TANN21

5TH INTERNATIONAL CONFERENCE OF THEORETICAL AND APPLIED NANOSCIENCE AND NANOTECHNOLOGY (TANN'21)

May 23 - 25, 2021| ~~Niagara Falls, Canada~~ | Virtual Conference

TANN'21 | May 24 | May 25

OUR PROGRAM SCHEDULE IS BASED ON EASTERN TIME (ET - OTTAWA TIME)

TANN'21

TANN'21 Scientific Committee Chair

Dr. Jin Zhang

University of Western Ontario, Canada
Conference Chair
View Profile

Dr. Amirkianoosh Kiani

Ontario Tech University, Canada
Conference Co-Chair
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MAY 24

ROOM 1	
8:00 AM - 9:00 AM	Registrations
9:00 AM - 9:10 AM	Official Opening
	Dr. Jin Zhang, University of Western Ontario, Canada
9:10 AM - 10:10 AM	PLENARY LECTURE
	Material and Device Designs in Biomimetic Polymer Electronics Dr. Sihong Wang, University of Chicago, USA
10:10 AM - 11:00 AM	KEYNOTE LECTURE
	Metasurfaces: New Generation Building Blocks For Emerging Optics Dr. Mohsen Rahmani, Nottingham Trent University, UK
11:00 AM - 11:15 AM	Break

NOVEMBER 10

11:15 AM - 12:05 PM	**KEYNOTE LECTURE**
	Symmetry Driven Photonics for New Active Functionality On-Chip **Dr. Liang Feng, University of Pennsylvania, USA**
12:05 PM - 12:35 PM	**Lunch Break**
12:35 PM - 1:55 PM	**Session** **Nanomaterials, Nanodevices: Fabrication, Characterization and Application I**

PLENARY LECTURE

MAY 24 | 9:10 AM - 10:10 AM | SESSION CHAIR: DR. JIN ZHANG, UNIVERSITY OF WESTERN ONTARIO, CANADA

Titles: Material and Device Designs in Biomimetic Polymer Electronics

Dr. Sihong Wang, University of Chicago, USA

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Sihong Wang is an Assistant Professor in the Pritzker School of Molecular Engineering at the University of Chicago, USA. He received his Ph.D. degree in Materials Science and Engineering from the Georgia Institute of Technology in 2014 under the supervision of Prof. Zhong Lin Wang, and his Bachelor's degree from Tsinghua University in 2009. From 2015 to 2018, he was a postdoctoral fellow with Prof. Zhenan Bao in Chemical Engineering at Stanford University. He has published over 60 papers in numerous high-impact journals, including Nature, Science, Nature Materials, Nature Electronics, Nature Communications, Science Advances, Advanced Materials, Energy & Environmental Science, etc. His research group currently focuses on soft polymeric bioelectronic materials and devices as the new generation of technology for biomedical studies and practices. As of March 2021, his research has been cited more than 14,200 times and he has an H-index of 54. He was recognized as a Highly Cited Researcher by Clarivate Analytics in 2020, and was awarded MIT Technology Review 35 Innovators Under 35 (TR35 Global List), MRS Graduate Student Award, Chinese Government Award for Outstanding Students Abroad, Top 10 Breakthroughs of 2012 by Physics World, etc.

KEYNOTE LECTURE

MAY 24 | 10:10 AM - 11:00 AM | SESSION CHAIR: DR. JIN ZHANG, UNIVERSITY OF WESTERN ONTARIO, CANADA

Titles: Metasurfaces: New Generation Building Blocks For Emerging Optics

Dr. Mohsen Rahmani, Nottingham Trent University, UK

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Mohsen Rahmani is an Associate Professor at Nottingham Trent University. His research activities span over light-matter interactions with various subwavelength nanoparticles for applications in flat optics, near-infrared imaging, bio-sensing, etc. He has obtained his PhD from the National University of Singapore in 2013, followed by postdoc fellowship at Imperial College London, and the Australian Research Council Early Career Fellowship at the Australian National University (ANU). In 2020, he has moved to the Nottingham Trent University as a Royal Society Wolfson Fellow, and has recently been awarded by the UK Research and Innovation Fellowship. Associate Professor Rahmani has delivered 20+ invited talks, seminars and keynotes in international conferences, and has published more than 60 peer-reviewed journal papers (H-index=31). He is the recipient of several prestigious awards and prizes including the Australian Eureka Prize, Early Career Medal from the International Union of Pure and Applied Physics, and the Australian Optical Society Geoff Opat Award. In 2020 he has been promoted to the senior member of Optical Society of America and IEEE.

