

2016

# CONFERENCE ABSTRACT

April 25-26, 2016

Dubai, U.A.E.

Venue: **Flora Grand Hotel**

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## Welcome Remarks

The American Society for Research (ASR) welcomes you to Dubai to attend 2016 5th International Conference on Fluid Dynamics (ICFD 2016) and 2016 5th International Conference on Traffic and Logistic Engineering (ICTLE 2016). We're confident that over the two days you'll get theoretical grounding, practical knowledge, and personal contacts that will help you build long-term, profitable and sustainable communication among researchers and practitioners working in a wide variety of scientific areas with a common interest in Fluid Dynamics and Traffic and Logistic Engineering.

On behalf of ASR and all the conference committee, we would like to thank all the authors as well as the Program Committee members and reviewers. Their high competence, their enthusiasm, their time and expertise knowledge, enabled us to prepare the high-quality final program and helped to make the conference a successful event.

Once again, thanks for coming to this conference, we are delegate to higher and better international conference experiences. We will sincerely listen to any suggestion and comment; we are looking forward to meeting you next time.

## Take a look at some of what those Conferences to offer you...

- Authors' oral presentations
- Inspiring and thought-provoking keynote speeches: Prof. Sherif Ishak from Louisiana State University, USA; Prof. Essam Radwan from University of Central Florida, USA; Prof. A. Kandasamy from National Institute of Technology Karnataka, India; Assoc. Prof. Dr. M. M. Rahman from Sultan Qaboos University, Muscat, Sultanate of Oman.
- Plenty of opportunities to network and forge connections with your fellow attendees across the globe, including Keynote Speech Session and Oral presentation Sessions.

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## Instructions for Oral Workshop

\*A best presentation will be selected from each session and the best one will be announced and award the certificate at the end of each session.

\*Session Chair will have a signature on the certificate

### Devices Provided by the Conference Organizer:

- ✧ Laptops (with MS-Office & Adobe Reader)
- ✧ Projectors & Screen
- ✧ Laser Sticks

### Materials Provided by the Presenters:

- ✧ PowerPoint or PDF files

### Duration of Each Presentation:

- ✧ Regular Oral Session: about 15 Minutes of Presentation including Q&A.
- ✧ Keynote Speech: 45 Minutes of Presentation including Q&A.

### About Dress Code

- ✧ All participants are required to dress formally. Casual wear is unacceptable.
- ✧ National formal dress is acceptable.

## INVITED SPEAKERS



**Prof. Sherif Ishak**

**Louisiana State University, USA**

**Dr. Ishak is the Associate Dean of Engineering for Academic Affairs and the Lloyd J. Guillory professor of Civil Engineering at Louisiana State University. He received his B.S. degree from Cairo University, Egypt, and both M.S. and Ph.D. degrees in civil engineering from the University of Central Florida, prior to joining LSU in 2001. His research area includes traffic operation and control, traffic safety, and applications of intelligent transportation systems. Since joining LSU, he served as a PI or co-PI on 35 research projects totaling \$2.5M and funded by the Louisiana Department of Transportation and Development, Louisiana Board of Regents, National Science Foundation, USDOT, and University Transportation Centers. He published over 70 research articles in peer-reviewed journals and conference proceedings, made over 55 national and local presentations, and supervised over 25 MS and PhD students to completion. He is also the founder of the Intelligent Transportation Systems lab at Louisiana Transportation Research Center and the LSU driving simulator facility. Dr. Ishak is the chair of the TRB Committee on Artificial Intelligence and Advanced Computing Applications (ABJ70), which serves as a bridge to connect the Computer Science and Information Technology community with the transportation community and to address critical transportation issues and challenges, specifically, on Connected and Automated Vehicles research; Big Data Analytics; Agent-based Modeling Applications and the Study of Complexity in Transportation Systems; and recent challenges of Smart Cities. Dr. Ishak is also a member of the TRB Committee on Freeway Operations, a board member of the Gulf Region Intelligent Transportation Society, and an associate editor for the Canadian Journal of Civil Engineering. Dr. Ishak was recently nominated to serve on the NCHRP panel 20-102 that is charged with maintaining and executing research aligned with the Connected and Automated Vehicles (CV/AV) roadmap.**

