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## Green chemistry important in transformation to sustainability

**There is huge potential in green chemistry which can speed up the transformation to a sustainable society. That was the message when Professor Paul T. Anastas held his inaugural lecture at Stockholm University in the presence of King Carl XVI Gustaf of Sweden.**



Professor Paul T. Anastas lecturing in the presence of King Carl XVI Gustaf.

Paul T. Anastas is Professor and Director of Yale University's Center for Green Chemistry and Green Engineering. He is known as the "Father of Green Chemistry" for his work on the design and manufacture of chemicals that are non-hazardous and environmentally benign.

During 2019-2020 Paul T. Anastas will hold the King Carl XVI Gustaf Professorship in Environmental Science at Stockholm University. On 13 February, he held his inaugural lecture at the university in the presence of King Carl XVI Gustaf.

Stockholm University President Astrid Söderbergh Widding said in her introductory remarks that she is honored and proud that Stockholm University is hosting Paul T. Anastas as a holder of the Professorship. As the "Father of Green Chemistry" the President hoped that Paul T. Anastas presence will inspire further cooperation between researchers in environmental science at the University.

Professor John Warner, Monash University in Australia, and President of The Warner Babcock Institute for Green Chemistry has cooperated with Paul T. Anastas for many years. John Warner made some brief remarks on the gains made by green chemistry and on the potential for further research in the area.

## Chemistry can fulfil the needs of society

Anja-Verena Mudring, professor of physical materials chemistry at Stockholm University, is the host for Paul T. Anastas during his stay in Stockholm. She passionately talked about being a chemist:

“We can form new materials with new functions. It is a satisfying moment when you are the first person to create a new compound.”

Those materials can be used in many areas and chemistry can fulfil the needs of society.

But chemistry is a double edged sword – there can also be disasters, like it has been with DDT, Anja-Verena Mudring added.

“Paul gave us the tools so we, as chemists, can act as the ‘good guys’. Now we have to teach the next generation of chemists about our moral responsibilities.”

## New materials and pharmaceuticals

Paul T. Anastas started his lecture by stating that this professorship is the greatest honor of his life and that he hopes there will be many fruitful results coming out of his cooperation with colleagues in Stockholm. He then talked about some of the great things that is happening within the green chemistry community, like new materials and pharmaceuticals.

“By using green chemistry we can change the direction for chemistry from being a problem to becoming a solution. We have the power to change the future!”

He then stressed the need to bring the scientific findings into practice and scale them up for commercial use. There are many companies in this area already, but there is still a large potential within the field.

Paul T. Anastas stressed that green chemistry is one important component in the quest for reaching the global Sustainability Development Goals (SDGs). One finding coming out of his research is a new way of splitting water – and reducing carbon. This water can also be used for producing vodka and then Paul T. Anastas handed over the first bottle of carbon negative vodka to King Carl XVI Gustaf.



Paul T. Anastas

Paul T. Anastas ended his speech by quoting Albert Einstein – “The duty of a scientist is to tell everything that is true”. With the knowledge a chemist gather comes responsibility. Chemists know how to manipulate matters and hence green chemistry can speed up the transformation to a sustainable society.

Paul T. Anastas was followed by two shorts talks by researchers at Stockholm University.

Adam Slabon, Assistant Professor in material chemistry talked on “Chemist or Nature: the challenge who is the best” and Line Gordon, director of Stockholm Resilience Centre, talked on solving global challenges through sustainability services.

The final panel discussion included Paul T. Anastas, Professor Robin Rogers, Tage Erlander Guest Professor at Stockholm University, Professor Anja-Verena Mudring, Professor and Dean of Chemistry at Stockholm University Berit Olofsson, and John Munthe, Head of Research at IVL Swedish Environmental Research Institute.

## Need to scale up the efforts

All panelists stressed that green chemistry is important in the endeavor for sustainability. But there is need to scale up the efforts and persuade even more companies to invest in this area. Anja-Verena

Mudring said that we have to gather scientists from other areas if we want to make the changes. “As scientists we need to get out of our comfort zones. We have to talk to experts from other areas.”

Berit Olofsson also stressed the need to bring experts from different fields together. She told that the university is planning for a centre on sustainable chemistry and circular systems.

There were questions from the audience on the biggest challenge in green chemistry and what a young researchers can do in the laboratory. Robin Rogers answered that chemists have to convince and communicate with society. Story telling can be a useful method.

Anja-Verena Mudring agreed that all is about communication.

“As ‘nerdy’ scientists we have to go out and talk to people. We can make a change together!”

*Photos: Ingmarie Andersson*

Read more on Stockholm University guest professors Paul T. Anastas and Robin Rogers: Prominent US chemists guest professors at Stockholm University.

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Panel discussion with Anja-Verena Mudring, Robin Rogers, Berit Olofsson, John Munthe and Paul T. Anastas.

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## Stockholm University

Stockholm University, SE-106 91 Stockholm, Sweden | Phone: +46 8 16 20 00