KEYNOTE LECTURE

MAY 24 | 11:15 AM - 12:05 PM | SESSION CHAIR: DR. JIN ZHANG, UNIVERSITY OF WESTERN ONTARIO, CANADA

Titles: Symmetry Driven Photonics for New Active Functionality On-Chip

Dr. Liang Feng, University of Pennsylvania, USA

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Liang Feng is an Associate Professor of Materials Science & Engineering (MSE) and Electrical and Systems Engineering (ESE) at the University of Pennsylvania. He received his Ph.D. in Electrical Engineering from UCSD in 2010, and was subsequently a postdoc researcher in the Department of Electrical Engineering at California Institute of Technology and NSF Nanoscale Science and Technology Center at UC Berkeley. Prior to joining Penn in 2017, he was an assistant professor of SUNY Buffalo from 2014 to 2017. Currently his research interests include optical and photonic materials, quantum optics, nanophotonics, and optoelectronics. He has authored and coauthored 77 papers in Science, Nature Materials, Nature Photonics, PRL, etc. He is an OSA fellow and a recipient of Sloan Research Fellow, NSF CAREER and ARO Young Investigator awards.

SESSION

NANOMATERIALS, NANODEVICES: FABRICATION, CHARACTERIZATION AND APPLICATION I

MAY 24 | 12:35 PM - 1:55 PM | SESSION CHAIR: DR. JIN ZHANG AND DR. LIANG FENG

Titles: Mechanistic Insight into the Phosphodiester Bond Hydrolysis of Nanozymes
TANN 115
Time: 12:35 - 12:55
Presenter: Adam Pecina, Istituto Italiano di Tecnologia, Italy
Authors: Adam Pecina, Paolo Scrimin, Fabrizio Mancin, Marco De Vivo

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Titles: Embedment of nano-graphene in metal deposits via cold spraying

TANN 102
Time: 12:55 - 1:15
Presenter: Kaiqiang Wu, Nanyang Technological University, Singapore
Authors: Wen Sun, Adrian Wei-Yee Tan, Kaiqiang Wu, Ayan Bhowmik, Iulian Marinescu, Erjia Liu

View Paper

Titles: Machine Learning Approach for TiO2 Electrode in Supercapacitor Fabrication

TANN 122
Time: 1:15 - 1:35
Presenter: Amirhossein Gholami, Ontario Tech University, Canada
Authors: Amirhossein Gholami, Amirkianoosh Kiani

View Paper

Titles: New Generation of Tio2 Electrode in Supercapacitor

TANN 123
Time: 1:35 - 1:55
Presenter: Amirhossein Gholami, Ontario Tech University, Canada
Authors: Amirhossein Gholami, Amirkianoosh Kiani

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MAY 25

9:00 AM - 9:50 AM	**KEYNOTE LECTURE**
	Advanced Characterization and Modification of Nanoporous Metals **Dr. Roger Newman, University of Toronto, Canada**
9:50 AM - 10:40 AM	**KEYNOTE LECTURE**
	Nanoscale Future Healthcare using Terahertz **Dr. Qammer Abbasi, University of Glasgow, UK**
10:40 AM - 10:50 AM	**BREAK**
10:55 AM - 12:25 PM	**SESSION** **Nanomaterials, Nanodevices: Fabrication, Characterization and Application II**

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KEYNOTE LECTURE

MAY 25 | 9:00 AM - 9:50 AM | SESSION CHAIR: DR. AMIRKIANOOSH KIANI, ONTARIO TECH UNIVERSITY, CANADA

Titles: Advanced Characterization and Modification of Nanoporous Metals

Dr. Roger Newman, University of Toronto, Canada

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Roger Newman has been a Professor in the Department of Chemical Engineering and Applied Chemistry at the University of Toronto since 2004. Before that, he spent 20 years as an academic in Manchester, UK, and also spent some years at Brookhaven National Laboratory. His main research specialty is metallic corrosion, but ever since the 80s, he has had an activity in nanomaterials, specifically nanoporous metals, which are created by a kind of electrochemical corrosion process. He has received a number of international awards and Fellowships for corrosion research.

