincapié Zuluaga	Paper 52 - Application of data mining in the decision-making process of energy projects in non-interconnected areas in Colombia. Camacho Elizabeth, Colmenares Q., Ramón F., Maestre G., Gina P.



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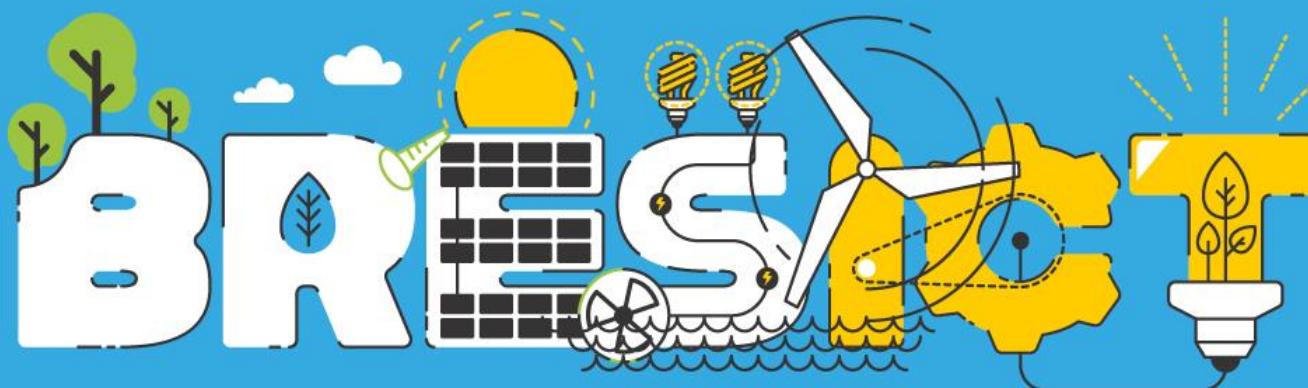
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February 17, 2020
Scientific - academic programme

TIME	ACTIVITY		
	Biorefineries Symposium	Renewable Energy, Water and Air Symposium	Industry 4.0 for energy, water, air and biorefineries symposium
11:30 a.m. 12:00 m	KNS 4 Julien Chenet – Asociación Colombo – Francesa de investigadores – Francia "Sustainable ecosystem through renewable energies for Puerto Carreño, Vichada Department, Colombia"	Paper 36 - Optimal protection relay coordination for power distribution networks with photovoltaic generation penetration, case study: Dominican Republic distribution network – Landron Manuel	KNS3 - Hernán Astudillo -Universidad Técnica Federico Santa María – Chile "Sensorization for environmental disaster management"
12:00 m 2:00 p.m.	FREE LUNCH		
2:00 p.m. 2:30 p.m.	Paper 24 - Design of the I+i+D project in biomass through design-based research as a sustainable environmental energy resource - Coello P. Silvia M., Rodriguez G. Benigno, Hidalgo C. Jose A.	Paper 22 - Micro hydroelectric with sustainable trout- Cerón John	Paper 32 - Renewable energy smart sensing system – Colmenares Q. Ramón F., Maestre G. Gina P., Valderrama Oscar C.
2:30 p.m. 3:00 p.m.	KNS5 – Ondřej Mašek - UK Biochar Research Centre - United Kingdom "Biochar as a co-product of thermochemical biomass conversion and its different applications"	KNS2 – Bram Berkelmans– Elemental Water Makers – Netherlands "The role of renewable desalination to solve Colombia's coastal water scarcity"	Paper 16 - A Study of Consumer Perceptions with respect to green marketing in Supermarket Chains located in Bucaramanga, using Factor Analysis – Hernandez C. Javier, Morales M. Jonathan D., Angarita R., Freddy
3:00 p.m. 3:30 p.m.	COFFEE BREAK		
3:30 p.m. 4:00 p.m.	Paper 48 - Rice husk lignin utilization for energy storage – Rybarczyk Maria	Paper 40 - Teaching and learning styles for the design and application of curricular strategies in engineering towards a community-challenge based learning – Barbosa Sergio H., Colmenares Q. Ramón F.	Paper 31 - System for performance assessment of solar home systems. – Muñoz Yecid, Vera Carlos, Pinto María
4:00 p.m. 4:30 p.m.	Paper 23 - Numerical and experimental study of laminar burning velocity of syngas/methane mixtures using syngas obtained from biomass and coal gasification – Amell A. Andres A., Arrieta G. Carlos E., Cano A. Fabian E., Cardona V. Arley J., Yepes T. Hernando A.,	KNS 3 – Argiro Ramírez –MinCiencias – Colombia "Distribución geoespacial del camarón rosado Penaeus notialis (Decapoda: Penaeidae) en el Caribe colombiano"	Paper 33 - Business intelligence for the provision of energy services in non-interconnected zones in Colombia – Pacheco Lina J., Maestre G. Gina P., Colmenares Q. Ramón F.



