Large Bore Engines
(TRK-1)

ICEF2020-2906
Validation of a Directed Energy Ignition System on a Large-Bore Single Cylinder Gas-Fueled Engine
*Forrest **Pommier*** — Texas A&M University
*David **Lepley*** — Altronic LLC.
*Greg **Beshouri*** — Advanced Engine Technologies Corp.
*Timothy **Jacobs*** — Texas A&M University

ICEF2020-2920
An Experimental and Numerical Study of a Hydrogen Fueled, Directly Injected, Heavy Duty Engine at Knock-Limited Conditions
*Joel **Mortimer*** — University of Melbourne
*Stephen **Yoannidis*** — University of Melbourne
*Farzad **Poursadegh*** — University of Melbourne
*Zhewen **Lu*** — University of Melbourne
*Michael **Brear*** — University of Melbourne
*Yi **Yang*** — University of Melbourne
*David **Etherington*** — Energy Power Systems Australia
*Marcel **Heijkoop*** — Energy Power Systems Australia
*Joshua **Lacey*** — Katholieke Universiteit Leuven

ICEF2020-2928
Use of a Thermodynamic Cycle Simulation to Identify Fundamental Thermodynamic Factors of NO_x Formation in a Natural Gas Engine
*Kevin L. **Wallace*** — Texas A&M University
*Jerald A. **Caton*** — Texas A&M University
*Timothy J. **Jacobs*** — Texas A&M University

ICEF2020-2949
Assessment of Hydrogen and Natural Gas Mixtures in a Large Bore Gas Engine for Power Generation
*Bernard **Fercher*** — Graz University of Technology
*Andreas **Wimmer*** — Graz University of Technology
*Jan **Zelenka*** — LEC GmbH
*Gernot **Kammel*** — LEC GmbH
*Zita **Baumann*** — INNIO Jenbacher GmbH & Co OG

ICEF2020-2956
Quantification of Losses and Irreversibilities in a Marine Engine for Gas and Diesel Fuelled Operation Using an Exergy Analysis Approach
*Beichuan **Hong*** — KTH Royal Institute of Technology
*Senthil Krishnan **Mahendar*** — KTH Royal Institute of Technology
*Jari **Hyvönen*** — Wärtsilä Finland Oy
*Andreas **Cronhjort*** — KTH Royal Institute of Technology
*Anders Christiansen **Erlandsson*** — KTH Royal Institute of Technology

ICEF2020-2963
Fouling Mitigation for Laser Igniters in Natural Gas Engines
*Sreenath B. **Gupta*** — Argonne National Laboratory

ICEF2020-3031

Method for Estimating Compression Ratio and Heat Transfer Multiplier Using GT-Power and Experimental Pressure Traces

*Adam **Klingbeil*** — Wabtec Corporation
*Thomas **Lavertu*** — Wabtec Corporation

ICEF2020-3038

Experimental and Numerical Study on the Motion Characteristics of Cylinder Oil and the Suppressing Methods for Abnormal Combustion in Low-Speed Dual- Fuel Marine Engine

*Zhen **Gong*** — Dalian University of Technology
*Wenjing **Qu*** — Dalian University of Technology
*Min **Pan*** — Dalian University of Technology
*Liyan **Feng*** — Dalian University of Technology

Fuels
(TRK-2)

ICEF2020-2907
The Relationship Between Steady-State Cetane Combustion Changes and Cold Start Engine Performance
*Gretchen **Simms*** — NAVAIR
*Sean **Fischer*** — NAVAIR
*Jay **Cooke*** — US Naval Academy
*Len **Hamilton*** — US Naval Academy
*Dianne **Luning Prak*** — US Naval Academy
*Jim **Cowart*** — US Naval Academy

ICEF2020-2923
Formation of Nitrogen Dioxide and Formaldehyde in a Medium Duty Diesel Engine With Oxygenated Fuels
*Denis **Notheis*** — Karlsruhe Institute of Technology
*Uwe **Wagner*** — Karlsruhe Institute of Technology
*Amin **Velji*** — Karlsruhe Institute of Technology
*Thomas **Koch*** — Karlsruhe Institute of Technology

