Nobel Prize Laureate Ben Feringa at Technion

Laureate of the Nobel Prize in Chemistry for 2016 gave a lecture to students and faculty as part of the Yitzhak Apeloig Distinguished Visiting Lectureship Series, and planted a tree in the Technion's Nobel Trail

Professor Bernard Lucas Feringa, who received the Nobel Prize in Chemistry in 2016, recently gave a special lecture at the Technion – Israel Institute of Technology, as part of the Apeloig Distinguished Visiting Lectureship Series. Prof. Feringa was awarded the Nobel Prize in chemistry together with Profs. Jean-Pierre Sauvage and Sir J. Fraser Stoddart for their work on the design and synthesis of molecular machines. Sir J. Fraser Stoddart had visited the Technion and gave the Apeloig Lecture in 2018.

Molecular machines exist naturally, and play important role in our body. Some examples include the retinal – a molecular switch in our eyes that responds to light and enables us to see; the myosin motor which contracts our muscles; the ATP Synthase rotary motor, involved in the production of all the energy our body uses; and many more. Figuring out how these motors work, and following nature's examples to design and synthesise such molecules, is a field which Profs. Feringa, Sauvage, and Stoddart pioneered.

As part of his visit, Prof. Feringa planted a tree in the Technion's Nobel Trail in the Lokey Park, where over 20 trees have already been planted by visiting Nobel Laureates. He signed a plaque on the Nobel Laureates' Wall of Fame in the Schulich Faculty of Chemistry and gave a lecture to a hall full of attentive students, postdoctoral fellows, and faculty. Prof. Feringa also had a lunch with eleven PhD students. He answered their questions, discussed with them how one chooses a research topic and gave advice about the next steps in their careers.

"Fundamental science should not be neglected," Prof. Feringa told the attendants. "It is this kind of research that has the potential to lead to applications that change the way we live. Consider the smartphone, and the effect it has had. It was made possible by fundamental research into transistors and liquid crystal materials." He explained his own fundamental research into molecular switches and motors, and mentioned some of the potential future applications of the technology, which are currently in their proof-of-concept stage: self-cleaning and self-repairing materials, tuneable filters, catalysts, and more. "We need chemistry to build a sustainable future," he said. "Molecular machines are part of that."

Prof. Feringa also spoke extensively about the teachers who encouraged and inspired him, from his chemistry teacher at highschool to his PhD advisor in the University of Groningen. "Teachers open windows to the future of society," he said. "Then their pupils go out and make it a reality." Being a PI himself now, he expressed his gratitude to his students: "I wouldn't be where I am now without their hard work, their creativity and their dedication."

The Yitzhak Apeloig **Distinguished Visiting Lectureship** was established by the American and Canadian Friends of the Technion societies to honor the leadership and achievements of Prof. Yitzhak Apeloig during his eight-year tenure (2001-2009) as Technion President. The lecture endowment enables an annual visit to the Technion of a world-leading scientist, such as Nobel Prize laureates. Prof. Feringa's lecture was the sixth in the series, and all previous

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lecturers were Nobel prize laureates- making it one of the world's most prestigious lectureships.

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Captions:

1. Prof. Ben Feringa (L) planting a tree, accompanied by Technion President Prof. Uri Sivan
2. L-R: Profs. Yitzhak Apeloig, Ben Feringa, Noam Adir (Dean of the Schulich Faculty of Chemistry), Uri Sivan (Technion President), Wayne Kaplan (VP for External Relations and Resource Development)
3. Prof. Feringa (left) with Prof. Apeloig next to signature wall in the Schulich Faculty of Chemistry

credit: Rami Shelush, Technion spokesperson's office

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