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Scientific - academic programme

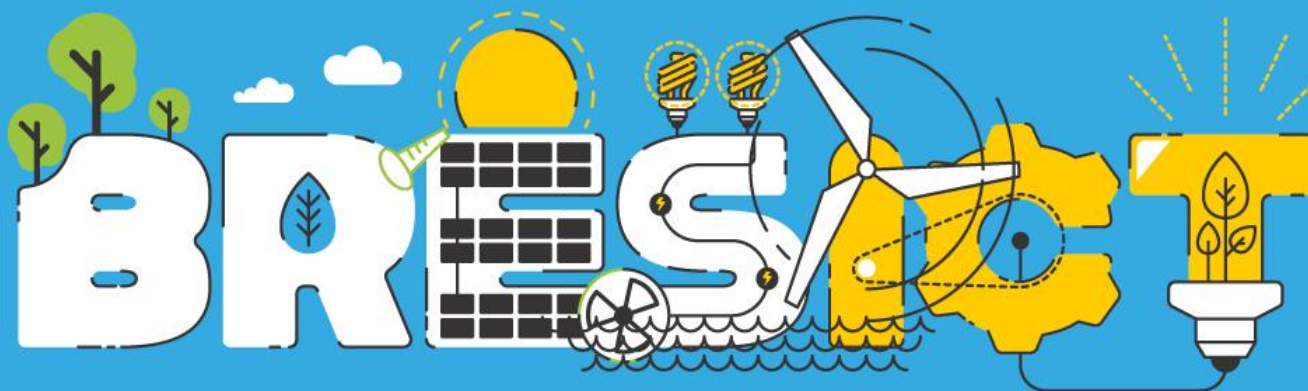
TIME	ACTIVITY		
	Biorefineries Symposium	Renewable Energy, Water and Air Symposium	Industry 4.0 for energy, water, air and biorefineries symposium
4:30 p.m. 5:00 p.m.	KNS 6 Apostolis Koutinas - Agricultural University of Athens (AUA) – Greece "Valorisation of the organic fraction of municipal solid waste for the production of bio-based products"	KNS 3 Johnny Meit – Oceans of Energy - Netherlands "Offshore solar solutions & project SWEET"	Paper 10: Design and implementation of smart irrigation system for green roofs with focus IoT conditions considering warm-tropical weather – German Osma P., Andrés Cristancho J., César Duarte G.

February 18, 2020
Scientific - academic programme

TIME	ACTIVITY		
7:00 am. 8:00 am.	REGISTRATION		
	Biorefineries Symposium	Renewable Energy, Water and Air Symposium	Industry 4.0 for energy, water, air and biorefineries symposium
8:00 am. 8:30 am.	KNS 7 - Konstantinos Triantafyllidis - Aristotle University of Thessaloniki – Greece "Valorization of lignin towards chemicals, fuels and polymers"	Paper 39 - Mini-grids with distributed energy generation and frequency control – Medina Daniel, Zuchuat Nicoles, Muñoz Pablo	KNS4 - Vladimir Villarreal - Universidad Tecnológica de Panamá – Panama "Ambient Intelligence as low cost solutions in Health environments"
8:30 am. 9:00 am.	Paper 3 – Acid depolymerization of cell wall polysaccharides from ulvan-rich extracts of green seaweeds – Llano A., Tamara, Macías S., Carmen, Trancho B., Asier, Robles C., Juan, Arroyo H., Nina L., Coz Alberto	Paper 46 - Community-perception-based framework to design water-energy solutions: Case study from a Caribbean coast community in Colombia – Benavides Juliana, Colmenares Q. Ramón F.	Paper 38 - Methodology based on gamification to improve the teaching- learning process towards the challenges of sustainable development in primary, secondary and engineering students. – Mera P. Julian A., Colmenares Q. Ramón F.
9:00 a.m. 9:30 a.m.	Paper 50 - Pilot-scale assessment of biohydrogen and volatile fatty acids production via dark fermentation of residual biomass - Acevedo P. Paola A., Rangel V. Carol J., Sastoque G. Jeisson, Calderón S. Juan S., Mosquera T. Jhessica D., Cabeza R. Ivan Orlando	Paper 49- Hybrid renewable energy system for industrial applications and residential areas at large scale –Buitrago Nestor, Vargas J. Camilo A., González Julio	Paper 37 - Industry 4.0, one opportunity for the economic growth – Vasquez John, Garavito Youseline, Castro Martha L., Gutierrez Juan C., Rodriguez Sandra