ICEF2020-2936
Combustion of Hydrotreated Vegetable Oil in a Diesel Engine: Sensitivity to Split Injection Strategy and Exhaust Gas Recirculation
*Maciej **Mikulski*** — University of Vaasa
*Jacek **Hunicz*** — Lublin University of Technology
*Aneesh **Vasudev*** — University of Vaasa
*Arkadiusz **Rybak*** — Lublin University of Technology
*Michał **Gęca*** — Lublin University of Technology

ICEF2020-2939
Numerical Analysis of Fuel Effects on Advanced Compression Ignition Using a Virtual Cooperative Fuel Research Engine Model
*Krishna C. **Kalvakala*** — University of Illinois at Chicago
*Pinaki **Pal*** — Argonne National Laboratory
*Yunchao **Wu*** — University of Connecticut
*Goutham **Kukkadapu*** — Lawrence Livermore National Laboratory
*Christopher **Kolodziej*** — Argonne National Laboratory
*Jorge **Pulpeiro Gonzalez*** — Argonne National Laboratory
*Muhammad Umer **Waqas*** — Argonne National Laboratory
*Tianfeng **Lu*** — University of Connecticut
*Suresh K. **Aggarwal*** — University of Illinois at Chicago
*Sibendu **Som*** — Argonne National Laboratory

ICEF2020-2971
Optimization and Simulation of a Cfr Engine Fueled by Dilute Anode Tail-Gas
*Alexander **Balu*** — Colorado State University
*Miguel **Castro*** — Colorado State University
*Todd **Bandhauer*** — Colorado State University
*Bret **Windom*** — Colorado State University
*Shane **Garland*** — Colorado State University
*Daniel **Olsen*** — Colorado State University
*Robert **Braun*** — Colorado School of Mines

ICEF2020-2978
Predicting the Cetane Number, Yield Sooting Index, Kinematic Viscosity, and Cloud Point for Catalytically Upgraded Pyrolysis Oil Using Artificial Neural Networks
*Travis **Kessler*** — University of Massachusetts Lowell
*Thomas **Schwartz*** — University of Maine
*Hsi-Wu **Wong*** — University of Massachusetts Lowell
*J. Hunter **Mack*** — University of Massachusetts Lowell

ICEF2020-2983
An Investigation Into OME_3 on a High Compression Ratio Engine
*Simon **LeBlanc*** — University of Windsor
*Navjot **Sandhu*** — University of Windsor
*Xiao **Yu*** — University of Windsor
*Xiaoye **Han*** — University of Windsor
*Meiping **Wang*** — University of Windsor
*Jimi **Tjong*** — University of Windsor
*Ming **Zheng*** — University of Windsor

ICEF2020-3010
RCCI With High Reactivity S8-ULSD Blend and Low Reactivity N-Butanol
*Valentin **Soloiu*** — Georgia Southern University
*Cesar E. **Carapia*** — Georgia Southern University
*Richard **Smith**, III* — Georgia Southern University
*Amanda **Weaver*** — Georgia Southern University
*Levi **Mckinney*** — Georgia Southern University
*David **Mothershed*** — Georgia Southern University
*Drake **Grall*** — Georgia Southern University
*Marcel **Ilie*** — Georgia Southern University
*Mosfequr **Rahman*** — Georgia Southern University

ICEF2020-3017
Comparing Cetane Number Measurement Methods
*Riley C. **Abel*** — National Renewable Energy Laboratory
*Jon **Luecke*** — National Renewable Energy Laboratory
*Matthew A. **Ratcliff*** — National Renewable Energy Laboratory
*Bradley T. **Zigler*** — National Renewable Energy Laboratory

ICEF2020-3032
Combustion and Emission Characteristics of a Diesel Engine Working With Diesel/Jojoba-Higher Alcohol Blends
*Ahmed I. **EL-Seesy*** — Benha University
*Mohamed **Nour*** — Benha University
*Tiemin **Xuan*** — Jiangsu University
*Zhixia **He*** — Jiangsu University
*Hamdy **Hassan*** — Egypt-Japan University of Science and Technology

