



The fifth World Young Scientist Summit (WYSS) was held in Wenzhou, China in November.

YOUNG SCIENTISTS' SUMMIT LOOKS TO SUSTAINABLE FUTURE

Hundreds of early- and mid-career scientists from around the world gathered in China for an exchange of ideas in late 2023. **NEW RESEARCH AWARDS FOR SUSTAINABLE DEVELOPMENT** were a notable focus.

Young minds have the power to revolutionize the world. At the age of 23, Isaac Newton contemplated the law of gravity beneath an apple tree. In her early 30s Chien-Shiung Wu played a pivotal role in the Manhattan Project, helping the United States win the race to develop the first atomic bomb. Albert Einstein, at the age of 26, made four groundbreaking discoveries in physics, including his special theory of relativity. Marie Curie, while still in her 20s in Paris, discovered polonium and radium.

What young scientists lack in experience, they make up for with fresh perspectives and

an ability to tackle problems unconstrained by dogma and convention, says biologist Xiaokun Li, president of Wenzhou Medical University in Zhejiang, China.

This appreciation for young scientists led Li and his long-term collaborator — structural biologist, Moosa Mohammadi of Oujian Laboratory in Wenzhou — to get involved with the World Young Scientist Summit (WYSS), an event held annually in Wenzhou, aimed at fostering these young minds.

The fifth iteration of WYSS, held on 11-12 November 2023, was centered around 'Youth Innovation for a Sustainable

Future'. It was co-organized by the China Association for Science and Technology and the People's Government of Zhejiang Province.

A CALL FOR UNITY

"We find ourselves at a crossroad where the future hinges on science," says Li. "To tackle pressing challenges such as climate change we are now facing, it is imperative for young scientists to collaborate on sustainable and ethical solutions."

The 2023 Summit attracted around 800 attendees from around the world. The majority were early- and mid-career

researchers under the age of 45, but the attendees also included Nobel laureates and senior representatives from international scientific and technological organizations. This diverse group provided a platform for younger scientists to learn from established experts in areas such as fundraising, research translation, and leadership, according to Li.

The event showcased a series of forums and workshops where young scientists presented their research in key areas such as artificial intelligence, advanced energy materials, brain science, and public health, along with solutions for a sustainable future.

The event emphasized forums aimed at fostering equity for female scientists and promoting collaboration between young researchers in China and Europe. It also introduced the inaugural 'Young Scientist SDGs Award' to recognize significant research contributions towards achieving any of the United Nations' 17 Sustainable Development Goals.

SDG PATHFINDERS

Selected from among 80 candidates in 35 countries and regions, three early career researchers were awarded a prize of one million RMB (US\$140,000). Among the recipients was Henry Snaith a physicist at the University of Oxford, in the United Kingdom.

He was recognized for his work on improving perovskite photovoltaic cells, while minimizing the environmental impact of sourcing raw materials and manufacturing.

In collaboration with Tsutomu Miyasaka, from the University of Yokohama in Japan, Snaith dedicated more than a decade to refining 'solar absorber' materials in photovoltaic devices, aiming for their large scale deployment.

"There can't be very many things more important than enabling society to grow and prosper in a sustainable manner," said Snaith. "My ultimate hope is that the perovskite photovoltaic technology contributes significantly to the decarbonization of power generation."

To Snaith the value of a conference dedicated to young scientists is clear.

"Research communities are often heavily influenced by a few very well-established leaders," he says, but a summit such as WYSS — with its focus on young scientists — makes space for new and unconventional ideas to emerge and flourish.

Xiongwen (David) Lou, a materials scientist from the City University of Hong Kong, shares this vision. He was honored with



▲ In 2023 the World Young Scientist Summit (WYSS) focused on sustainable development. Recipients are presented with their Young Scientist SDGs Awards (top); Henry Snaith, a physicist at the University of Oxford (bottom), was awarded for his work on perovskite solar cells.

a Young Scientist SDGs Award for his work on developing efficient, cost-effective, and environmentally friendly nanomaterials for energy storage and conversion systems.

"INVESTING IN YOUNG SCIENTISTS EQUATES TO INVESTING IN OUR FUTURE."

These advanced materials have numerous potential applications in electrochemical capacitors, rechargeable batteries, fuel cells, hydrogen production, and CO₂ reduction to combat carbon emissions.

"It is a privilege to be acknowledged for making

contributions to a sustainable future," says Lou. He anticipates that the recognition brought by the award will open doors for collaboration with scientists across various disciplines.

The third winner, material scientist Qiang Zhang of Tsinghua University in Beijing, has been developing advanced materials for rechargeable lithium batteries. Zhang says his research is "a humble, yet pivotal contribution to the broader narrative of energy transformation".

Zhang teaches the 'Chemical Engineering for Global Challenges' course at Tsinghua University. This is designed to "empower students to proactively combat climate change," he says.

"Let this award serve as a reminder that collective actions, no matter how small, can spearhead significant change," adds Zhang.

FINDING SOLUTIONS

Another way the WYSS meeting is facilitating changes is through a series of initiatives aimed at fostering international collaboration. These include three sub-forums in New York, Brussels and Dubai, which took place before or after the main WYSS meeting in Wenzhou.

In November in Wenzhou, the 'China-Europe Young Scientists Dialogue' and the 'Sino-Nordic Sustainable Development Forum for International Cooperation' were held, focusing on nurturing bilateral research collaborations to tackle global challenges and boost sustainable development.

Discussions at this year's forums have resulted in collaborative research projects between Wenzhou Medical University and several universities and research institutes in Scandinavia, all aimed at tackling pressing public health challenges.

Meanwhile, the popular "Forum for Female Scientists", was attended by 200 young scientists from many countries.

As for the future of WYSS events, Li envisions them growing continuously, becoming an increasingly important source of solutions to global challenges.

For example, one of the upcoming forums may centre on developing responses to future pandemics.

"Investing in young scientists equates to investing to our future," says Li. ■

Learn more about the 2023 instance of the World Young Scientist Summit at www.wyss.org.cn/2023/en/



www.wyss.org.cn