

# ISHC2021

The 3<sup>rd</sup> International Symposium on Smart and Healthy Cities

## 第三届智慧健康城市国际研讨会

### 会议日程

### Conference Program



上海, 中国

Shanghai, China

2021年12月29日 December 29, 2021

# 大会简介

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第三届智慧健康城市国际研讨会 (ISHC2021) 将于 2021 年 12 月 29 日上午在上海线下会议室结合线上同步召开。本届会议由多伦多大学、复旦大学、国际智联网络系统学会 (INSAI) 联合主办, 旨在为从事相关研究的专家、学者及专业技术人员提供一个高水平的交流平台, 通过特邀报告、专题讲座的形式就智能建筑、智慧与健康城市领域的最新学术进展和热点问题进行深入探讨。

所有提交至本届会议的论文均会安排严格的同行评审, 接收论文将由 IEEE 出版, 出版后送交至 IEEE Xplore, EI Compendex 等数据库收录, 遴选的优秀论文将可推荐至 SCI/EI 收录的国际期刊发表。

# Conference Introduction

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The 3<sup>rd</sup> International Symposium on Smart and Healthy Cities (ISHC2021) will be held in Shanghai, China and synchronously online on December 29, 2021. ISHC is jointly organized by University of Toronto, Fudan University, Institute on Networking Systems of AI (INSAI). Since then, it has been successfully held twice in Shanghai (2019, 2020) respectively, and it has attracted hundreds of participants and become a platform with great influence in Chinese, North America and European government, enterprises, scientific research institutions.

As an academic symposium, ISHC2021 aims to bring together researchers and scientists from intelligent building, smart and healthy city, researchers from various application areas to discuss problems and solutions in the area, to identify new issues, and to shape future directions for research. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

# 组织机构

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## 主办单位

多伦多大学

复旦大学

国际智联网系统学会 (INSAI)

## 大会主席

宋梁, 复旦大学教授、博导

## 指导委员会

### 联席主席

Mark Fox, 多伦多大学

Alberto Leon Garcia, 多伦多大学

Kostas Plataniotis, 多伦多大学

### 委员

孙富春, 清华大学

屠晓伟, 上海大学

张晓平, 瑞尔森大学

## 技术程序委员会

### 联席主席

蒋林华, 复旦大学

Petros Spachos, 圭尔夫大学

Michael Widener, 多伦多大学

### 委员

Danilo Avola, 罗马第一大学

Gian Luca Brunetti, 米兰理工大学

Jieyu Lin, 多伦多大学

林志贇, 杭州电子科技大学

毛奕婕, 上海科技大学

倪伟, 上海东滩智联网研究院

庞成鑫, 上海东滩智联网研究院

王磊, 同济大学

曾新华, 复旦大学

张冠华, 复旦大学

Saiqian Zhang, 哈佛大学

朱浩瑾, 上海交通大学

# Organization

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## **Sponsors**

University of Toronto

Fudan University

Institute on Networking Systems of AI (INSAI)

## **General Chair**

Liang Song, Fudan University

## **Steering Committee**

### **Chairs**

Mark Fox, University of Toronto

Alberto Leon Garcia, University of Toronto

Kostas Plataniotis, University of Toronto

## **Committee Members**

Fuchun Sun, Tsinghua University

Xiaowei Tu, Shanghai University

Xiaoping Zhang, Ryerson University

## **Technical Program Committee**

### **Chairs**

Linhua Jiang (Co-chair), Fudan University

Petros Spachos (Co-chair), Guelph University

Michael Widener (Co-chair), University of Toronto

## **Committee Members**

Danilo Avola, Sapienza University

Gian Luca Brunetti, Polytechnic University of Milan

Jieyu Lin, University of Toronto

Zhiyun Lin, Hangzhou Dianzi University

Yijie Mao, ShanghaiTech University

Wei Ni, Shanghai East-Bund Institute on Networking Systems of AI

Chengxin Pang, Shanghai East-Bund Institute on Networking Systems of AI

Lei Wang, Tongji University

Xinhua Zeng, Fudan University

Guanhua Zhang, Fudan University

Saiqian Zhang, Harvard University

Haojin Zhu, Shanghai Jiao Tong University

# Keynote Speakers

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**Laurence T. Yang**

**Academic Vice-President and Dean**

**FCAE, FEIC, MAE, FIEEE, FIET, Hainan University, China**

**Research field:** Cyber-Physical-Social System Design, Data Analytics

Laurence T. Yang got his BE in Computer Science and Technology and BSc in Applied Physics both from Tsinghua University, China and Ph.D in Computer Science from University of Victoria, Canada. He is a professor in Hainan University, China as well as a professor and W.F. James Research Chair at St. Francis Xavier University, Canada. His research includes Cyber-Physical-Social System Design and Data Analytics. He has published 250+ papers in the above areas on top IEEE/ACM Transactions/Journals with total citations of 28490 and H-index of 83 including 7 and 28 papers as top 0.1% and top 1% highly-cited ESI papers, respectively.