ICEF2020-3033

Replacement of Diesel by Biogas Generated From Wastewater Treatment in a Small Diesel Generator by Dual Fuel Technology

*Shouvik **Dev*** — National Research Council Canada
*David **Stevenson*** — National Research Council Canada
*James **Butler*** — National Research Council Canada
*Boris **Tartakovsky*** — National Research Council Canada
*Hongsheng **Guo*** — National Research Council Canada
*Rhonda **Hewko*** — Elkan Environmental Engineering

Advanced Combustion
(TRK-3)

ICEF2020-2909
Experimental and Numerical Analysis on the Influence of Direct Fuel Injection Into O_2-Depleted Environment of a GDI-HCCI Engine
*Ratnak **Sok*** — Waseda University
*Jin **Kusaka*** — Waseda University

ICEF2020-2912
Infrared Experimental Investigations on the Effects of Direct Water Injection in an Optical Engine
*Amer **Farhat*** — Wayne State University
*Taewon **Kim*** — Wayne State University
*Ming-Chia **Lai*** — Wayne State University
*Marcis **Jansons*** — Wayne State University
*Xin **Yu*** — Aramco Services Company

ICEF2020-2914
Modelling of Soot Formation and Experimental Study for Different Octane Number Fuels in Dual Fuel Combustion Engine With Diesel
*M. **Krishnamoorthi*** — Indian Institute of Technology Bombay
*S. **Sreedhara*** — Indian Institute of Technology Bombay
*Pavan Prakash **Duvvuri*** — Cummins Technical Centre India

ICEF2020-2929
Gasoline Compression Ignition (GCI) on a Light-Duty Multi-Cylinder Engine Using a Wide Range of Fuel Reactivities and Heavy Fuel Stratification
*Adam B. **Dempsey*** — Marquette University
*Scott **Curran*** — Oak Ridge National Laboratory
*Robert **Wagner*** — Oak Ridge National Laboratory
*William **Cannella*** — Chevron Energy Technology Company
*Andrew **Ickes*** — Chevron Energy Technology Company

ICEF2020-2933
Computational Fluid Dynamics Investigation on Multiple Injector Concepts at Different Swirl Ratios in a Heavy Duty Engine
*Gustav **Nyrenstedt*** — King Abdullah University of Science and Technology
*Moez **Ben Houidi*** — King Abdullah University of Science and Technology
*Rafig **Babayev*** — King Abdullah University of Science and Technology
*Hong **Im*** — King Abdullah University of Science and Technology
*Bengt **Johansson*** — King Abdullah University of Science and Technology

ICEF2020-2941
Statistical Quantification of Knock With Spark Ignition and Pre-Chamber Jet Ignition in a Light Duty Gasoline Engine
*Xin **Yu*** — Aramco Services Company
*Anqi **Zhang*** — Aramco Services Company
*Andrew **Baur*** — Aramco Services Company
*Alexander **Voice*** — Aramco Services Company
*Nayan **Engineer*** — Aramco Services Company

ICEF2020-2961
Effect of Split Injection Timing on Combustion and Emissions of a DISI Optical Engine Under Lean Burn Condition

*Zhe **Sun*** — Shanghai Jiao Tong University
*Mingli **Cui*** — Shanghai Jiao Tong University
*Hongyu **Wang*** — Shanghai Jiao Tong University
*Mohamed **Nour*** — Shanghai Jiao Tong University
*Xuesong **Li*** — Shanghai Jiao Tong University
*Min **Xu*** — Shanghai Jiao Tong University
*David **Hung*** — University of Michigan-Shanghai Jiao Tong University Joint Institute

ICEF2020-2964
Engine Performance and Emissions for a Heavy-Duty Diesel Engine Converted to Stoichiometric Natural Gas Operation

*Jinlong **Liu*** — West Virginia University
*Christopher **Ulishney*** — West Virginia University
*Cosmin E. **Dumitrescu*** — West Virginia University

