



QUEEN'S  
UNIVERSITY  
BELFAST

# *Transnational Workshop on*

# **SMART TECHNOLOGIES FOR SOCIETAL HEALTH**

*Jointly organized by Anna University, Chennai, India &  
Queen's University Belfast, Northern Ireland, UK*

**4th & 5th March, 2024**

Department of Computer Technology  
Anna University, MIT Campus



**75th year Celebration of  
Madras Institute of Technology**

# ABOUT WORKSHOP

The two-day Transnational Workshop on Smart Technologies for Societal Health aims to bring together experts and researchers from the UK, India, Vietnam, Malaysia, and Oman to explore how Smart Technologies (AI, computer vision, robotics and autonomous systems) can be better utilized to improve Societal Health in regions impacted by natural disasters. The workshop further intends to identify technical challenges in their development and establish a collaborative action plan for research activities to overcome these challenges. The event will encompass series of keynote lectures, panel discussions, and breakout sessions, featuring insights from both experienced and early-career researchers representing the participating countries.

## SCHEDULE - DAY 1

09.30 am	<b>Registration</b> All delegates	
10.00 am	<b>Workshop Inauguration</b> Guests and All delegates	
10.45 am	<b>10.45 - 11.00 AM BREAK</b>	<i>Chair: Prof Gunasekaran Raja</i>
11.00 am	<b>About the Workshop</b> Prof Seán McLoone	
11.15 am		
11.15 am	<b>Keynote 1</b> <i>AI and Applications in Society: A Look from Vietnam</i> Dr Van-Truong Nguyen Dr Tien-Dung Hoang Dr Xiem Hoang Van	
12.05 pm		<i>Chair: Prof Seán McLoone</i>
12.05 pm	<b>Keynote 2</b> <i>Critical asset management and emergency communications infrastructure</i> Dr Ché Cameron	
12.35 pm		<i>Chair: Prof Seán McLoone</i>
12.35 pm	<b>Keynote 3</b> <i>Empowering Communities: STI Hub Ladakh's Journey to Health Innovation</i> Mr Chander Shekhar Sharma	
01.05 pm	<b>1.05 - 2.00 PM LUNCH AND NETWORKING</b>	<i>Chair: Prof Seán McLoone</i>
02.00 pm	<b>Keynote 4 (Online)</b> <i>Edge-AI and Unmanned Aerial Systems: A Practical Perspective</i> Prof Muhammad Haroon Yousaf	
02.30 pm		<i>Chair: Prof Seán McLoone</i>
02.30 pm	<b>Keynote 5</b> <i>Malaysia's path to a Sustainable Society: Pioneering with Advanced Technology</i> Dr Ramani Kannan Dr Sathish Kumar V E	
03.00 pm		<i>Chair: Prof Seán McLoone</i>
03.00 pm	<b>Breakout Session 1</b> <i>Opportunities and research challenges in robotics and autonomous systems for societal health</i> All Delegates	
04.00 pm		
04.00 pm	<b>Keynote 6 (Online)</b> <i>Future Maritime Transportation - Avoiding the Titanic Tragedy</i> Dr Wasif Naeem	
04.30 pm		<i>Chair: Prof Gunasekaran Raja</i>
04.30 pm	<b>Keynote 7</b> <i>A Portable, Low-Cost Multispectral System for Monitoring Night Sky Brightness over the Astronomical Sites</i> Dr Ashish Kumar	
05.00 pm		<i>Chair: Prof Gunasekaran Raja</i>
05.00 pm	<b>Day 1 Concluding Remarks</b> Prof Gunasekaran Raja	
05.05 pm	<b>7.00 - 9.00 PM WORKSHOP DINNER</b>	

# SCHEDULE - DAY 2

09.30 am  
|  
10.00 am

## Keynote 8

**Learning and Digital Twins-based Control for Autonomous Robotics Systems subject to Safety Constraints**

Dr Mien Van

Chair: Dr Geetha G

10.00 am  
|  
10.30 am

## Keynote 9

**Science and Technology Interventions in Primary Healthcare for Greater Society Using New Age Tools - an SCTIMST Perspective**