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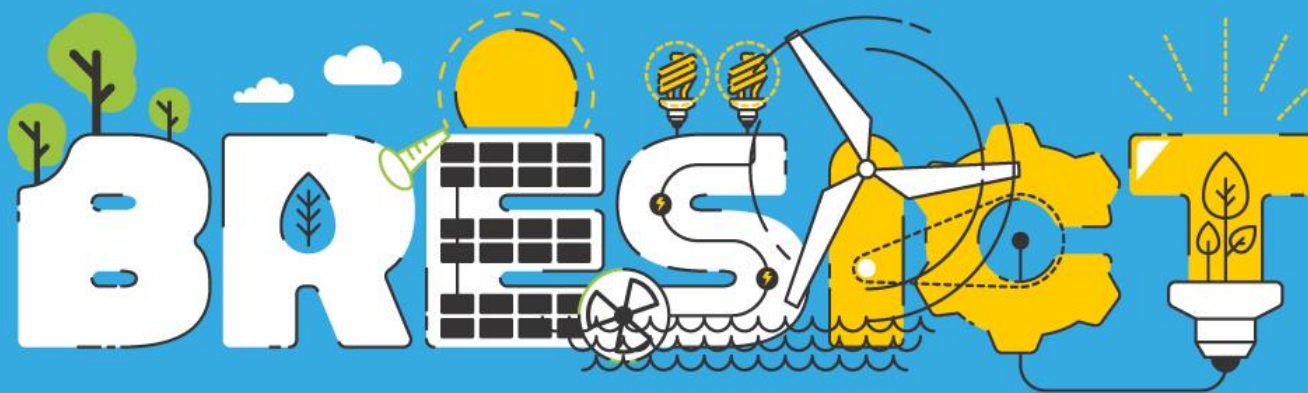
Biorefineries and
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February 18, 2020
Scientific - academic programme

TIME	ACTIVITY		
	Biorefineries Symposium	Renewable Energy, Water and Air Symposium	Industry 4.0 for energy, water, air and biorefineries symposium
9:30 a.m. 10:00 a.m.	KNS8 - Carol Lin - City University of Hong Kong - China – Virtual “Construction of in-situ-FiBrous-Bed Reactors (isFBB) using porous cellulose hydrogels to simulate human intestinal microbial ecosystem”	KNS 4 Isa Walker – Aquetera Ltd - United Kingdom “Aquatic renewable energy review and capacity building for energy and water production in Colombia”	KNS5 Philippe Aniorte - Université de Pau et des Pays de L’Adour - France “From Industry 4.0 to Cyber-Physical Systems: A Framework to manage Renewable Energy Smart Systems”
10:00 a.m. 10:30 a.m.	COFFEE BREAK		
10:30 a.m. 11:00 a.m.	Paper 5 - Environmental and safety performance of crude palm oil production as key driver of renewable energy companies – Moreno S., Kariana, Alarcón S., Carlos, Gonzalez D., Angel	Paper 47- Current state of the public policy in marine renewable energy in non-interconnected area: case study in Colombia. – Cardona C. Jimena, Colmenares Q. Ramón F.	Paper 6 - Optimization of the use of renewable energy resources for water pumping in isolated areas: Dominican Republic case – Landron Manuel
11:00 a.m. 11:30 a.m.	Paper 27 - Dynamic model of thermal degradation of polymer binary mixtures. – Oscar Bellon H., Diana Riscanevo E., Ariel Rodríguez H.	Paper COTECMAR - Title to be confirmed	Paper 43 - Methodology for modeling photovoltaic arrays based on simulated data for fault detection using machine learning – Rojas Eyberth, Colmenares Q. Ramón F.
11:30 a.m. 12:00 m.	KNS 9 Rafael Luque Álvarez - Universidad de Córdoba - Spain “The Concept of Biorefinery: Present and Future”	Paper 11 – : A Proposal for Photovoltaic-thermal (PVT) System Automation – Juan Nichoy, Cristian Arango	Paper 28 - Prototype of physical variables measurement system in a cacao culture – Cabrera M. Jaime M., Medina R. Ferley, Sanchez M. Irlesa I., Vargas V. Juan S., Calapsu C. Erika D., Restrepo R. Daniel E.
12:00 m. 2:00 p.m.	FREE LUNCH		
2:00 p.m. 2:30 p.m.	KNS 10 Ulrika Rova - Luleå University of Technology – Swenden “Valorization of forest and marine resources towards production of cello-oligosaccharides with prebiotic potential”	Paper 18 - Evaluation of the change of the electric matrix in Colombia: replacement of thermoelectric plants by non-conventional energy sources – Cuevas G. Andrés F., Hernandez P. Luisa F.	Paper 35 - Solar energy harvesting design for the evaluation of the autonomy of a wireless sensor node – Salazar C. Mónica M., Marulanada T. Alejandro



