Call for Papers: 39th International Symposium on Combustion

Released: 21 April 2021

The 39th International Symposium on Combustion will convene at the Vancouver Convention Centre, Vancouver, Canada from Sunday, 24 July through Friday, 29 July 2022. Scientists, engineers, and others interested in combustion are invited to attend and participate in this biennial world congress of **The Combustion Institute.**

Symposium Agenda

The technical program will consist of contributed papers and Work-in-Progress Poster (WiPP) sessions. Invited lectures, topical reviews, and special industry perspectives will be presented by eminent specialists.

Technical Program Co-Chairs

Dr. HdR Bénédicte Cuenot, CERFACS, France

Dr. Nils Hansen, Sandia National Laboratories, United States

Colloquia Descriptions

A total of 13 colloquium categories will be addressed at the 39th International Symposium on Combustion. Authors must indicate a choice of colloquium with their submissions.

LOW-EMISSION COMBUSTION TECHNOLOGIES ***including low-carbon and hydrogen-based fuels, MILD combustion, oxy-fuel combustion, chemical looping, NO_x and SO_x reduction, and CO_2 capture strategies.*** Mario Ditaranto, SINTEF, Norway; Uwe Riedel, Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany; Thierry Schuller, Institut de Mécanique des Fluides de Toulouse, France; Christopher Shaddix, Sandia National Laboratories; Bin Yang, Tsinghua University, China.

GAS-PHASE REACTION KINETICS ***including the kinetics of hydrocarbons and oxygenated fuels, formation of gaseous pollutants, elementary reactions, and mechanism generation and reduction.*** Frédérique Battin-Leclerc, Université de Lorraine, France; Liming Cai, Tongji University, China; Nabiha Chaumeix, CNRS/ICARE–d'Orléans, France; Stephen Klippenstein, Argonne National Laboratory, United States; Marco Mehl, Politecnico di Milano, Italy; Brandon Rotavera, University of Georgia, United States; Feng Zhang, University of Science and Technology, China.

DIAGNOSTICS ***including the development and application of diagnostic techniques and sensors for the understanding and control of combustion and reacting flow phenomena*****.** Issac Boxx, Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany; Terrence Meyer, Purdue University, United States; Brian Peterson, University of Edinburgh, United Kingdom; Zhongyue Zhou, Shanghai Jiao Tong University, China.

LAMINAR FLAMES ***including experiments, theory, and modeling applied to ignition, structure, propagation, extinction, stabilization, dynamics, and instabilities*****.** Sili Deng, Massachusetts Institute of Technology; Zuohua Huang, Xi'an Jiaotong University, China; Tina Kasper, Universität Duisburg-Essen, Germany; Alexander Konnov, Lund University, Sweden; Yuyang Li, Shanghai Jiao Tong University, China; Eric L. Petersen, Texas A&M University, United States; Zhuyin Ren, Tsinghua University, China.

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Colloquia Descriptions (continued)

TURBULENT FLAMES ***including experiments, theory, and modeling applied to ignition, structure, propagation, extinction, stabilization, dynamics, and instabilities*****.** Robert Barlow, Barlow Combustion Research, United States; John Bell, Lawrence Berkeley National Laboratory, United States; Laurent Gicquel, CERFACS, France; Peyman Givi, University of Pittsburgh, United States; Robert Gordon, University of Melbourne, Australia; Evatt Hawkes, University of New South Wales, Australia; Daniel Livescu, Los Alamos National Laboratory, United States.

SPRAY, DROPLET, AND SUPERCRITICAL COMBUSTION ***including atomization, combustion of droplets, sprays, and supercritical fluids*****.** Abhijit Kushari, Indian Institute of Technology Kanpur, India; Bruno Renou, CNRS/INSA–Normandie, France; Xi Xia, Shanghai Jiao Tong University, China; Min Xu, Shanghai Jiao Tong University, China.

DETONATION, EXPLOSION, AND SUPERSONIC COMBUSTION ***including flame acceleration, DDT, rotating- and pulse-detonation engines, constant volume combustion engines, and scramjet-engines.*** Carl Regis Bauwens, FM Global, United States; Ashwin Chinnayya, Institut Pprime, ENSMA, France; Aslan Kasimov, Skolkovo Institute of Science and Technology, Russia; Andrew Higgins, McGill University, Canada; Brian Maxwell, Case Western Reserve University, United States.

SOLID FUEL COMBUSTION ***including fundamental aspects related to pyrolysis, oxidation, gasification, and ash formation from coal, biomass, and wastes, as well as combustion of propellants and metals*****.** Erica Belmont, University of Wyoming, United States; Andreas Kempf, Universität Duisburg-Essen, Germany; Noriyuki Kobayashi, Nagoya University, Japan; Li Qiao, Purdue University, United States; Evgeny Shafirovich, The University of Texas at El Paso, United States; Jeroen van Oijen, Eindhoven University of Technology, Netherlands.

FIRE RESEARCH ***including fundamental aspects of ignition, burning, spread and suppression of fire, as well as applications to building fire and urban/wildland fire safety*****.** Kazunori Kuwana, Tokyo University of Science, Japan; Kaiyuan Li, Wuhan University of Technology, China; Samuel L. Manzello, National Institute of Standards and Technology, United States; Albert Simeoni, Worcester Polytechnic Institute, United States; Sayaka Suzuki, National Research Institute of Fire and Disaster, Japan; Yi Wang, FM Global, United States; Jennifer Wen, University of Warwick, United Kingdom.

