Description of the Organized Sessions

IGTC2015 Program Committee

The following topics are planned for the organized sessions. If you will contribute to these OSs, please select the appropriate keyword from the keyword selection menu upon submitting your abstract.

Category	Title of OS (Keyword)	Description
Heat Transfer	Novel Cooling Technologies	Papers describing research and technical advances of novel cooling technologies are invited to be submitted to this session. Film cooling, internal cooling and others, all kinds of technologies are welcome. Conceptual researches or feasibility studies of technologies that will lead technology level for the next generation are most welcome.
Heat Transfer	Conjugate Heat Transfer Simulation	Conjugate heat transfer simulation is a well-known technique to estimate detailed temperature distributions in hot components of gas turbines but more improvements are awaited for practical use. Papers on researches for better accuracy, efficient simulation speed, application for practical design, and any other works for improvement of conjugate heat transfer are welcome.
Materials and Coatings	Advanced Material and Coating	Papers describing research and technical advances of gas turbine materials which include wrought/casting Ni-/Fe-/Co-based alloys, the alternative materials, and coating materials/systems. The alloys design and the metallurgical and mechanical properties are also described in this session.
Manufacturing Technologies	Manufacturing, Repair, and Refurbishment Technologies	Papers describing advanced manufacturing processes to enhance performance and reduce cost. Repair and refurbishment processes are also described in this session.
Materials and Coatings	Component Damage, Failure, and Life Assessment	Papers describing component damages and failure mechanisms of gas turbine components. Life prediction of turbine components and coatings under creep, fatigue and thermal-mechanical fatigue conditions with environmental effects are also described. Testing methods for evaluating the component damages and lives are also covered in this sessions.
Small Gas Turbine and Turbochargers	Turbocharger Technology and Performance	Papers describing research about turbocharging technologies, e.g. aerodynamic, structural, vibration isuees and meauremet techniques, are invited to this session.
Aircraft Engines	Aircraft propulsion system concepts for future commercial transport	This session will focus on the recent progress and future prospects of new and promising aircraft propulsion system concepts especially for larger commercial transports. These concepts are most recently gaining importance since the environmental concern due to global warming. Conceptual studies, preliminary cycle analysis, and component verifications studies on the new concepts such as gear-drive turbofan engines, open-rotor engines, engines with reheat, and hybrid-electric propulsion systems are supposed to cover. From these materials, it is intended to discuss on near term opportunities for ground and simulated in-flight condition demonstration leading to achieve the long-term goal for realization.
Aircraft Engines	Propulsion/aircraft integration, energy and thermal management	This session focuses on future propulsion system architecture, energy and thermal management in the aircraft system. Energy optimization at the aircraft level becomes imminent issue because of fuel cost saving and global environmental consideration. More electric architecture for engine system (MEE; More Electric Engine) and aircraft (MEA; More Electric Aircraft) will be approaches to lead to save energy and energy optimization. With introduction of such new system architecture, importance of the electrical power generation by the engine, energy and thermal management in the aircraft system is increasing. In this session, it is intended to discuss MEE, power generation, energy management, thermal management and integration of the aircraft and propulsion system.
Steam Turbines	Advanced USC	Papers describing research about system designs, high temperature materials, welding and manufacturing technologies, cooling design of A-USC(Advanced-Ultra-Super-Critical) steam turbines are invited to this session.
Steam Turbines	Steam Turbine Aerodynamic Efficiency Enhancement and Wet Steam Loss Reduction	Papers describing research about high-efficiency blading, sealing technologies, exhaust losses, moisture losses, CFD and experiment technologies of steam turbines are invited to this session.
Steam Turbines	Steam Turbine Long Blade Development Technology	Papers describing research about transonic blading, self-exciting vibration, vibration damping technologies, blade materials, rotor materials of steam turbine long blades, design methodology and evaluation of long low pressure blade are invited to this session.
Aerodynamics and Design	Unsteady Flow and Flow control in Turbines	Papers describing research about unsteady flow phenomena and technical advances of flow control in turbines are invited to this session.
Aerodynamics and Design	Unsteady Flow and Stability Enhancement in Fans and Compressors	Papers describing research about unsteady flow phenomena, stall and surge, and technical advances for stability enhancement in fams and comressors are invited to this session.
Aerodynamics and Design	Frontier on Computational Fluid Dynamics in Gas Turbines	Computational Fluid Dynamics (CFD) is an essential tool in design processes of a gas turbine. Novel CFD techniques have been developed so far. In this session, new and innovative CFD works are invited.
Combustion, Fuel and Emissions	Combustion Instability	Papers describing experimental and/or numerical research of combustion instability in gas turbine combustors or development of control systems are invited to this session.
Combustion, Fuel and Emissions	Numerical Simulation for Combustor Design	Papers describing CFD for designing gas turbine combustors are invited to this session.
Combustion, Fuel and Emissions	Soot and Particulates	Papers describing research for reduction or measurement of soot or particulates from gas turbines are invited to this session.