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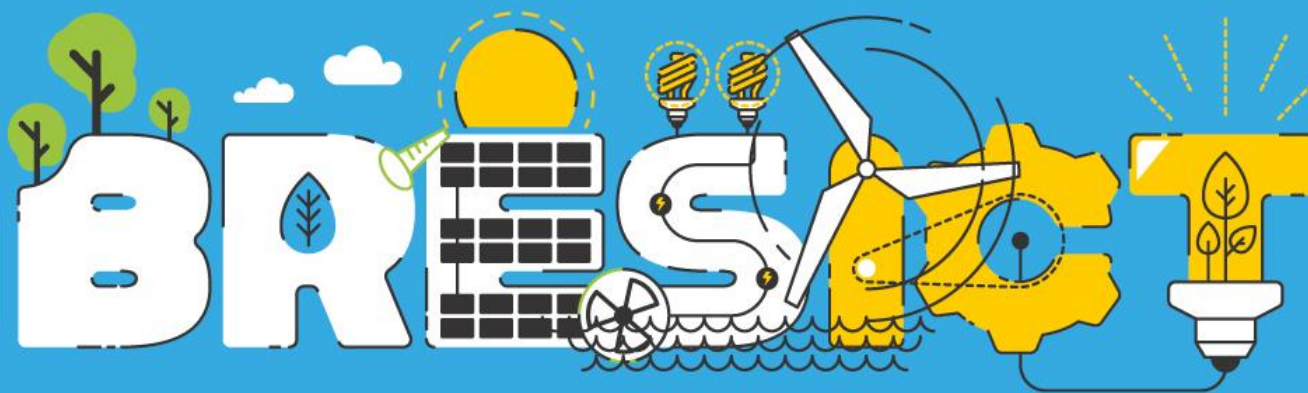
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February 18, 2020
Scientific - academic programme

