AMIRKABIR
University of Technology
(Tehran Polytechnic)

AUT Advanced Materials & Biotechnology Summer School 2021

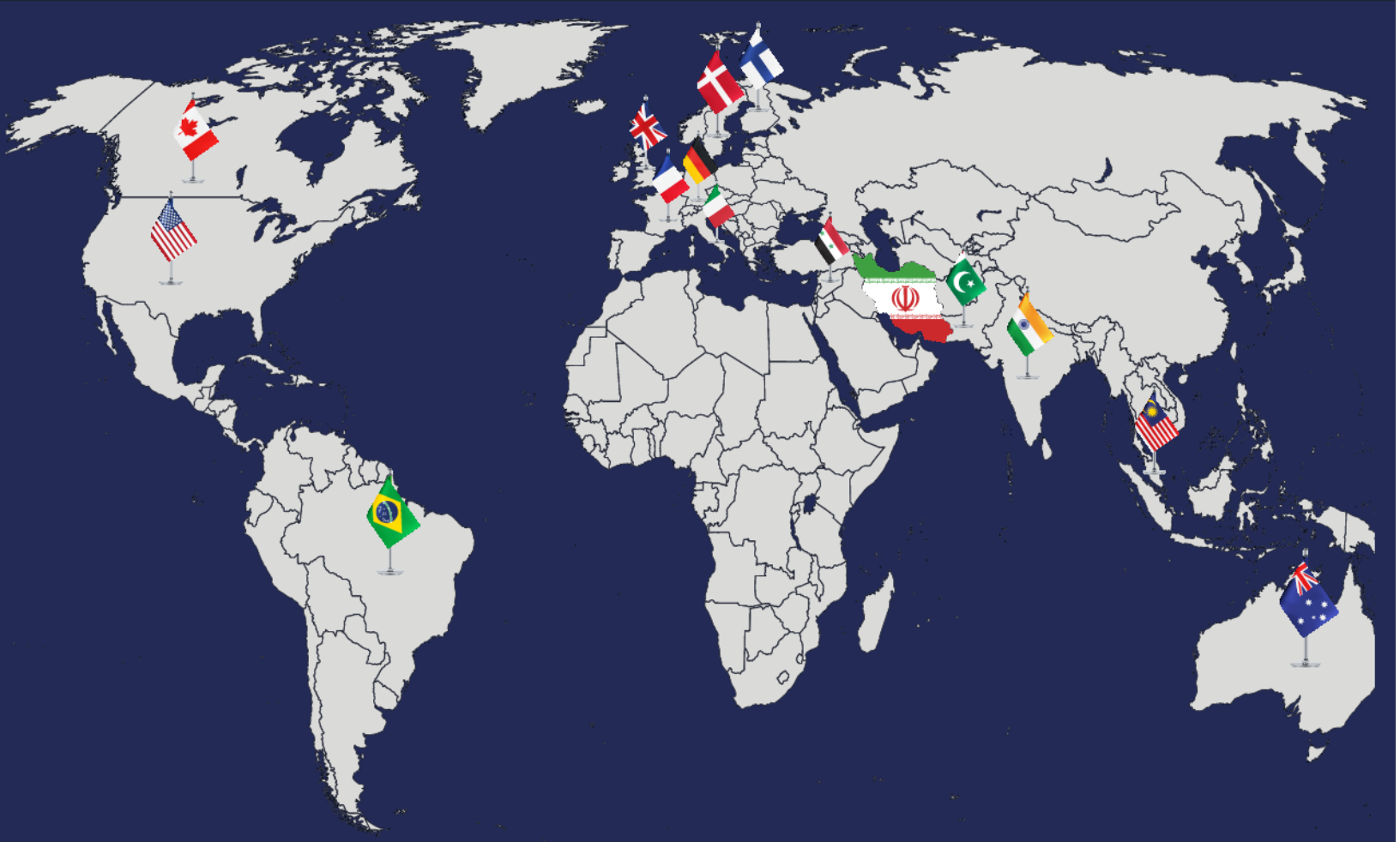
Content Courses in Four Academic Areas

- Tissue Engineering & Regenerative Medicine
- Smart Materials
- Textile Wearable Devices
- Medical Textiles

summerschools.aut.ac.ir

summerschools@aut.ac.ir

AUT Advanced Materials &Biotechnology Group



lecturers from:

5 Continents

14 Countries

27 Universities

Over **3500** participants

+

3DPL Company

Workshop

Summer School Chair

Dr. Roohollah Bagherzadeh

- Assitant Professor
- Director of Institute for Advanced Textile Materials and Technologies