He has been involved actively act as a steering chair for 10+ IEEE international conferences. He is the chair of IEEE CS Technical Committee of Scalable Computing (2008-2011, 2018-), the co-chair of IEEE SMC Technical Committee on Cybermatics (2016-), the co-chair of IEEE SC Hype-Intelligence Technical Committee (2021-), and the chair IEEE CIS Cyber-Physical-Social Systems Task Force (2019-) and the vice-chair of IEEE CIS Technical Committee on Smart World (2016-2019). In addition, he is serving as an editor for many international journals and is an author/co-author or an editor/co-editor of more than 25 books from well-known publishers, invited to give around 50 keynote talks at various international conferences and symposia.

His recent honors and awards include the member of Academia Europaea, the Academy of Europe (2021), the John B. Stirling Medal (2021) from Engineering Institute of Canada, IEEE Sensor Council Technical Achievement Award (2020), IEEE Canada C. C. Gotlieb Computer Medal (2020), ACM Distinguished Scientist (2020), Clarivate Analytics (Web of Science Group) Highly Cited Researcher (2019, 2020), Fellow of Institution of Engineering and Technology (2020), Fellow of Institute of Electrical and Electronics Engineers (2020), IEEE TCCPS Most Influential Paper Award on Cyber-Physical Systems (2020), IEEE SCSTC Most Influential Paper Award on Smart Computing (2019), IEEE TCBD Best Journal Paper Award on Big Data (2019), Fellow of Engineering Institute of Canada (2019), AMiner Most Influential Scholar Award for Internet of Things (2018), IEEE TCCPS Distinguished Leadership Award on Cyber-Physical Systems (2018), IEEE SCSTC Life-Career

Achievement Award on Smart Computing (2018), Fellow of Canadian Academy of Engineering (2017), IEEE System Journal Best Paper Award (2017), IEEE TCSC Award for Excellence in Scalable Computing (2017), Elsevier JCSS Elsevier JCSS Journal Most Cited Paper Award (2017) and the PROSE Award on Engineering and Technology (2010).



**Petros Spachos**

**Associate Professor at the School of Engineering, University of Guelph, Canada**

**Research field:** Mobile systems and the Internet of Things (IoT).

Petros Spachos received his Ph.D. and M.A.Sc. from the Department of Electrical and Computer Engineering, University of Toronto, and his 5-year diploma degree from the Department of Electronic and Computer Engineering at the Technical University of Crete, Greece. His research interests span primarily in the area of mobile systems and the Internet of Things (IoT). He is mainly working on the design, program, simulation, and evaluation of smart systems as well as testbed prototyping, with a current focus on novel smart cities applications through smartphones. Recently, he has co-authored an overview article on BLE Beacons in the Smart City: Applications, Challenges, and Research Opportunities, and one on An Experimental Framework for Wellness Assessment through the Internet of Things.



**Gian Luca Brunetti**

**Associate professor of Architectural Technology at the Polytechnic University of Milan, Italy**

**Research field:** Building design, building optimization, Meta modelling, design methods, bioclimatic design.

Gian Luca Brunetti graduated in Architecture at the Polytechnic University of Milan in 1991. From 1992 to 1995 he worked as an architectural designer in the architectural workshop of Marcello

Pietrantoni in Milan. In 1995 he obtained a scholarship for a PhD research at the Polytechnic University of Milan. He defended his PhD thesis on thermal transition spaces in Architecture in April 1999 (supervisor: Prof. Bianca Bottero). In 1998 he became a graduate technician at the ABITA Laboratory, Polytechnic University of Milan, Department of Building, Environment and Sciences (BEST, now ABC). In 2006 he became a researcher of Architectural Technology at the Polytechnic University of Milan, Faculty of Architecture and Society. Since 2016 he is associate professor of Architectural Technology at the Polytechnic of Milan.



**Hao Luan**

**Professor, School of Network and Information Security, Xidian University, China**

**Research field:** Content distribution and media streaming in vehicular ad hoc networks, peer-to-peer networking, protocol design and performance evaluation of wireless cloud computing and edge computing.