TIME	ACTIVITY		
	Biorefineries Symposium	Renewable Energy, Water and Air Symposium	Industry 4.0 for energy, water, air and biorefineries symposium
2:30 p.m. 3:00 p.m.	KNS 11 Alec Gunner - TWI Ltd - United Kingdom "Materials and Structural Considerations for Biomass Processing"	KNS 5 Rodolfo Silva Casarín - Centro Mexicano de Innovación en Energía del Océano – Mexico (Presentación virtual) "Futuro de la innovación en Energías del Océano en México."	Paper 2 - Integration of prediction techniques in the decisions and planning scenarios for the implementation of photovoltaical systems. Obando Edgar D., Perez O. David J., Bolaños Fabio A.
3:00 p.m. 3:30 p.m.	COFFEE BREAK		
3:30 p.m. 4:00 p.m.	Paper 26 - Design of a prototype for energy harvest – Mosquera L. Angel D., Cabrera M. Jaime M., Medina R. Ferley, Gordillo R. Sergio A., Sanchez M. Irlesa I.	Paper 19 - Air-conditioning condensate recovery in hot and arid climate regions: a case study – Galindo G. Jose C., Arrieta G. Carlos E., Mora U. Iván, Maestre A. Iván	Paper 8 - Photovoltaic energy administration system using internet of things – Cabarcas Amaury, Rosales M. Camilo A., Toscano M. Francis L., Leal B. Humberto A., Mendoza R. Rafael
4:00 p.m. 4:30 p.m.	KNS 13 - Fernando Colmenares – Universidad Cooperativa de Colombia – Colombia "Smart Energy Solution: Design based on Communities' challenges: A Framework to manage Renewable Energy Smart Systems based on biomass"	Paper ESSA – Title to be confirmed	Paper 7: Automated IoT based water quality monitoring system – Cabarcas Amaury, Pombo O. Daniel E., Torres P. Juan M.
4:30 p.m. 5:00 p.m.		Paper 45 -Toolbox (software) for teaching and learning training research aimed at the appropriation of renewable energies in educational institutions in the city of Popayán. – Ruano I. Luis E., Arboleda R. Juan D.	Paper 21 - Data analytics in smart renewable smart grids energy networks: ITC tools– Quiroga Darío



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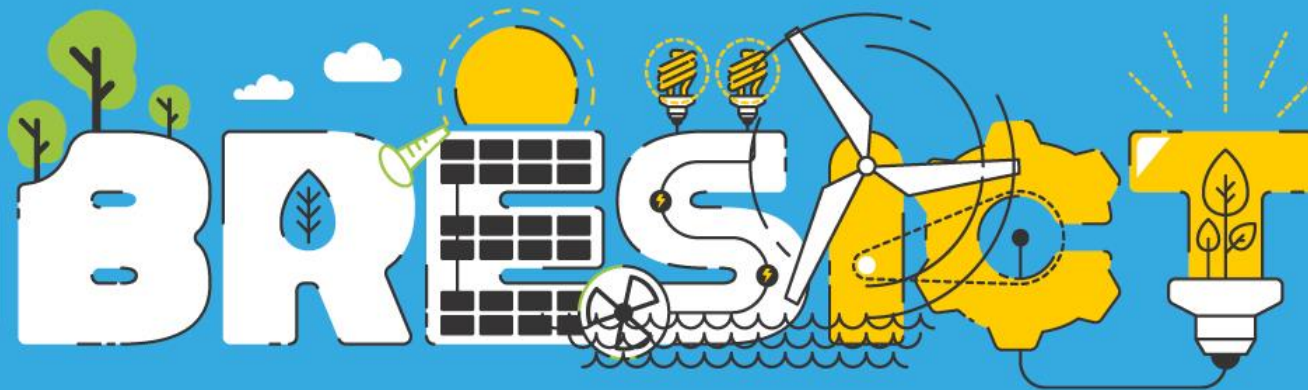
Biorefineries and
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February 19, 2020
Scientific and business programme

TIME	ACTIVITY
7:00 a.m. 8:00 a.m.	REGISTRATION
8:00 a.m. 9:00 a.m.	Conferences Opening
9:00 a.m. 10:00 a.m.	Conference
10:00 a.m. 10:30 a.m.	COFFEE BREAK
10:30 a.m. 11:00 a.m.	Short presentations by participants
11:00 a.m. 12:00 m.	Short presentations by participants
12:00 m. 2:00 p.m.	FREE LUNCH
2:00 p.m. 3:00 p.m.	Presentation of challenges to work
3:00 p.m. 3:30 p.m.	COFFEE BREAK
3:30 p.m. 5:00 p.m.	Networking for proposal generation challenges / Business meeting



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Congress on



Biorefineries and
Renewable Energies
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February 20, 2020
Scientific and business programme

TIME	ACTIVITY
7:00 a.m. 8:00 a.m.	Registration
8:00 a.m. 10:00 a.m.	Networking for proposal generation challenges / Business meeting
10:00 a.m. 10:30 a.m.	COFFEE BREAK
10:30 a.m. 12:00 m	Networking for proposal generation challenges / Business meeting
12:00 m. 2:00 p.m.	Free Lunch
2:00 p.m. 3:00 p.m.	Presentation of proposals
3:00 p.m. 3:30 p.m.	COFFEE BREAK
3:30 p.m. 5:00 p.m.	Congress Closing Forum