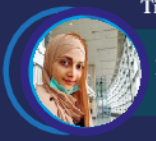
Scientific Moderator Of the Tissue Engineering & Regenerative Medicine Summer School

Dr. Rana Imani

- Assitant Professor
- Member of Tissue Engineering Groups
- Biomedical Engineering Faculty

Co-Chair

Tissue Engineering & Regenerative Medicine



Reyhaneh Nabiyouni

Naimeh Mahheidari | Hadi Mahdipour | Maryam Fath Taheri | Maedeh Seydi | Amirhossein Aran | Mozhdeh Haddadi | Latifeh Karimzadeh Bardeei

Smart Materials

Mohammad J Akbari

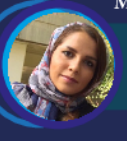
Elaheh Amirkhani | Zeinab Shahin Fard | Zeinab Azizi | Mohammad Mahdi Mosaheb

Textile Wearable Devices

Mobin Azimi

Saba Alvandi | Armaghan Barekat | ParsaMohammadi | Sana Nami | Nazanin Yadi | Mohammad Motaghedi

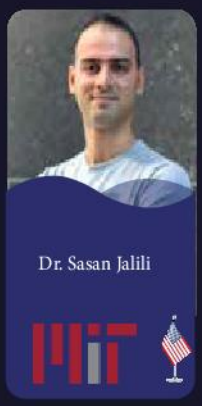
Medical Textiles



Simin Bakhtiyari

Mahsa Dadjou | Fatemeh Rajabi | Arefeh Maghsoudi | Monire Abdi | Nafiseh Hedayati