ICEF2020-2968
Improving Machine Learning Model Performance in Predicting the Indicated Mean Effective Pressure of a Natural Gas Engine

*Jinlong **Liu*** — West Virginia University
*Christopher **Ulishney*** — West Virginia University
*Cosmin E. **Dumitrescu*** — West Virginia University

ICEF2020-2969
Optimization of Direct Water Injection Parameters to Improve the Trade-off Between Efficiency and NO_x Emissions for a Lean-Burn CHP NG Engine

*Youssef **Beltaifa*** — UAS Karlsruhe
*Sascha **Holzberger*** — UAS Karlsruhe
*Ferhat **Aslan*** — UAS Karlsruhe
*Maurice **Kettner*** — UAS Karlsruhe
*Peter **Eilts*** — TU Braunschweig

ICEF2020-2979
Controlled End Gas Auto Ignition With Exhaust Gas Recirculation on a Stoichiometric, Spark Ignited, Natural Gas Engine

*Scott **Bayliff*** — Colorado State University
*Bret **Windom*** — Colorado State University
*Anthony **Marchese*** — Colorado State University
*Greg **Hampson*** — Woodward Inc.
*Jeffrey **Carlson*** — Woodward Inc.
*Domenico **Chiera*** — Woodward Inc.
*Daniel **Olsen*** — Colorado State University

ICEF2020-2998
Homogeneous Ignition Delay, Flame Propagation Rate and End-Gas Autoignition Fraction Measurements of Natural Gas and Exhaust Gas Recirculation Blends in a Rapid Compression Machine

*Jeffrey **Mohr*** — Colorado State University
*Bret **Windom*** — Colorado State University
*Daniel B. **Olsen*** — Colorado State University
*Anthony J. **Marchese*** — Colorado State University

ICEF2020-3011
Effect of Discharge Energy Distribution on Flame Kernel Development
*Hua **Zhu*** — University of Windsor
*Xiao **Yu*** — University of Windsor
*Linyan **Wang*** — University of Windsor
*Ming **Zheng*** — University of Windsor
*Liguang **Li*** — Tongji University
*Mengzhu **Liu*** — Tongxin Auto Parts Ltd

ICEF2020-3029
Turbulence Anisotropy Investigations in an Internal Combustion Engine
*James R. **MacDonald*** — Western Michigan University
*Claudia M. **Fajardo*** — Western Michigan University

ICEF2020-3034
Assessment of Spark, Corona, and Plasma Ignition Systems for Gasoline Combustion
*Sayan **Biswas*** — Sandia National Laboratories
*Isaac **Ekoto*** — Sandia National Laboratories
*Dan **Singleton*** — Transient Plasma Systems, Inc.
*Kristapher **Mixell*** — Tenneco Powertrain
*Patrick **Ford*** — Ford Motor Company

ICEF2020-3035
Impact of Geometric Compression Ratio and Variable Valve Actuation on Gasoline Compression Ignition in a Heavy-Duty Diesel Engine
*Yu **Zhang*** — Aramco Services Company
*Praveen **Kumar*** — Aramco Services Company
*Meng **Tang*** — Aramco Services Company
*Yuanjiang **Pei*** — Aramco Services Company
*Brock **Merritt*** — Aramco Services Company
*Michael **Traver*** — Aramco Services Company
*Sriram **Popuri*** — Cummins Inc.

Powertrain and Emissions Systems
(TRK-4)

ICEF2020-2904
The Influence of Cycle-to-Cycle Hydrocarbon Emissions on Cyclic NO:NO_2 Ratio From a HSDI Diesel Engine
Felix ***Leach*** — University of Oxford
Varun ***Shankar*** — University of Oxford
Martin ***Davy*** — University of Oxford
Mark ***Peckham*** — Cambustion

ICEF2020-2930
Effect of Support Materials on PD Methane Oxidation Catalyst Using Dynamic Estimation Method
Yoshifuru ***Nitta*** — National Institute of Maritime, Port and Aviation Technology
Yudai ***Yamasaki*** — University of Tokyo

