



Press release

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Mario Heredia Salgado wins the first ISC₃ “Entrepreneurial Spirit in Sustainable Chemistry Award” with his start-up “Andes”

Mario Alejandro Heredia Salgado wins the “Entrepreneurial Spirit in Sustainable Chemistry Award” which has been granted by the International Sustainable Chemistry Collaborative Centre (ISC₃) for the first time in 2019 as part of the Elsevier Foundation ISC₃ Green and Sustainable Chemistry Challenge. Heredia has developed a process to produce biochar from agribusiness biomass wastes to improve stressed soils. The prize consists of a cash award of 25,000 EUR plus the onboarding at the ISC₃ Global Start-up Service and was awarded on 6 May 2019 at the 4th Green and Sustainable Chemistry Conference in Dresden in Germany.

The new ISC₃ Entrepreneurial Spirit in Sustainable Chemistry award highlights scientists with entrepreneurial spirit in the field of sustainable chemistry. The jury of international experts selected innovative ideas terms of market potential, business models, technological innovation and impact. With the award, ISC₃ intends to inspire the scientific community to bring sustainable solutions to the markets. The award is an integral part of the Challenge partnership between ISC₃, the Elsevier Foundation and Elsevier’s chemistry journals with two additional 50,000 EUR 1st and 25,000 EUR 2nd Prize awards to be announced on May 8th for sustainable chemistry solutions to energy, medicine, water, waste reduction, and agriculture challenges in the developing world.

Biochar from agrobusiness waste to improve soil quality

Mario Heredia Salgado from Ecuador is the first winner of the ISC₃ Award for Entrepreneurial Spirit in Sustainable Chemistry. He created his start-up "Andes" based on his academic thesis where he developed a process to produce biochar from agribusiness biomass wastes for soil improvement. The energy required for the char production is taken from the very same process. The product itself then can be used to restore degraded land and increase crop yield. The innovation convinced the jury because the concept embraces multiple sustainable technical approaches from the fields of waste management, renewable energy production and harnessing

biogenies sources. In addition, Salgado's innovation has shown technical feasibility and he has already built a network of partners. Supported by the European Committee for Training and Agriculture, the prize winner is currently a Ph.D. student at Aveiro University in Portugal.

Friedrich Barth, Managing Director of ISC₃ announced that, "ISC₃ is proud to hand over the first Award for Entrepreneurial Spirit in Sustainable Chemistry to a project that has internalized the idea of sustainable chemistry on various levels. With his start-up, Mario Alejandro Heredia Salgado can make an important contribution to improve tropical soils, one of the most vulnerable resources of this climate region."

Dr. Alexis Bazzanella, Co-Director of the ISC₃ Innovation Hub: "We are looking forward to onboard the winner into our Global Start-up Service and support Mario Salgado and his next steps with his young company". The ISC₃ Global Start-up Service (GSS) is the world's first programme providing holistic support to sustainable chemistry changemakers globally.

The jury

The prize winner was selected out of 44 candidates by a jury of three international experts: Prof. Henning Friege, Professor at the Leuphana University, Prof. Joel Tickner, Professor at the University of Massachusetts Lowell and Director of the ISC₃ Regional Hub in the US, and Dr. Claudio Cinquemani, Director of Science and Innovation at ISC₃ in Bonn.

Besides the idea of Mario Salgado, the jury members were also impressed by the entrepreneurial spirit of the second nominee, Mohammed Aourach from Morocco, who developed a substance to replace conventional pesticides with natural extracts.

4th Green and Sustainable Chemistry Conference 2019

The award was handed over at the 4th Green and Sustainable Chemistry Conference from 5 - 8 May 2019 in Dresden, an annual high-level scientific conference that discusses and puts forward green and sustainable chemistry in a unique interdisciplinary manner. The conference is organized by Elsevier in cooperation with the Leuphana University in Luneburg and the ISC₃. It brings together international participants from academia as well as from the private and public sector, to share the latest developments in the fields of green and sustainable chemistry.

Elsevier Foundation - ISC₃ Awards for Green and Sustainable Chemistry

The Elsevier Foundation, Elsevier and ISC₃ are partnering to collaborate on the annual "Elsevier Foundation - ISC₃ Awards for Green and Sustainable Chemistry". The purpose of this Awards collaboration is to promote capacity and community building in the field of green and sustainable chemistry in developing and emerging countries, addressing challenges focusing on energy, water, waste reduction, agriculture, and medicine.



Friedrich Barth, Managing Director of the ISC₃ (left) hands over the ISC₃ Award for Entrepreneurial Spirit in Sustainable Chemistry to the first prize winner Mario Alejandro Heredia Salgado; Copyright: ISC₃/Lösel

Footage: [High-resolution download here](#)

About the International Sustainable Chemistry Collaborative Centre (ISC₃)

The ISC₃ is a globally acting, non-profit organization, multi-stakeholder platform and think tank founded in 2017 on behalf of the German Federal Ministry for the Environment and the German Federal Environment Agency to promote and develop sustainable chemistry solutions worldwide. It manages a knowledge platform and a network of experts, offers training and support for implementation especially for developing countries, carries out innovation scouting activities to discover new technologies, processes and business models. The ISC₃ Innovation Hub in cooperation with DECHEMA initiates innovations in the field of sustainable chemistry and supports entrepreneurs through its Global Start-up Service. ISC₃ is also active in the field of science and operates as a Research and Education Hub in cooperation with the Leuphana University. www.isc3.org