PROPULSION ***including device-specific aspects of fuels, emissions, injection, stability, and combustion dynamics (e.g. ignition, quenching, thermoacoustics) in reciprocating internal combustion engines, gas turbines (for propulsion and power generation), and rocket engines.*** Antonio Andreini, University of Florence, Italy; Olivier Colin, IFP Energies nouvelles, France; Yu Daimon, Japan Aerospace Exploration Agency, Japan; Debolina Dasgupta, Argonne National Laboratory, United States; James R. Dawson, Norwegian University of Science and Technology, Norway; Santosh Hemchandra, Indian Institute of Science Bangalaore, India; Ming Jia, Dailan University of Technology, China; Timothy Lieuwen, Georgia Institute of Technology, United States; Jacqueline O'Connor, Pennsylvania State University, United States.

SOOT, NANOMATERIALS, AND LARGE MOLECULES ***including the formation, growth, and destruction of soot, PAHs, carbon nanostructures, and other nanoscale materials.*** Pascale Desgroux, Université de Lille, France; Klaus-Peter Geigle, Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany; Michael E. Mueller, Princeton University, United States; Xiaoqing You, Tsinghua University, China.

NUMERICAL COMBUSTION ***including discretization and meshing techniques, high-order methods, high performance computing, machine learning, uncertainty quantification, experimental design, and generation of numerical data.*** Olivier Desjardins, Cornell University, United States; Matthias Ihme, Stanford University, United States; Hong G. Im, King Abdullah University of Science and Technology, Saudi Arabia; Kyle Niemeyer, Oregon State University, United States; Hiroshi Terashima, Hokkaido University, Japan; Ronan Vicquelin, Université Paris-Saclay, France; Shashank Yellapantula, National Renewable Energy Laboratory, United States.

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Colloquia Descriptions (continued)

MULTI-PHYSICS PHENOMENA ***including assisted combustion (plasmas, electric and magnetic fields), catalysis, coupled heat transfer, micro-channel reactors, fuel cells, fuel synthesis and transformation, and electrolysis.*** Christos Frouzakis, ETH Zurich, Switzerland; Christer Fureby, Lund University, Sweden; John Mantzaras, Paul Scherrer Institute, Switzerland; Wenting Sun, Georgia Institute of Technology, United States; Zhen-Yu Tian, Chinese Academy of Sciences, China; Dimosthenis Trimis, Karlsruhe Institute of Technology, Germany.

Selection of Papers for Presentation and Publication

The Combustion Institute and the Program Co-Chairs (PCCs) are committed to a fair and efficient evaluation of the submitted manuscripts. **A new process will be implemented, in which every submission is screened for suitability for presentation and publication by an assigned Colloquium Coordinator (CC) or Colloquium Co-Chair (CCC) who is a subject matter expert of the manuscript's research area. The PCCs will consider their advice in selecting manuscripts for peer review.** This selection is based on the quality and scientific rigor of the submissions. Corresponding authors of submissions that are not selected for peer review, and hence presentation and publication, will receive a detailed explanation, on or around 31 January 2022. For manuscripts that are selected for peer review, the CCs and CCCs will solicit and evaluate at least three written reviews in their topic area. The reviews will be sent to authors and a rebuttal will be requested. Based on this, CCs and CCCs will recommend papers for presentation to assist the PCCs in the assembly of the final symposium program. All accepted papers will be arranged into parallel sessions for oral presentation. Publication in the **Proceedings of The Combustion Institute** is determined by the Proceedings editorial board, and is not guaranteed based on symposium presentation selection. Evaluation of manuscripts for publication begins with reviewing the decisions of the CCs and PCCs. Authors of papers considered for publication will be requested to submit a revision, which will be reviewed by the editorial board, potentially consulting additional reviewers. Additional revisions may be requested during the process. Final publication decisions will then be made.

Instructions to Authors of Contributed Papers

Please read the instructions on the submission site carefully before submitting a paper.

05 January 2022: Due date is 23:59 Pacific Standard Time (GMT-8hrs) for receipt of completed paper. Please note: the "time" of submission is determined by the time you "Approve Submission" in Editorial Manager.

First week April 2022: Authors notified of acceptance for presentation at the symposium.

Work-in-Progress Posters (WiPPs)

To provide a forum for presentation and discussion of works in progress, poster sessions will be scheduled to run concurrently with contributed oral sessions. Presentation in Work-in-Progress Poster (WiPP) sessions will be determined on the basis of a one-page abstract. A full-length paper is not required. The posters presented in WiPP sessions will not be published in the **Proceedings of The Combustion Institute**. The sessions will be organized by the **WiPP Co-Chairs**: Swetaprovo Chaudhuri, University of Toronto, Canada; Luca Magri, Imperial College, United Kingdom; Zhandong Wang, University of Science and Technology of China, China.

Deadline for WiPP Submissions:

04 May 2022: Due date is 23:59 Pacific Standard Time (GMT-8 hrs) for receipt of abstracts.

11 May 2022: Authors notified of decision for Work-in-Progress Posters.

Carefully follow all WiPP instructions on The Combustion Institute website: **CombustionInstitute.org**.

Registration, Location, and Accommodations

More information about symposium registration, local arrangements and attractions, and travel accommodations, will be available through the symposium website: **CombustionSymposia.org**.