ICEF2020-2932
Influence of Low Ambient Temperatures on the Exhaust Gas and Deposit Composition of Gasoline Engines
Dominik ***Appel*** — Karlsruhe Institute of Technology (KIT)
Fabian P. ***Hagen*** — Karlsruhe Institute of Technology (KIT)
Uwe ***Wagner*** — Karlsruhe Institute of Technology (KIT)
Thomas ***Koch*** — Karlsruhe Institute of Technology (KIT)
Henning ***Bockhorn*** — Karlsruhe Institute of Technology (KIT)
Dimosthenis ***Trimis*** — Karlsruhe Institute of Technology (KIT)

ICEF2020-2951
The Sensitivity Study of a Mechanical Loss Model in Turbocharger System
Haizhu ***Wang*** — University of Bath
Richard ***Burke*** — University of Bath
Colin ***Copeland*** — Simon Fraser University

ICEF2020-2955
Three Pattern Recognition Approaches to the Reduction of Vehicle Driving Cycles
Samuel ***Le Corre*** — Loughborough University
Thomas G. ***Childs*** — Loughborough University
Mark ***Cary*** — Loughborough University
Byron ***Mason*** — Loughborough University
Barnaby ***Coates*** — Private

ICEF2020-2996
Development of a Methodology for the Investigation of Residual Gases Effects on Gasoline Compression Ignition
V. ***Ravaglioli*** — DIN - University of Bologna
F. ***Ponti*** — DIN - University of Bologna
G. ***Silvagni*** — DIN - University of Bologna
M. ***De Cesare*** — Marelli Europe SpA

ICEF2020-3024
Study on Design Method of Combustion Reference Values for Model-Based Control of Advanced Diesel Engine
Jihoon ***Kim*** — University of Tokyo
Yudai ***Yamasaki*** — University of Tokyo

ICEF2020-3025
Study on Automatic Adaptation for a Control-Oriented Model of an Advanced Diesel Engine
S. ***Nishii*** — University of Tokyo
Y. ***Yamasaki*** — University of Tokyo

ICEF2020-3027
Influence of Fuel Properties on GDI PM Emissions Over First 200 Seconds of WLTP Using an Engine Dynamometer and Novel “Virtual Drivetrain” Software
Noah R. ***Bock*** — University of Minnesota
William F. ***Northrop*** — University of Minnesota

ICEF2020-3042
The Experimental Study of the Inner Insulated Turbocharger Turbine
Yang ***Liu*** — University of Bath
Misan ***Madamedon*** — University of Bath
Richard ***Burke*** — University of Bath
Jürgen ***Werner*** — BorgWarner Turbo Systems

Fuel Injection and Sprays
(TRK-5)

ICEF2020-2913
Simultaneous High-Speed Formaldehyde PLIF and Schlieren Imaging of Multiple Injections From an ECN Spray D Injector
*Noud **Maes*** — Sandia National Laboratories
*Hyung Sub **Sim*** — Sandia National Laboratories
*Lukas **Weiss*** — Friedrich-Alexander-Universität Erlangen-Nuremberg
*Lyle **Pickett*** — Sandia National Laboratories

ICEF2020-2938
Evaluation of Soot Production Near a Cold Surface for an Impinged Diesel Spray Combustion
*Zhihao **Zhao*** — Michigan Technological University
*Le **Zhao*** — Michigan Technological University
*Seong-Young **Lee*** — Michigan Technological University

ICEF2020-2945
Assessments of Primary Atomization Models for Spray Simulation
*Rajes Ram **Muthukumar*** — Texas Tech University
*Siva **Parameswaran*** — Texas Tech University
*Haiwen **Ge*** — Texas Tech University

ICEF2020-2962
Accuracy Verification of 2-Dimensional Velocity Field Derived From Optical Flow With Respect to PIV Flow Field Measurement
*Mingli **Cui*** — Shanghai Jiao Tong University
*Zhe **Sun*** — Shanghai Jiao Tong University
*Min **Xu*** — Shanghai Jiao Tong University
*David **Hung*** — Shanghai Jiao Tong University
*Xuesong **Li*** — Shanghai Jiao Tong University