**Speech Title:** *Real Time Driver Information for Congestion Management*

**Abstract:** *Traffic demand in the U.S. has grown substantially over the past few years because of the increase in population and urbanization in large cities. This causes traffic congestion to spread out over U.S. highways and arterials, and subsequently leads to deterioration in traffic networks in terms of operation, safety, and productivity. Therefore, congestion management strategies have become essential for addressing safety and operational problems arising from congested conditions. Recently, Active Traffic Management (ATM) strategies have been recognized as efficient methods for mitigating widespread congestion, provided that a proper management strategy is identified and implemented. Any ATM strategy requires a systematic process that should work in a specific sequence starting from getting information from a congested road segment to dissemination of relevant information to travelers to help relieve congestion. This process starts with collecting traffic data from the roadways, screening the collected data to remove redundancies and erroneous data, synthesizing useful traffic information, and finally disseminating such information to travelers in real time. Based on the type of delivered information, travelers may alter their trip decision in terms of departure time, mode choice, and route selection in order to avoid congestion. This presentation highlights the state-of-the-art and state-of-practice methods used to execute the steps taken to deliver accurate real time traffic information to travelers and the impact such information has on congestion management. Also, the talk will shed light on different technologies and methodologies used for data collection, screening, and dissemination in the United States. This includes highlighting the impact of disseminated information on driving behavior and transportation network operation and safety. A few case studies are presented on different ATM strategies to reflect on the gained benefits from using such congestion management strategies*



**Prof. Essam Radwan**

## **University of Central Florida, USA**

Essam Radwan is the Executive Director of the Center for Advanced Transportation Systems Simulation (CATSS). He received a BS degree in Civil Engineering with honors from Cairo University, Egypt and MS and Ph.D. Degrees from Purdue University. In 1978, he started his teaching career at Virginia Tech where he was tenured and promoted to Associate Professor then he moved to Arizona State University in 1984 and was promoted to full professor in 1990. Through a national search he was recruited to UCF to chair the Department of Civil and Environmental Engineering and he remained in that position till 2003. In 1998 he was appointed to be the founding Director of the federally established transportation center (CATSS).

Professor Radwan research interest is traffic characteristics and traffic signal control of freeway and street intersections. Included in this area are theoretical and applied models, discrete event simulation models, and large-scale databases developed to describe traffic behavior. He was instrumental in bridging the gap between human factors researchers, computer engineers, and transportation engineers. The “Human Centered Transportation Simulation Program” that he created under CATSS auspices has been viewed as a unique and one of the leading programs in the US. He directed and co-directed close to 55 research projects totaling well over \$11 million in external funded research projects. Through research and graduate advising he published more than two hundred and fifty (250) technical papers and reports and his work has been extensively cited by his peers in the US and around the world. Professor Radwan delivered close to hundred presentations at international conferences and professional meetings. He was a keynote speaker for meetings held in countries like Brazil, China, Qatar, Kuwait, United Arab Emirates, New Zealand, Australia, Lebanon, and France. Professor Radwan graduated sixteen (16) Ph.D. students, twenty eight (28) master degree students. Academic institutions, consulting firms, and public agencies in different states like Florida, Virginia, Louisiana, Colorado, Massachusetts, and Tennessee and overseas countries like Brazil, Egypt, and United Arab Emirates employ his past students.

One of his major accomplishments is building the real time simulation laboratory that involved researchers at UCF from electrical and computer engineering, civil and environmental engineering, industrial engineering, psychology and human factors, and Institute for Simulation and Training. External funded research from FDOT and Georgia Tech Research Foundation sponsored the dual-cab motion base-driving simulator. This program has attracted international experts in this field to visit CATSS labs during the third Driving Simulators Conference hosted by CATSS and held in Orlando in November 2005.

