4th SPACE CHEMISTRY SYMPOSIUM

257TH ACS SPRING NATIONAL MEETING (MARCH 31ST - APRIL 4TH, 2019), ORLANDO, US

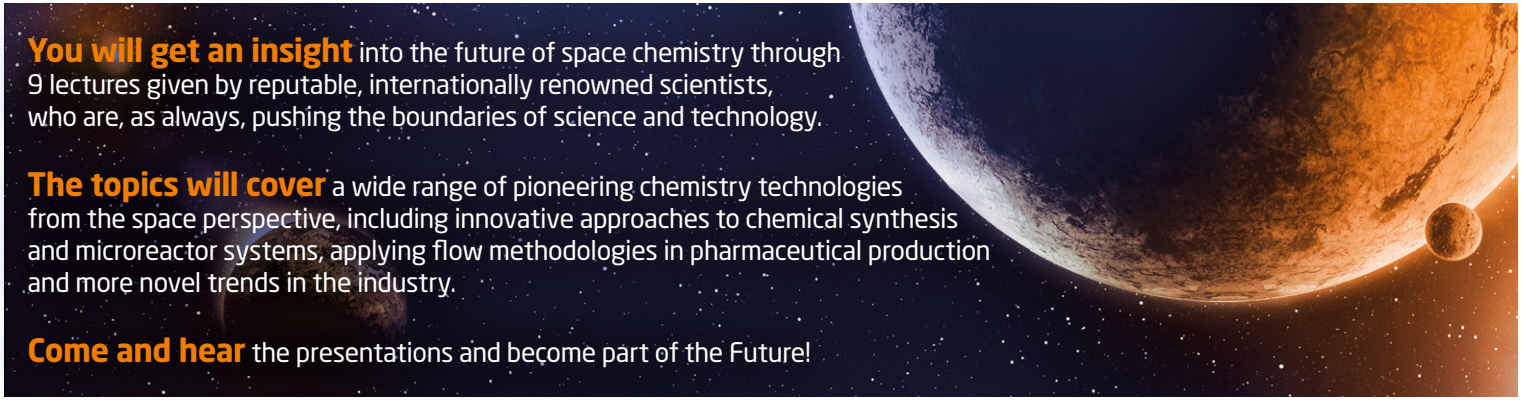
ON APRIL 1ST 2019, 12:30 PM

LOCATION: **ROOM W414D, ORANGE COUNTY CONVENTION CENTER, ORLANDO**

SPONSORING COMMITTEE: **YOUNGER CHEMISTS COMMITTEE**
SPONSORING DIVISION: **CHEMICAL EDUCATION DIVISION**
SESSION: **CHEMISTRY IN SPACE: FUTURE DIRECTIONS**

The Flow Chemistry Society is proud to announce the 4th Space Chemistry Symposium.

CHEMISTRY IN SPACE: FUTURE DIRECTIONS

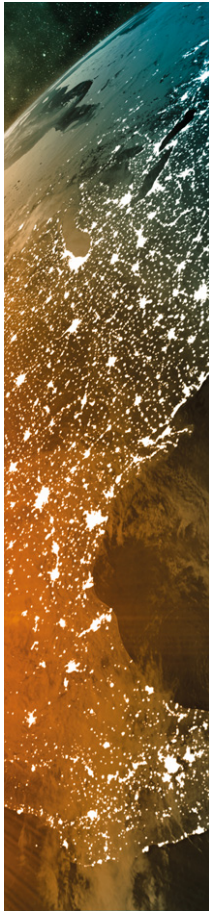


You will get an insight into the future of space chemistry through 9 lectures given by reputable, internationally renowned scientists, who are, as always, pushing the boundaries of science and technology.

The topics will cover a wide range of pioneering chemistry technologies from the space perspective, including innovative approaches to chemical synthesis and microreactor systems, applying flow methodologies in pharmaceutical production and more novel trends in the industry.

Come and hear the presentations and become part of the Future!

ON APRIL 1ST, 2019 | AS PART OF THE **257TH ACS NATIONAL MEETING & EXPOSITION** | ORLANDO, US



PRESIDERS:

FERENC DARVAS
ROLAND HIRSCH
ATTILA PAVLATH

This symposium is the continuation of the previous three greatly successful Symposia held at various ACS meetings (San Francisco – 2017, Washington D.C. – 2017, and Boston – 2018) during which you've been shown how space chemistry helps space exploration, and how vital its role is in making human space flight and colonization possible.

With the 4th symposium sponsored by the ACS Younger Chemists Committee and the Chemical Education Division, supported by the Flow Chemistry Society, Switzerland, we arrived to an important milestone: space researchers realized that behind every innovation in space exploration are chemical companies supplying the materials and technology that are needed for their success. Chemists play a vital role in helping design new systems and approaches, in fact, without chemistry driven key research, many of today's achievements wouldn't even exist. By butting chemists at the forefront of scientific development and giving them a key role in industrial applications, in particular flow chemistry, space chemistry will help the whole space research industry tremendously to achieve their goals and inspire the next generation of space scientist.

The lecturers at this symposium will show you, among others, how to develop decentralized pharmaceutical manufacturing processes, what innovative approaches arose in the field of chemical synthesis from the space perspective, how to use microreactors in microgravity, how to utilize and manufacture polymers and nanomaterials for space application and how to harvest solar energy for pharmaceutical production. With these lectures we hope to help inspiring scientists to foster innovative and unique chemistry research ideas for the benefit of mankind.

This day will also be a focal point for meeting Space Chemistry Consortia members and newcomers.

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TIMETABLE	TITLE	PRESENTING AUTHOR	AFFILIATION
12:30 - 12:35	Opening remarks	Attila E. Pavlath	WRRC-USDA, US
12:35 - 13:00	Decentralized pharmaceutical manufacturing	Frank Gupton	Virginia Commonwealth University, US
13:00 - 13:25	On-demand reagents	D. Tyler McQuade	Virginia Commonwealth University, US
13:25 - 13:50	Perspectives on continuous-flow capture and conversion of CO_2 in Martian space	Dongpyo Kim	Pohang University of Science and Technology, South Korea
13:50 - 14:15	Polymers and nanomaterials for space manufacturing: a flow chemistry demonstration	Rigoberto C. Advincula	Case Western Reserve University, US
14:15 - 14:40	Towards compact configurable flow devices for synthesis and crystallization	Victor Sans Sangorrin	University of Nottingham, UK
14:40 - 14:55	**INTERMISSION**		
14:55 - 15:20	Harvesting solar energy for pharmaceutical production in outer space using flow chemistry	Timothy Noël	Eindhoven University of Technology, The Netherlands
15:20 - 15:45	Hands-on solar spectroscopy for introductory chemistry classes	Jacob M. Newman	Touro College Lander College for Men, US
15:45 - 16:10	Flow chemistry applications in microgravity: innovative approaches to chemical synthesis and microreactor systems	Jana Stoudemire	Space Tango, Inc., US
16:10 - 16:35	Exploring the chemistry of spaceflight with the National Air and Space Museum	Virginia L. Miller	Montgomery College: Rockville Campus, US
16:35 - 16:40	Closing remarks	Ferenc Darvas	Flow Chemistry Society, Switzerland