ICEF2020-2972
A Multi-Wavelength Extinction Imaging Diagnostic for Quantifying Diesel Spray Mixing at Engine-Relevant Conditions
*Conner **Godbold*** — Georgia Institute of Technology
*Farzad **Poursadegh*** — University of Melbourne
*Oleksandr **Bibik*** — Georgia Institute of Technology
*Carlos De La Camara **Castillo*** — Georgia Institute of Technology
*Caroline **Genzale*** — Georgia Institute of Technology

ICEF2020-2974
X-Ray Characterization of Real Fuel Sprays for Gasoline Direct Injection
*Brandon A. **Sforzo*** — Argonne National Laboratory
*Aniket **Tekawade*** — Argonne National Laboratory
*Alan L. **Kastengren*** — Argonne National Laboratory
*Kamel **Fezzaa*** — Argonne National Laboratory
*Jan **Ilavsky*** — Argonne National Laboratory
*Christopher F. **Powell*** — Argonne National Laboratory
*Yuanjiang **Pei*** — Aramco Services Company
*Anqi **Zhang*** — Aramco Services Company
*Robert **Levy*** — Aramco Services Company

ICEF2020-2991
Comparison Between a Center-Mounted and a Side-Mounted Injector for Gasoline Applications: A Computational Study
*Lorenzo **Nocivelli*** — Argonne National Laboratory
*Anqi **Zhang*** — Aramco Services Company
*Brandon A. **Sforzo*** — Argonne National Laboratory
*Aniket **Tekawade*** — Argonne National Laboratory
*Alexander K. **Voice*** — Aramco Services Company
*Meng **Tang*** — Aramco Services Company
*Christopher F. **Powell*** — Argonne National Laboratory
*Sibendu **Som*** — Argonne National Laboratory
*Yuanjiang **Pei*** — Aramco Services Company
*Robert S. **Levy*** — Aramco Services Company

ICEF2020-2994
Cavitation-Suppressing Orifice Design Applied to a Heavy-Duty Diesel Engine Injector Operating With Gasoline
*Roberto **Torelli*** — Argonne National Laboratory
*Yuanjiang **Pei*** — Aramco Services Company
*Yu **Zhang*** — Aramco Services Company
*Michael **Traver*** — Aramco Services Company
*Sibendu **Som*** — Argonne National Laboratory

ICEF2020-3007
Comparing Global Spray Combustion Characteristics and Local Shot-To-Shot Variations in a Reacting N-Heptane Spray
*Shawn **Reggeti*** — University of Alabama
*Allen **Parker*** — University of Alabama
*C. Taber **Wanstall*** — University of Alabama
*Ajay **Agrawal*** — University of Alabama
*Joshua **Bittle*** — University of Alabama

Numerical Simulation
(TRK-6)

ICEF2020-2911
Prediction of NO_x Emissions for a Range of Engine Hardware Configurations Using Artificial Neural Networks
Nick ***Papaioannou*** — University of Oxford
XiaoHang ***Fang*** — University of Oxford
Felix ***Leach*** — University of Oxford
Martin H. ***Davy*** — University of Oxford

ICEF2020-2916
Accelerating Computational Fluid Dynamics Simulations of Engine Knock Using a Concurrent Cycles Approach
Daniel ***Probst*** — Convergent Science, Inc.
Sameera ***Wijeyakulasuriya*** — Convergent Science, Inc.
Pinaki ***Pal*** — Argonne National Laboratory
Christopher ***Kolodziej*** — Argonne National Laboratory
Eric ***Pomraning*** — Convergent Science, Inc.

