



Office of International Cooperation

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Nobel Laureate Lecture “My Journey to Stockholm” By Prof. Sir James Fraser Stoddart for Celebration of 60th Anniversary of the Faculty of Science, Mahidol University

Along with the academic, creative and social skills which we aim to instill in our graduates, Mahidol University always seeks to encourage traits which will serve them throughout life, such as dedication, perseverance, patience and compassion. By ensuring that our students can learn from the experiences of positive role models, we can show them that, in the words of our name sake HRH Prince Mahidol of Songkla, “true success is not in the learning, but in its application to the benefit of mankind.”



On the 12th of February 2018, Mahidol University students, faculty members and staff had the opportunity to learn from a special lecture by Sir James Frasier Stoddart, Professor of Chemistry at Northwestern University, USA, and Nobel Prize laureate. Sir James was welcomed to the Faculty of Science, Mahidol University, by Clin. Prof. Udom Kachintorn, former President of Mahidol University, now Deputy Minister at the Ministry of Education, Prof. Banchong Mahaisavariya, Acting President, and Assoc. Prof. Sittiwat Lertsiri, Dean of the Faculty of Science.

Sir James gave a lecture to 600 Mahidol University students, staff and faculty members, as well as local high school and university science students. The lecture titled *My Journey to Stockholm* was to inspire the audience through his work leading up to being awarded the Nobel Prize for Chemistry in 2016. The special lecture was a part of this year’s activities in celebration of the 60th anniversary of the establishment of the Faculty of Science, Mahidol University. Sir James is the 3rd Nobel Prize Laureate to give a special lecture at the Faculty of Science, following Prof. Douglas D. Osheroff in 2012, who was awarded the Nobel Prize for Physics in 1996, and Prof. Ada Yonath in 2014, who received the Nobel Prize for Chemistry in 2009.



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Sir James was awarded the Nobel Prize alongside his fellow researchers Jean-Pierre Sauvage and Bernard L. Feringa, for their research on molecular machines. Each of the scientists made separate advancements in the process of building molecular machines, with Sir James being the first to build a 'rotaxane', which is a small ring of molecules which can be moved along an axel using heat. This rotaxane, first created in 1991, has since been developed into a 4-wheel drive nano-car, which is 1,000 times smaller than the thickness of a human hair.

The creation of molecular machines has been compared to the development of smaller and smaller computers, with the possibilities of being able to create tiny machines being almost endless. This would allow for targeted medicine use in chemotherapy and other medical treatments, with the machines being able to move around the human body and deliver drugs to specific sites. Molecular computers could also be a future development, which could be implanted into the body to detect diseases before any symptoms show.