



virtuAIChE®

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This month's webinar: Thursday, October 18, 2018

→→**DIFFERENT TIME**→→Noon ET / 9 am PT / 4 pm GMT←←**DIFFERENT TIME**←←

FLAMELESS OXIDATION FOR HEATING OF ETHYLENE FURNACES

by Sebastian Muschelknautz, CEO and Founder
TakeOff Engineering GmbH

What at first sounds like a paradox – flameless combustion – is being implemented in an increasing number of industrial high temperature burners. With a sophisticated mixture of combustion gas, combustion air, and recirculating exhaust gas, it is possible, with so-called FLOX® burners, to maintain combustion without flame. The decisive advantage is that even with high furnace temperatures, almost no nitrogen oxide is formed. The process also enables efficient utilisation of fuels, as the exhaust gases can be used for preheating the combustion air. The nitrogen oxide emissions alone represent a significant challenge in high temperature processes. Atmospheric nitrogen oxidises to a notable extent in the hot zones of the flame front. In flameless combustion, these temperature peaks do not occur, and a constant furnace temperature of up to around 1,400°C can be maintained with low nitrogen emissions. This technology is used especially in the steel industry and in burners for heat treatment. Various projects, some of which sponsored by the German Federal Ministry of Economics and Technology (BMWi) and the European Union, are exploring the utilisation of lean gases and biofuels, power plant technology, and combined heat and power generation. Devices using FLOX® technology have also been developed for the reformation of natural gas to hydrogen.

Dr. Sebastian Muschelknautz received his PhD at the Institute of Thermodynamics, Technical University of Munich. He spent 26 years with the Linde Group in various senior and top management functions, amongst them head of SHEQ, head of R&D, head of Productline Hydrogen and Syngas, and head of Business Development for the large industries group. He founded his own company, TakeOff Engineering GmbH, in February of 2016.

When it is time for the meeting to start, [click here](#) and use meeting number (access code): 792 542 635 to log in.

To use telephone audio:

1-866-469-3239 Call-in toll-free number (US/Canada) or

+1-650-429-3300 Call-in toll number (US/Canada)

[Click here for global call-in numbers](#)

AIChE's Virtual Local Section Webinars are free of charge. These webinars are open to AIChE Virtual Local Section Members, other AIChE members, and other interested persons.

VOTE! in the Virtual Local Section Elections

This month, the Virtual Local Section will be electing a Chair, a Senior Vice Chair, a Vice Chair, a Treasurer, and two Directors for terms that will begin in 2019.

In order to be eligible to vote, you must have paid your dues for 2018.

Voting will be electronic, and you will have two weeks to submit your ballot.

If you have any questions about the balloting, contact [Dan Miller](#), Director.

FOR YOUR BUDDING CHEMICAL ENGINEER

by Laura Gimpelson

Give a child a gift that will increase their knowledge of science, technology, engineering, and math (STEM). Reading a hardcopy book is better for the development of young child's brain than reading an e-book or reading from a computer monitor.

- *Ten Magic Butterflies* by [Danica McKellar](#) and [Jennifer Bricking](#)
- *Goodnight, Numbers* by [Danica McKellar](#) and Alicia Padrón
- *Judy Moody Goes to College* by [Megan McDonald](#) and Peter H. Reynolds
- *Look to the Stars* by [Buzz Aldrin](#) and [Wendell Minor](#)
- *Mistakes that Worked: 40 Familiar Inventions & How They Came to Be* by [Charlotte Foltz Jones](#) and John O'Brien
- *Ada Lace Adventure Books* by [Emily Calandrelli](#) and [Renée Kurilla](#)

FUTURE VIRTUAL LOCAL SECTION WEBINARS

November 15, 2018

Rapid Advancement in Process
Intensification Deployment (RAPID)

(No webinar in December)

January 2019

Career Pathways Roundtable

February 2019

Municipal Sludge and Wastewater
Recycling

March 2019

Engineering Ethics

NATIONAL NEWS

The AIChE hosts technical conferences around the world. Check www.aiche.org/conferences for registration and presentation information for this year's events.

Dates	Location
Oct 26-29	Annual AIChE Student Conference Pittsburgh, Pennsylvania
Oct 28 – Nov 2	2018 AIChE Annual Meeting Pittsburgh, Pennsylvania
Nov. 4 - 6	International Conference on Microbiome Engineering Boston MA
Dec. 2 - 4	Food Innovation and Engineering (FOODIE) Conference Napa, California
Dec. 5 - 7	6 th International Conference on Stem Cell Engineering San Francisco CA
Dec. 10 - 11	2 nd International Conference on CRISPR Technologies San Diego CA
March 31 - April 4	2019 Spring National Meeting & CCPS Global Congress on Process Safety New Orleans, Louisiana

DIFFERENT TIME FOR OCTOBER WEBINAR

This month's Virtual Local Section webinar is being held nine hours earlier than usual – perhaps this will be a more convenient time for our members who live in the eastern hemisphere! Please take advantage and join what promises to be a very interesting presentation.

THE VIRTUAL LOCAL SECTION'S EXECUTIVE COMMITTEE

Officers

Chair: [Sabine Brueske](#)

Senior Vice Chair:

Unfilled

Vice Chair Pro Tem:

[Kirsten Rosselot](#)

Secretary: [Laura Gimpelson, P.E.](#)

Treasurer: [Neil Yeoman](#)

Immediate Past Chair:

[Experience Nduagu](#)

Directors

Director 1: [Louis Mielke](#)

Director 2: [Paul Shuey](#)

Director 3: Open (Expires 12/31/2018)

Director 4: [Walter Goldstein](#)

Director 5: [Dan Miller](#)

Director 6: [Paul Adamson](#)

DID YOU KNOW?

You can visit [the VLS website](#) for more information on the Virtual Local Section's mission, activities and membership, and to watch previous webinars.

SUBSCRIPTION INFORMATION

Current members of the Virtual Local Section receive this newsletter. If you wish to update your email address, contact the AIChE's New York Office for Permanent Address Corrections at xpress@aiiche.org or 1-800-242-4363.

CONTINUING EDUCATION CREDITS

Send your name, the certificate number on your professional engineer's license, and the state in which you are licensed to our Secretary, [Laura Gimpelson](#), to receive one hour of continuing education credit for attending our monthly webinar.

VOLUNTEER OPPORTUNITY

MONTHLY NEWSLETTER

If anyone is interested in soliciting content or helping with layout, contact [Kirsten Rosselot](#). We'd love to have you on board and it's a great way to get to know other section members!