Mr Jithin Krishnan

Chair: Dr Moirangthem Marjit

10.30 am  
|  
11.00 am

## Keynote 10

**SMART Technology Aided Monitoring of Metabolic and Emerging Infectious Diseases**

Dr Kalimuthu Karuppanan

Chair: Dr Veningston K

11.15 am  
|  
12.30 am

## Breakout Session 2

**Transnational moon-shot projects on smart technology for disaster relief and recovery operations**

All Delegates

12.30 am  
|  
01.00 pm

## Keynote 11

**Advanced Materials for Aerospace and Defence Applications**

Dr P Praveen Kumar

Chair: Dr Moirangthem Marjit

02.00 pm  
|  
02.45 pm

## Panel Discussion

**The role of AI in improving Societal Health in regions impacted by natural disasters**

Chair: Prof Seán McLoone

02.45 pm  
|  
03.30 pm

## Keynote 12

**Which Innovation will win?**

Dr Mahesh Veezhinathan

Chair: Prof Gunasekaran Raja

03.45 pm  
|  
04.15 pm

## Keynote 13 (Online)

**Human-Centred AI for Autonomous Systems**

Dr John Oyekan

Chair: Dr Wasif Naeem

04.15 pm  
|  
04.45 pm

## Keynote 14

**Safe operation of autonomous vehicles under uncertainty**

Dr Pantelis Sopasakis

Chair: Dr Wasif Naeem

04.45 pm  
|  
05.15 pm

## Feedback & Closing

Prof Gunasekaran Raja

# ORGANIZERS



**Prof Gunasekaran Raja**  
Anna University, Chennai  
Email: gunasekaran@mitindia.edu



**Prof Seán McLoone**  
Queen's University Belfast, UK  
Email: s.mclooone@qub.ac.uk



**Dr Wasif Naeem**  
Queen's University Belfast, UK  
Email: w.naeem@qub.ac.uk

# DELEGATES



**Dr Mien Van**  
Queen's University Belfast, UK  
Email: m.van@qub.ac.uk



**Dr Pantelis Sopasakis**  
Queen's University Belfast, UK  
Email: p.sopasakis@qub.ac.uk



**Dr Ché Cameron**  
Queen's University Belfast, UK  
Email: c.cameron@qub.ac.uk



**Mr Stephen McIlvanna**  
Queen's University Belfast, UK  
Email: smcilmvanna01@qub.ac.uk



**Dr Van-Tuong Nguyen**  
Hanoi University of Industry, Vietnam  
Email: nguyenvantruong@hau.edu.vn



**Dr Xiem Hoang Van**  
Vietnam National University, Vietnam  
Email: xiemhoang@vnu.edu.vn



**Dr Tien-Dung Hoang**  
Hanoi University of Industry, Vietnam  
Email: tiendung@hau.edu.vn



**Dr Ramani Kannan**  
Universiti Teknologi Petronas, Malaysia  
Email: ramani.kannan@utp.edu.my



**Dr Sathishkumar V E**  
Sunway University, Malaysia  
Email: sathishv@sunway.edu.my



**Mr Rajasekar V R**  
University of Technology & Applied Sciences, Oman  
Email: rajasekar.sur@cas.edu.om



**Dr Praveen Kumar P**  
Defence Research and Development Organisation, Hyderabad  
Email: praveenk.pasl@gov.in



**Dr Ashish Kumar**  
Aryabhatta Research Institute of Observational Sciences, Uttarakhand  
Email: ashish@aries.res.in



**Mr Chander Shekhar Sharma**  
Council of Scientific and Industrial Research IMTECH, Chandigarh  
Email: shekhar@imtech.res.in



**Mr Jithin Krishnan**  
Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum  
Email: jithinkrishnan@sctimst.ac.in



**Dr Kalimuthu Karuppanan**  
SRM University, Chennai  
Email: kalimutk1@srmist.edu.in



**Dr Mahesh Veezhinathan**  
Forge Innovation & Ventures, India  
Email: mahesh.v@forgeforward.in



**Dr Moirangthem Marjit**  
North Eastern Regional Institute of Science and Technology, Arunachal Pradesh  
Email: mjs@nerist.ac.in



**Dr Veningston K**  
National Institute of Technology Srinagar  
Email: veningstonk@nitsri.ac.in



**Dr Sahaya Beni Prathiba**  
Vellore Institute of Technology, Chennai  
Email: prathiba.sbb@vit.ac.in



**Dr Arun Kumar A**  
Vellore Institute of Technology, Vellore  
Email: arunkumar.a@vit.ac.in



**Dr Geetha G**  
Anna University, Chennai  
Email: ggeetha@annauniv.edu



**Dr Kaviyarasu Ayakkannu**  
Anna University, Chennai  
Email: kavimitaero@annauniv.edu



**Dr Balaji C**  
Anna University, Chennai  
Email: cbalaji@annauniv.edu



**Dr Sriram S R**  
Anna University, Chennai  
Email: sriramsr@annauniv.edu



**Dr Sudhakar T**  
Anna University, Chennai  
Email: sudhakart@annauniv.edu



**Mr Sreenivas Rao**  
Society for Electronic Transactions and Security, Chennai  
Email: sreenivasr@setsindia.net



**Mr Thamodharan Arumugam**  
KL University, Andhra Pradesh  
Email: thamodharan@gmail.com



**Mr Akoramurthy B**  
National Institute of Technology Puducherry  
Email: cs22d1005@nitp.ac.in



**Ms Prathyusha**  
Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum  
Email: prathyusharavi@sctimst.ac.in



**Ms Athira Murali**  
Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum  
Email: athiramurali@sctimst.ac.in