

Nonsense, fetishes, barriers blocking brilliance, progress: NOBEL LAUREATES

The 59th gathering of Nobel laureates ran from June 28 to July 3 in Lindau, an island resort on Lake Constance in southern Germany. The Jakarta Post's **Ati Nurbaity** was invited to the annual event, which featured 23 laureates in chemistry and 580 young scientists from across the world. Below is a report.

What's blocking creative minds? Inhibitions caused by governments, industries, educational flaws and religion, apart from ignorant politicians, that's what Nobel laureates here say. Last, but not least perhaps, coveting the Nobel prize itself can also inhibit scientific pursuits.

At their annual gathering in this lakeside resort, they raised a wide range of concerns about potential constraints to progress – from the alarming trend of “more nonsense” to the “fetish” of education and the forgotten “backwaters” of basic research.

Harold Kroto, a Nobel co-laureate in 1996, was one of several addressing the get-together of laureates and young researchers. The British chemist lashed out with provoking questions on science and religion. Religion contradicts the scientific method, he points out, in its acceptance of blind faith. It's ok for people to have such “props”, he says in an interview, as it helps them through crises, but when decision makers mix faith and science, singling out former leaders Tony Blair and George W. Bush, “how can you trust them?”

The philosopher Bertrand Russell was among his favorite academic sources, who had raised several examples questioning the existence of God and the “truth” of sacred texts, such as the differences between Hindus, Jews and Muslims over what is forbidden to eat.

Not unlike a few moderate Muslim Indonesians speaking out against extremists, Kroto takes little care in being politically correct. It's clear he's had enough of the “nonsense” – not from religion itself but of its use by both leaders and scientists in the wake of terrorism. “Do not become a scientist to teach young people to make a bomb,” he said.

He shares what he's “incensed” about – pathetic education except for that of religious education in Florida, where he lives in the US, or that infants in some madrassas (Muslim boarding schools) “only read the Koran all day”; about all the wars fought in the name of God and worrying signs of mixing the affairs of church and state again, after all the trouble taken in reaching the Enlightenment.

Kroto also shares his work with teachers and children in several countries, in improving interest in and the teaching of science, through workshops and the Internet.

Some of the 20-something year-olds packing Kroto's class said they disagreed, saying that science and religion should be separate, the latter remaining “a personal choice.” “I am religious,” a Filipino biochemist confided. In response to accusations of playing God against chemical engineering, he said that mutations already occur in nature and that scientists just aim “to speed up the process”. But to what extent, “that I don't know yet”, he said.

Even without the need to overcome dogma, laureates raised other challenges to future scientists. One of last year's laureates, Martin Chalfie, on Thursday was one of several raising concerns that support and funding is now hard to get for ‘the backwaters’ of basic science. These cover the work of researchers who want to know all they can about life, without always being able to answer straight away the question from potential donors – “what for?”

In the 1950s, he said, who in the music industry would have supported research into lasers? Nowadays, few can imagine life without their DVDs and CDs. Chalfie was one of three scientists awarded the Nobel prize last year for their work on green fluorescent protein; but they recognize their work was achieved thanks to its initiator, Douglas Prasher, who did not win the Nobel prize.

Don't hope for the Nobel prize anyway, says Kroto, just focus on what you enjoy and on what you think you can do best.

And this is clearly a luxury.

Industrialists and governments tend to support “strategic” research areas – and some governments and cultural environments don't even allow you to decide what you think you might enjoy. Roger W. Tsien, another researcher awarded the prize along with Chalfie, was asked by a Chinese journalist the recipe to success.

China alone sent some 25 young researchers, a proud showcase of its much acclaimed rising strength; the United States sent 91 scientists, of which 25 percent were from various nationalities, organizers said; and India has a delegation of over 40 and is now a “partner country” of the annual Lindau meetings.

While there was clearly much talent in his original home country, he said that from his own experience he would not recommend education becoming a “fetish”, apparently in reference to some over-emphasis on schooling in countries like China.

Keeping “intellectual freedom”



Young researchers pose with Robert H. Grubbs, a co-laureate of the 2005 Nobel chemistry prize. Grubbs was among 23 chemistry laureates who came to Lindau to meet young scientists from 67 countries in the annual event.

was the key, said Tsien, when students can make their own decisions apart from what they are told to do.

Parents and societies in Indonesia, Japan and Korea have also been criticized for long school hours but not necessarily stressing useful skills.

The single Indonesian representative here is Fritz Simone, came not from Jakarta but from the Massachusetts Institute of Technology – in his case his dream college came true.

The former high school student in Bandung now says he wants to contribute to education in his home country. He doesn't know exactly how, but he knows exactly what it was like. “I was happy when 11 subjects were reduced to 10,” he said of his time spent studying at the top Aloysius high school.

His student years were when the Ministry of Education was changing policies for the umpteenth time, deciding that high school students should only take their majors in the last, third grade.