Professor Radwan service to the profession has been extensive. He is a Fellow of the American

**Society of Civil Engineers and the Institute of Transportation Engineers and has been an active member with the Transportation Research Board, the Florida Engineering Society, and the Intelligent Transportation Systems of Florida. He has a long-standing history active service at ASCE as Chairman and Member of ASCE's various Committees, to list a few: he was a member of the Board of Governor of the Transportation & Development from 2001 to 2005, Institute Chairman of the UTD/Executive Committee from 1998 until 1999, Member of the UTD / Executive Committee from 1996 until 2001, Chairman of the Task Committee on Human Powered Transportation from 1993 until 1994, Chairman of the Task Committee on Design and Operation of Urban Facilities from 1989 until 1993, Member of the Microcomputer Applications in Transportation Committee from 1985 until 1989, Member of the Publication Committee from 1986 until 1990, Member of the Hazardous Material Transportation Committee from 1988 until 1992, News Correspondent of the Urban Transportation Division from 1988 until 1990, and other services not mentioned here.**

**Professor Radwan received numerous honors and awards including the ASCE "Frank Masters Award", the UCF "University Excellence in Professional Service", the Office of Sponsored Research and Commercialization "UCF Millionaire's Club Member" designation (UCF faculty who attracted outside research funding exceeding \$1 Million) for three consecutive years, the Florida Engineering Society "Outstanding Technical Achievement Award", the UCF "Distinguished Research of the Year Award", and the UCF "Faculty Excellence in Mentoring Doctoral Students" award.**

**Speech Title: *TBA***

**Abstract: *TBA***



**Prof. Dr. A. Kandasamy**

## **National Institute of Technology Karnataka, India**

Dr. A. Kandasamy is a professor in the Department of Mathematical and Computational Sciences of National Institute of Technology Karnataka, Surathkal, India. He has done his Doctoral Research at Indian Institute of Technology, Bombay, India and he is a Post-Doctoral Fellow of Chuo University, Tokyo, Japan. His research interests are Computational Fluid Dynamics, Rheology, Tribology, Computational Techniques, Bio-informatics and Wireless Sensor Networks. Dr. Kandasamy has published more than 55 reviewed papers in the reputed international journals and international/national conference proceedings. He has given invited talks in various conferences at national and international levels including the ones held at Russia, U.K., Singapore, Malaysia, Indonesia and Hong Kong. He has guided till now six students at Doctoral level research work, more than 25 students at Master's level project work. He is having 25 years of teaching experience and 30 years of research experience. He is Member of Board of Studies of various universities and institutions, Reviewer for various International Journals of Elsevier, Springer, Taylor and Francis and other reputed publications. Dr. Kandasamy is a member of National Board of Accreditation of India. He is the life member of various Professional Societies at National as well as International levels. At present, he holds the position of Dean of Faculty Welfare at N.I.T.K.Surathkal, India.

**Speech Title:** *Rheodynamic Lubrication of an Externally Pressurized Thrust Bearing using Yield-Stress Fluids*

**Abstract:** *Externally pressurized fluid film bearings have been the topic of numerous investigations over the last three decades. During this period not only has the fundamental understanding of the subject has developed, but also a variety of industrial applications of such bearings has encouraged the development of several design procedures. Considering its potential advantages including low viscous running friction, high load carrying capacity and high positional accuracy, externally pressurized thrust bearings are widely used in many applications such as machine tools, turbine generators, radio telescopes, radar antennas, etc,. Recently, the researchers intend to use non-Newtonian fluids as lubricants. Further, the interest has been increasing to use non-Newtonian fluids, in particular characterized by a yield-value such as Bingham, Casson and Herschel-Bulkley fluids. The continuing trend in lubrication industry emphasize that, in order to analyze the performances of the bearing, it is necessary to take into account the combined effects of fluid inertia and viscous forces of the lubricant. Hence, the*