ICEF2020-2917
Dynamic Mode Decomposition for Extracting Cycle-to-Cycle Variation of SIDI Engine In-Cylinder Flow Under Motoring Condition
Mengqi ***Liu*** — University of Michigan-Shanghai Jiao Tong University Joint Institute
Fengnian ***Zhao*** — University of Michigan-Shanghai Jiao Tong University Joint Institute
Xuesong ***Li*** — Shanghai Jiao Tong University
Min ***Xu*** — Shanghai Jiao Tong University
David L. S. ***Hung*** — University of Michigan-Shanghai Jiao Tong University Joint Institute

ICEF2020-2922
A Transported Livengood-Wu Integral Model for Knock Prediction in CFD Simulation
Zongyu ***Yue*** — Argonne National Laboratory
Chao ***Xu*** — Argonne National Laboratory
Sibendu ***Som*** — Argonne National Laboratory
C. Scott ***Sluder*** — Oak Ridge National Laboratory
K. Dean ***Edwards*** — Oak Ridge National Laboratory
Russell ***Whitesides*** — Lawrence Livermore National Laboratory
Matthew J. ***Mcnenly*** — Lawrence Livermore National Laboratory

ICEF2020-2924
Parametric Studies of a Novel Combustion Modelling Approach for Low Temperature Diesel Spray Simulation
XiaoHang ***Fang*** — University of Oxford
Nikola ***Sekularac*** — University of Oxford
Martin H. ***Davy*** — University of Oxford

ICEF2020-2934
Towards Integrated Spark and Combustion Modeling for Engines
Anand ***Karpatne*** — Esgee Technologies
Vivek ***Subramaniam*** — Esgee Technologies
Sachin ***Joshi*** — Cummins Inc.
Xiao ***Qin*** — Cummins Inc.
Douglas ***Breden*** — Esgee Technologies
Aimilios ***Sofianopoulos*** — Convergent Science, Inc.
Laxminarayan ***Raja*** — University of Texas, Austin

ICEF2020-2940
Simulations of Multi-Mode Combustion Regimes Realizable in a Gasoline Direct Injection Engine
Sayop ***Kim*** — Argonne National Laboratory
Riccardo ***Scarcelli*** — Argonne National Laboratory
Yunchao ***Wu*** — University of Connecticut
Johannes ***Rohwer*** — Argonne National Laboratory
Ashish ***Shah*** — Argonne National Laboratory
Toby ***Rockstroh*** — Argonne National Laboratory
Tianfeng ***Lu*** — University of Connecticut

ICEF2020-2942
Validation of Species-Based Extended Coherent Flamelet Model in a Large Eddy Simulation of a Homogeneous Charge Spark Ignition Engine
Y. ***See*** — Convergent Science, Inc.
M. ***Wang*** — Convergent Science, Inc.
J. ***Bohbot*** — IFP Energies Nouvelles
O. ***Colin*** — IFP Energies Nouvelles

ICEF2020-2946
Development of an Efficient Conjugate Heat Transfer Modeling Framework to Optimize Mixing-Limited Combustion of Ethanol in a Diesel Engine
Gina M. ***Magnotti*** — Argonne National Laboratory
Chinmoy K. ***Mohapatra*** — Argonne National Laboratory
Alireza ***Mashayekh*** — Convergent Science
Sameera ***Wijeyakulasuriya*** — Convergent Science
Robert ***Schanz*** — ClearFlame Engines
Julie ***Blumreiter*** — ClearFlame Engines
Bernard H. ***Johnson*** — ClearFlame Engines
Essam M. ***El-Hannouny*** — Argonne National Laboratory
Douglas E. ***Longman*** — Argonne National Laboratory
Sibendu ***Som*** — Argonne National Laboratory

ICEF2020-2959
Numerical Evaluation of Spray-Guided Glow Plug Assistance on Gasoline Compression Ignition During Cold Idle Operation in a Heavy-Duty Diesel Engine
Le ***Zhao*** — Argonne National Laboratory
Yuanjiang ***Pei*** — Aramco Services Company
Yu ***Zhang*** — Aramco Services Company
Praveen ***Kumar*** — Aramco Services Company
Tom ***Tzanetakis*** — Aramco Services Company
Michael ***Traver*** — Argonne National Laboratory
Muhsin ***Ameen*** — Argonne National Laboratory