“I knew I could do all that stuff, accounting, history, but I didn't really like it,” says Fritz, adding that he had good science teachers.

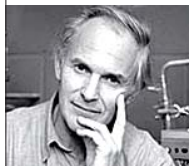
Back home, somehow, he says he'll try to contribute to making science fun to learn – and more Indonesian youngsters will then be able to decide for themselves what they enjoy, and what they're good at.

A GLANCE AT THE ABOVE MENTIONED SCIENTISTS

Harold Kroto

- won 1996 the Nobel prize with Richard Smalley and Robert Curl Jr for discovery of fullerene carbon compounds, the family of molecules composed entirely of carbon.

- was born in 1939 to German parents who fled Berlin. Kroto among others factors credits his toy Meccano set (compared to the ‘trivial’ Lego) and work in his father's balloon factory in Bolton, North West England, to his grounding in science research, and also “exceptional” teachers at the Bolton School. His hobbies included tennis and graphic design.



- among his activities in education Kroto set up the Vega Science Trust (www.vega.org.uk) in 1995. He says he aims to spread awareness of more use of the Internet for learning and teaching.

- Presently based at the Florida State University in Tallahassee, the US, his research is presently in nanoscience, the study and manipulation of materials at atomic, molecular and macromolecular scales; and Kroto defines the human child as a “perfect” result of nanotechnology.

Martin Chalfie

- born Jan 15, 1947, professor of biological sciences, Columbia University, U.S.

- awarded in 2008 along with Roger Tsien and Osamu Shimomura for work in green fluorescent protein. Chalfie developed GFP as a luminous genetic tag for various biological phenomena – which he jokingly credits for the creation of “the Hulk” the green Hollywood character.

- Former captain of the Harvard swimming team.



Roger Y. Tsien

- born Feb 1, 1952 in New York City, 2008 co-Nobel laureate; professor of pharmacology, chemistry and biochemistry at University of California, San Diego, US



- his team developed ways to adapt green fluorescent protein for practical use, enabling simultaneous monitoring of molecular processes without disrupting cell functions.
- Credits scientific background to his extended family which includes engineers, chemists and rocket scientists.
- While students and scientists cite the highly competitive, egoistic environment of science, both Chalfie and Tsien credit scientist Douglas Prasher for freely ‘giving’ the GFP gene to them, which he discovered, but was never recognized for.

Fritz Simeon, Indonesia

- Fellow of Siemens AG at Massachusetts Institute of Technology, PhD in chemical and pharmaceutical engineering from the National University of Singapore

— JP/ATI NURBAITY



A view of one of the alleys in Lindau, an island on Lake Constance in southern Germany, on the border with Austria and Switzerland.

Picturesque lake resort puts Germany back on the map

Lindau is a small resort island on Lake Constance in Germany's southern state of Bavaria, across the Alps shared with Austria and Switzerland.

Tourists here sit in the sun in picturesque market squares on cobbled streets, surrounded by old, well-preserved beautiful buildings; or whiz by as the locals do on their bikes.

Chirping birds and hourly bells clanging from nearby churches, fresh air and pretty pathways form the surroundings of the annual meeting of Nobel laureates here.

In these long summer days, until 10 p.m. people still enjoy ice cream. Concerts, marionette plays and music festivals are available for those who opt to stay until August.

The event started with a few laureates and researchers in 1951, an initiative by a member of the nobility here, the Count Lennart Bernadotte. His daughter, Bettina Bernadotte, now president of the Council for Nobel Laureate Meetings, says it was “very important” that these meetings were increasingly internationalized, to change the local mentality “that Germany is isolated from the rest of the world”.

While international gatherings are today taken for granted, despite the increasing difficulty in raising funds amid an already long list of German sponsors, observers say it was extraordinary that such a meeting featuring foreign laureates first took place shortly after World War II, which led to the

stigmatization of Germany.

This year, 23 laureates in chemistry and 580 young researchers in chemistry from all over the world are participating in the gathering, which Bernadotte says will retain the focus on the sciences, including economics.

Organizers say the balance between nationalities, gender and fields of research are now better, with 44 percent of young researchers women. The aim stays the same, she says, mainly the fostering of interaction between young scientists and the Nobel laureates, with “education, connection and inspiration” being the theme.

This year, Indonesia has only one representative, Fritz Simeon from the Massachusetts Institute of Technology, though it was earlier reported there would be two students from Indonesia. With the Association of Southeast Asian Nations (ASEAN) now a partner, Indonesian students can hope to gain a better opportunity to meet and talk with the laureates in person.

For those interested in a holiday here, options are to take a flight to either Frankfurt or Zurich, which is just across the lake from here.

The Schengen visa applies for both places; just beware of heavy luggage, which might reduce your holiday fun when having to change railway platforms, up and down the stations.

— JP/ATI NURBAITY