KEYNOTE LECTURE

MAY 25 | 9:50 AM - 10:40 AM | SESSION CHAIR: DR. AMIRKIANOOSH KIANI, ONTARIO TECH UNIVERSITY, CANADA

Titles: Nanoscale Future Healthcare using Terahertz

Dr. Qammer Abbasi, University of Glasgow, UK

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Qammer H. Abbasi, received his BSc and MSc degree in electronics and telecommunication engineering from University of Engineering and Technology (UET), Lahore, Pakistan (with distinction). He received his Ph.D. degree in Electronic and Electrical engineering from Queen Mary University of London (QMUL), U.K., in Jan., 2012. From 2012 to June 2012, he was Post-Doctoral Research Assistant in Antenna and Electromagnetics group, QMUL, UK. From 2012 to 2013, he was international young scientist under National Science Foundation China (NSFC), and Assistant Professor in University of Engineering and Technology (UET), KSK, Lahore. From August, 2013 to April 2017 he was with the Center for Remote healthcare Technology and Wireless Research Group, Department of Electrical and Computer Engineering, Texas A &M University (TAMUQ) initially as an Assistant Research Scientist and later was promoted to an Associate Research Scientist and Visiting lecture where he was leading multiple Qatar national research foundation grants. Currently Dr. Abbasi is a Senior Lecturer (Associate Professor) in James Watt school of engineering at University of Glasgow in addition to Visiting Lecturer with Queen Mary, University of London (QMUL). He has been mentoring several undergraduate, graduate students and postdocs.

For more information, please visit:
https://tannconference.com/keynote-speakers/

SESSION

NANOMATERIALS, NANODEVICES: FABRICATION, CHARACTERIZATION AND APPLICATION II

MAY 25 | 10:55 AM - 12:25 PM | SESSION CHAIR: DR. AMIRKIANOOSH KIANI AND DR. ROGER NEWMAN

Titles: Applied Nanopore Fabrication Techniques for DNA and Protein Sensing

TANN 301
Time: 10:55 - 11:15
Presenter: Cuifeng Ying, Nottingham Trent University, UK
Authors: Cuifeng Ying

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Titles: Two-Dimensional Supersymmetric Microring Laser Arrays

TANN 302
Time: 11:15 - 11:35
Presenter: Xingdu Qiao, University of Pennsylvania, USA
Authors: Xingdu Qiao, Bikashkali Midya, Zihe Gao, Zhifeng Zhang, Haoqi Zhao, Tianwei Wu, Jieun Yim, Ritesh Agarwal, Natalia M. Litchinitser, Liang Feng

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Titles: Increased Adhesion Force Due to Increased Conductivity in PEDOT:PSS/PEO Spun-coated Nanofilm

TANN 117
Time: 11:35 - 11:55
Presenter: Raymond Christopher Setiawan, University of Alberta, Canada
Authors: Raymond Christopher Setiawan, D.Y. Li

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SESSION

NANOMATERIALS, NANODEVICES: FABRICATION, CHARACTERIZATION AND APPLICATION II

MAY 25 | 10:55 AM - 12:25 PM | SESSION CHAIR: DR. AMIRKIANOOSH KIANI AND DR. ROGER NEWMAN

Titles: Ternary QD–Organic Dye FRET Pairs for Cytometry-Compatible Sensing Platform

TANN 114

Time: 11:55 - 12:15

Presenter: Maksim Miropoltsev

Authors: Maksim Miropoltsev, Vera Kuznetsova, Viktoria Osipova , Anton Tkach, Alexander Baranov

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Titles: Deposition of Silver Nanoparticles on Silicone hydrogels by Using Laser-Assisted Process

TANN 124

Time: 12:15 - 12:25

Presenter: Vishnuvardhana Wuppaladhodi, University of Western Ontario, Canada

Authors: Vishnuvardhana Wuppaladhodi, Jin Zhang

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