ICEF2020-2990
Piston Bowl Geometry Effects on Gasoline Compression Ignition in a Heavy-Duty Diesel Engine
*Meng **Tang*** — Argonne National Laboratory
*Yuanjiang **Pei*** — Aramco Services Company
*Hengjie **Guo*** — Argonne National Laboratory
*Yu **Zhang*** — Aramco Services Company
*Roberto **Torelli*** — Argonne National Laboratory
*Daniel **Probst*** — Convergent Science
*Carsten **Fütterer*** — Friendship Systems
*Michael **Traver*** — Aramco Services Company

ICEF2020-2992
Multi-Dimensional Modeling of the CFR Engine for the Investigation of SI Natural Gas Combustion and Controlled End-Gas Autoignition
*Diego **Bestel*** — Colorado State University
*Scott **Bayliff*** — Colorado State University
*Anthony **Marchese*** — Colorado State University
*Daniel **Olsen*** — Colorado State University
*Bret **Windom*** — Colorado State University
*Hui **Xu*** — Cummins, Inc.

ICEF2020-2997
Numerical Investigation of Pre-Chamber Jet Combustion in a Light-Duty Gasoline Engine
*Anqi **Zhang*** — Aramco Services Company
*Xin **Yu*** — Aramco Services Company
*Nayan **Engineer*** — Aramco Services Company
*Yu **Zhang*** — Aramco Services Company
*Yuanjiang **Pei*** — Aramco Services Company

ICEF2020-3000
An Automated Machine Learning-Genetic Algorithm (AutoML-GA) Framework With Active Learning for Design Optimization
*Opeoluwa **Owoyele*** — Argonne National Laboratory
*Pinaki **Pal*** — Argonne National Laboratory
*Alvaro **Vidal Torreira*** — Parallel Works Inc.

ICEF2020-3003
Large Eddy Simulation of Lean Mixed-Mode Combustion Assisted by Partial Fuel Stratification in a Spark-Ignition Engine
*Chao **Xu*** — Argonne National Laboratory
*Sibendu **Som*** — Argonne National Laboratory
*Magnus **Sjöberg*** — Sandia National Laboratories

ICEF2020-3004
Role of Inlet Boundary Conditions on Fuel-Air Mixing at Supercritical Conditions
*Zachary **Harris*** — University of Alabama
*Joshua **Bittle*** — University of Alabama
*Ajay **Agrawal*** — University of Alabama

ICEF2020-3006

Modeling Nanosecond-Pulsed Spark Discharge and Flame Kernel Evolution

*Joohan **Kim*** — Argonne National Laboratory
*Vyaas **Gururajan*** — Argonne National Laboratory
*Riccardo **Scarcelli*** — Argonne National Laboratory
*Sayan **Biswas*** — Sandia National Laboratories
*Isaac **Ekoto*** — Sandia National Laboratories

ICEF2020-3043

Effect of Thermal Boundary Conditions on Propagation of Non-Equidiffusive Flames

*Vyacheslav (Slava) **Akkerman*** — West Virginia University

Engine Design and Mechanical Development (TRK-7)

ICEF2020-2927
Development of the Additive Content Turbocharger (ACT)
*Adam **Felton*** — Wabtec Corporation
*Kevin **Bailey*** — Wabtec Corporation

ICEF2020-2960
Design, Actuation, Experimental Setup and Testing of a 4-Cylinder Gasoline Spark Ignited Variable Compression Ratio Engine
*Tyler **Miller*** — Michigan Technological University
*Joel **Duncan*** — Michigan Technological University
*William **Hensley*** — Michigan Technological University
*John **Beard*** — Michigan Technological University
*Jeremy **Worm*** — Michigan Technological University
*Jeffrey **Naber*** — Michigan Technological University

ICEF2020-3045
Fuel and Engine Management System for Gaseous-Fueled Spark-Ignition Non-Road Engines
*Daniel **Sherwin*** — Generac Power Systems
*Jesse **Dees*** — Generac Power Systems