*study of lubricant inertia is assuming greater importance. Using the Herschel-Bulkley fluids as lubricants, the problems of different types of bearings have been investigated by many researchers. In the present work, the combined effects of fluid inertia and viscous forces on the bearing performances of an externally pressurized circular thrust bearing using Herschel – Bulkley fluids with sinusoidal injection have been analyzed. Numerical solutions are obtained for the film pressure and the load carrying capacity for various values of Herschel – Bulkley number, Reynolds number, power – law index and time at different amplitudes of Sinusoidal feeding. The effects of fluid inertia forces and the non-Newtonian characteristics of the Herschel – Bulkley lubricant on the bearing performance for different sinusoidal conditions have been discussed.*



## **Assoc. Prof. Dr. M. M. Rahman**

### **Sultan Qaboos University, Muscat, Sultanate of Oman**

Dr. M. M. Rahman is an Associate Professor of Applied Mathematics in the Department of Mathematics and Statistics, Sultan Qaboos University, Muscat, Sultanate of Oman. His research interests include mathematical fluid mechanics, nano-fluidic phenomena, magnetohydrodynamics, heat and mass transfer, non-Newtonian fluids, transport in porous media, and bio-fluid flows.

Dr. Rahman has published more than 90 research papers. He has presented papers and given invited talks at several international conferences and renowned universities around the globe. He has supervised one Ph.D., one M.Phil., 11 M.Sc. and several undergraduate students. Currently, he is supervising one Post-Doc, two Ph.D. and two M.Sc. students. He obtained several grants as Principal Investigator from the Sultan Qaboos University and The Research Council of Oman. His total number of citation in Google Scholar is 1374 with h-index 24, i-index 38.

Dr. Rahman is the Editor-in-Chief of Mathematical Modelling of Engineering Problems (MMEP), Associate editor of Sultan Qaboos University Journal for Science (SQUJS), Editorial board members of American Journal of Heat and Mass Transfer (AJHMT), International Journal of Heat and Technology (IJHT), International Journal of Engineering, Science and Technology (IJEST), Research and Reviews in Materials Science and Chemistry (RRMSC) and potential reviewers for several international journals. Dr. Rahman is a life member of Bangladesh Mathematical Society, Mathematics Alumni of University of Dhaka, and member of Australasian Fluid Mechanics Society.

**Speech Title:** *Fundamental of Nanofluids and Dynamic Modeling*

**Abstract:** *The term nanofluid is envisioned to describe a solid-fluid mixture which consists of nanoparticles and a base fluid, and which is one of the new challenges for thermo science. Nanotechnology plays an important role in the development of the 21st century modern devices for practical use. One very important aspect of nanotechnology concerns the heating, cooling and cleanliness of nano-devices because it is crucial for proper functionality. In this talk the fundamental of nanofluids, their evolution and applications in nanoscience and nanotechnology are explored. An advanced mathematical model is proposed to investigate the convective heat transfer mechanism in nanofluids along with deposition of nanoparticles due to thermophoresis and Brownian diffusion with different flow and thermal conditions. The mathematical model of the proposed nanofluid problem is simulated numerically. The results are interpreted physically and their implications are identified.*

# Simple Timing Map

Day 1, Monday, April 25, 2016 Only Registration

( *Flora Grand Hotel - Al Rigga Boardroom I* )

10:00am – 13:00pm

**Onsite Registration**  
*Al Rigga Boardroom I*

Day 2, Tuesday, April 26, 2016

Morning: Keynote Speeches  
( *Venue: AL UMRA HALL* )

09:00am - 09:05am

**Opening Remark**  
( *Dr. Emel Evren Selamet* )

09:05am - 09:50am

**Keynote Speech 1**  
( *Prof. Sherif Ishak* )  
**Speech Title:** *Real Time Driver Information for Congestion Management*