Tom H. Luan received the B.E. degree from the Xi'an Jiaotong University, China, in 2004, the Master degree from the Hong Kong University of Science and Technology, Hong Kong, in 2007, and the Ph.D. degree from the University of Waterloo, Canada, in 2012, all in Electrical and Computer Engineering. During 2013 to 2017, Dr. Luan was a Lecturer in Mobile and Apps at the Deakin University, Australia. Since 2017, he is with the School of Cyber Engineering in Xidian University, China, as a professor. His research mainly focuses on the content distribution and media streaming in vehicular ad hoc networks and peer-to-peer networking, and protocol design and performance evaluation of wireless cloud computing and edge computing. Dr. Luan has published over 130 peer reviewed papers in journal and conferences, including IEEE TON, TMC, TMM, TVT and Infocom. He won the 2017 IEEE VTS Best Land Transportation Best Paper award and IEEE ICCS 2018 best paper award.



**Haofeng Hu**

**Professor, School of Optoelectronic Information Engineering, Tianjin University, China**



**Research field:** Advanced optical imaging based on polarization and its various applications to smart city and smart ocean

Haofeng Hu is a Professor at Tianjin University, China. He graduated from Nankai University in 2006 and received his PhD in Optics Engineering from Nankai University in 2011. He worked in Institute d'Optique, France between 2011 and 2013, and he joined Tianjin University in 2014. He is the author of 70 journal papers, 12 articles in international conferences. His research topics are connected with advanced optical imaging based on polarization and its various applications to smart city and smart ocean. Haofeng Hu is member of the Optical Society of America (OSA) and Institute of Electrical and Electronics Engineers (IEEE).

# 会议日程

## ISHC2021 日程安排

日期	时间	事项
12月29日 星期三		<b>欢迎辞 &amp; 特邀汇报</b>  会议主题: ISHC2021 会议时间: 2021/12/29 09:00-12:00 (GMT+08:00) 中国标准时间 - 北京 点击链接加入 Zoom 会议: <a href="https://us02web.zoom.us/j/87966504898?pwd=aDVITGxyUk11ejdKRmlxeFlvSWdhZDZ09">https://us02web.zoom.us/j/87966504898?pwd=aDVITGxyUk11ejdKRmlxeFlvSWdhZDZ09</a> 会议号: 879 6650 4898 密码: 20211229
	主持人	毛奕婕教授, 上海科技大学
	9:00-9:10	Laurence T. Yang 院士致开场辞
	9:10-9:40	Laurence T. Yang 院士, 海南大学 报告题目: Cyber-Physical-Social Systems: System Design and Data Analytics
	9:40-10:10	Gian Luca Brunetti 教授, 意大利米兰理工大学 报告题目: Building simulation for enabling smart building technologies in the pursuit of radical sustainability
	10:10-10:40	栾浩教授, 西安电子科技大学 报告题目: Digital Twin Network: A New Paradigm for Mobile System
	10:40-11:10	胡浩丰教授, 天津大学 报告题目: Vision Enhancement in Complex Environments via Polarimetric Imaging
	11:10-11:40	Petros Spachos 教授, 加拿大圭尔夫大学 报告题目: Indoor Localization and Tracking in Smart City Application
	11:40-12:00	优秀学术论文颁奖

# Conference Schedule

## ISHC2021 Conference Schedule

Date	Time	Item
<b>December 29 Wednesday</b>		<b>Welcome Speech &amp; Invited Speech</b>  <b>Topic: ISHC2021</b> <b>Time: 2021/12/29 09:00-12:00 (GMT+08:00) Beijing Time</b> <b>Click the link below to join the meeting:</b> <a href="https://us02web.zoom.us/j/87966504898?pwd=aDVITGxyUk11ejdKRmlxeFlvSWdhdz09">https://us02web.zoom.us/j/87966504898?pwd=aDVITGxyUk11ejdKRmlxeFlvSWdhdz09</a> <b>Conference Code: 879 6650 4898</b> <b>Password: 20211229</b>
	Host	Professor Yijie Mao, ShanghaiTech University
	09:00-09:10	Welcome Speech from Professor Laurence T. Yang
	09:10-09:40	Professor Laurence T. Yang, Hainan University Speech title: Cyber-Physical-Social Systems: System Design and Data Analytics
	09:40-10:10	Professor Gian Luca Brunetti, Polytechnic University of Milan Speech title: Building simulation for enabling smart building technologies in the pursuit of radical sustainability
	10:10-10:40	Professor Hao Luan, Xidian University Speech title: Digital Twin Network: A New Paradigm for Mobile System
	10:40-11:10	Professor Haofeng Hu, Tianjin University Speech title: Vision Enhancement in Complex Environments via Polarimetric Imaging
	11:10-11:40	Professor Petros Spachos, University of Guelph Speech title: Indoor Localization and Tracking in Smart City Application
	11:40-12:00	Award Ceremony for Outstanding Academic Papers