Tissue Engineering & Regenerative Medicine



Dr. Sasan Jalili

Dr. Kaveh Roshanbinfar

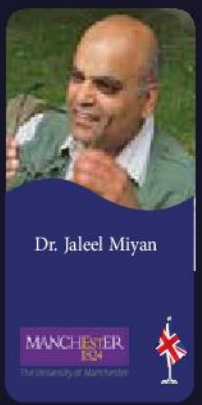
Prof. Stefan Jockenhövel

Prof. Majid Ebrahimi Warkiani

Prof.Divya Maitreyi Chari

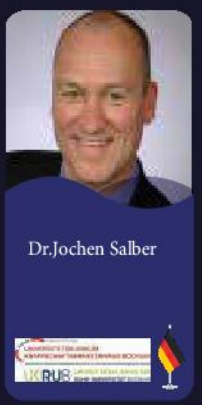
Dr. Alireza Dolatshahi-Pirouz

Dr. Leila Saleh Khadour

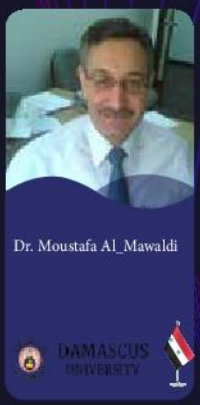


Dr. Jaleel Miyan

MS.Parisa Khayambashi

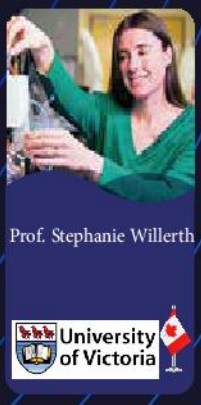


Dr.Jochen Salber



Dr. Moustafa Al_Mawaldi

Dr. Asma Tufail Shah



Prof. Stephanie Willerth

Smart Materials

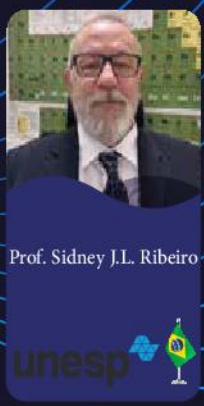
Prof. Mehdi Razavi

Prof. Ali Seifitokaldani

Prof. Theodore W.B.Hughes_Riley

Prof.Ahmad Fauzi Bin Ismail

Prof. Serena Danti



Prof. Sidney J.L. Ribeiro

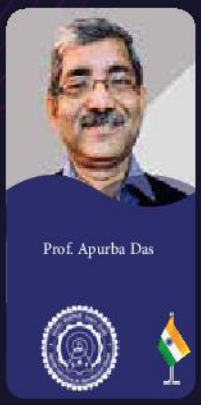
Medical Textiles

Dr. Farzan Gholamreza

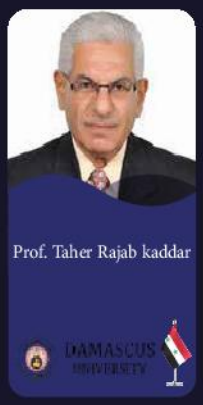
Prof. François Boussu

Hamed Pourkheirollah

Ms. Zahra Allahyari



Prof. Apurba Das



Prof. Taher Rajab kaddar

Textile Weareble Device

Dr. Huanyu Cheng

PennState

Workshop

3DPL LEACTURER:
Mr.Parham Sadeghinia

3DPL Company

Tissue Engineering & Regenerative Medicine

Lecturer	Topic
Dr. Sasan Jalili	Organ on a Chip
Dr. Kaveh Roshanbinfar	Utilizing Electroconductive Hydrogels for Cardiac Tissue Engineering
Prof. Stefan Jockenhövel	Tissue Engineering
Prof. Majid Ebrahimi Warkiani	Micro/Nano-Engineered Systems for Biomedical Research
Prof. Divya Maitreyi **Chari**	Biomaterials for Regenerative Neurology
Dr. Alireza Dolatshahi-Pirouz	Tissue Engineering
Dr. Jaleel Miyan	Feedback Control of Host Defence and Immunity: Integration of Neural and Immune Systems
Dr. Parisa Khayambashi	The Use of Bone Marrow-Derived Exosomes in Tissue Engineering
Prof. Jochen Salber	**Topic A**: Medical Devices, Their Importance for Modern Therapies and Future Challenges **Topic B**: The Concept of Applying Biomaterials and its Evolutionary Process **Topic C**: Ureteric stents - Biomaterial-Based Strate Gies to Prevent Microbe Associated Biofilm Formation and Encrustation of Urinary Tract Implants **Topic D**: Essentials of Biomaterial Science, Biomaterials and Biocompatibility Pathways **Topic E:** A)Implantable Medical Devices and Their Pathologies The Foreign Body Reaction(FBR) B)Novel Concepts and Biomaterials for FBR Prevention **Topic F:** A)Regenerative Medicine and Tissue Engineering–The Long Way to Bioartificial Tissues and Organs B)Advanced Therapeutic Medicinal Products(ATMPs) and Regulatory Aspects

Prof. Stephanie Willerth	3D Bioprinting Personalized Neural Tissue Models
Dr. Moustafa Al- Muwaldi	A)Gait Analysis of a Normal Subject (This Will Give Some Idea on Basic Gait Analysis B)The Effect of Flat Feet On Human Gait Analysis
Dr. Leila Saleh Khadour	Evaluating Lower Limbs Surgeries for Spastic Cerebral Palsy Using Gait Analysis
Dr. Asma Tufail Shah	Bioceramics and Bioactive Glasses for Hard Tissue Regeneration

Smart Materials

Lecturer	Topic
Dr. Mehdi Razavi	Biomaterials and Nano medicine
Dr. Ahmad Fauzi	Advanced Functional Nanostructured Materials for Membrane and Fiber Sensor Applications
Dr. Sidney J.L Ribeiro	Nanostructured Materials as Platforms for Photonics
Dr. Ali Seifitokaldani	Developing Viable Electrochemical CO_2 Reduction Reaction System
Dr. Theodore Riley	The Evolution of Electronic Textiles and Development of Electronic Yarns
Dr. Serena Danti	Tympanic/Cellulose Computational Modeling

Medical Textiles

Lecturer	Topic
Prof. Apurba Das	**Topic A**:Electrostatic Spray Coating Technology for Composites in Biomedical Applications(Part ١) **Topic B:** Electrostatic Spray Coating Technology for Composites in Biomedical Applications(Part ٢)
Prof. Dr. Ing. François Boussu	٣D-woven Textile Structures,Definition and Mechanical Characteristics
Hamed Pourkheirollah	**Topic A**:Highly Conformable Stretchable dry Electrodes Based on Inexpensive Flex Substrate for Long-Term Biopotential (EMG/ECG) Monitoring **Topic B:** Future Electronics at Tampere University in Finland on The Technologies of Manufacturing Printed Systems, Devices and Sensors with Biomedical Applications
Prof. Dr. Eng. Taher Rajab kaddar	**Topic A:** Medical Textile **Topic B:** Textile Raw Materials **Topic C:** Smart Textile Materials
Zahra Allahyari	Design and Fabrication of Microphisiological Systems: Challenges and Opportunities
Dr. Farzan Gholamreza	When Clothing Becomes High Functional

Textile Weareble Device

Lecturer	Topic
Dr. Huanyu Larry Cheng	Deformable Multimodality Sensors for Biomedicine