09:50am - 10:05am

**Group Photo & Coffee Break**

10:05am - 10:50am

**Keynote Speech 2**  
( *Prof. Essam Radwan* )  
**Speech Title:** *TBA*

10:50am - 11:35am

**Keynote Speech 3**  
( *Prof. A. Kandasamy* )  
**Speech Title:** *Rheodynamic Lubrication of an Externally Pressurized Thrust Bearing using Yield-Stress Fluids*

11:35am-12:20pm

**Keynote Speech 4**  
( *Assoc. Prof. M. M. Rahman* )  
**Speech Title:** *Fundamental of Nanofluids and Dynamic Modeling*

12:20pm - 13:30pm

**Lunch Time**

13:30pm - 17:30pm

Afternoon: Authors' Presentations

Start at 18:00pm

**Dinner Time**

## **Venue: Flora Grand Hotel**

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Flora Hospitality is a quality driven collection of hotels & hotel apartments within one of the world's most modern and fastest growing cities, Dubai. Welcome to Dubai - Welcome to Flora Hospitality, where our promise of pure value, pure quality and pure service is delivered. An essential attribute of all Flora Hospitality properties are their convenience and central locations. With a portfolio of seven hotels and hotel Deluxe apartments we have established a presence in major regions in Dubai covering Deira, the Creek and the Airport. At Flora Hospitality properties we provide a wonderful choice. Whether you are a discerning budget traveler or just looking for that element of luxury of a 5 star business hotel, we have the accommodation solution to suite you. Our deluxe hotel apartments offer a choice of both full hotel service operations as well as self catering facilities. We have an extensive choice of accommodations to choose from with a portfolio including standard hotel rooms, deluxe hotel suites, studios, One, Two & Three Bedroom suite apartments, Royal Suites, Executive & Privilege Floors. Committed to provide only the highest levels of comfort, quality accommodations and conference facilities has made Flora Hospitality Hotels and Hotel apartments ideal for leisure, corporate travelers, stopovers & long stays. Each and every stay at one of our properties offers a high level of warmth and art of hospitality. Furthermore, with an ambitious expansion plan, and strengthened by its ongoing success, years of know-how and expertise, Flora Hospitality plans to open 4 new Hotels in Dubai, in prestigious locations close to the magnificent centerpiece of Dubai Downtown, Burj Khalifa, and close to the Mall of the Emirates.

# Upcoming Conferences

<b>August 3-5, 2016</b>	<b>Submission Deadline</b>	<b>Place</b>
2016 Asia-Pacific Conference on Intelligent Robot Systems ( <u>ACIRS 2016</u> ) <a href="http://www.acirs.org">www.acirs.org</a> Contact Email: acirs_conf@163.com	May 1, 2016	Tokyo, Japan
<b>September 26-28, 2016</b>	<b>Submission Deadline</b>	<b>Place</b>
2016 2th International Conference on Robotics and Automation Sciences ( <u>ICRAS 2016</u> ) <a href="http://www.icras.org">www.icras.org</a> Contact Email: icras@asr.org	May 5, 2016	New Taipei, Taiwan
<b>November 15-18, 2016</b>	<b>Submission Deadline</b>	<b>Place</b>
2016 the 6th International Conference on Power and Energy Systems ( <u>ICPES 2016</u> ) <a href="http://www.icpes.org">www.icpes.org</a> Contact Email: icpes@asr.org	July 15, 2016	Paris, France
<b>December 14-17, 2016</b>	<b>Submission Deadline</b>	<b>Place</b>
2016 5th International Conference on Mechanics and Control Engineering ( <u>ICMCE 2016</u> ) <a href="http://www.icmce.org">www.icmce.org</a> Contact Email: icmce@asr.org	August 15, 2016	Venice, Italy