Early Stage Researcher Positions
in the EU-Marie Sklodowska-Curie ETN
"Skin Tissue Integrity under Shear” (STINTS)

- ORGANISATION/COMPANY
  Tel Aviv University

- RESEARCH FIELD
  Engineering › Biomedical Engineering & Bioengineering › Biomechanics & Mechanobiology › Mechanical behavior of biological tissues and cells
  Medicine › Chronic wounds › Pressure ulcers & diabetic foot ulcers

- RESEARCHER PROFILE
  First Stage Researcher (R1)

- APPLICATION DEADLINE
  18/02/2019 12:00 - Europe/Brussels

- LOCATION
  Israel › Tel Aviv

- TYPE OF CONTRACT
  Temporary

- JOB STATUS
  Full-time

- HOURS PER WEEK
  37.5

- EU RESEARCH FRAMEWORK PROGRAMME
  H2020 / Marie Skłodowska-Curie Actions

- MARIE CURIE GRANT AGREEMENT NUMBER
  811965
**Topic:** Development and implementation of multiscale/multi-physics soft tissue models in non-diabetic and diabetic/obese persons, in the context of the individual risk for pressure ulcers or diabetic foot ulcers. Study of support surface technologies and contribution to innovation.

**Tel Aviv University:** Tel Aviv University (TAU) is Israel's largest and most comprehensive institution of higher learning. TAU is home to over 30,000 students studying in nine faculties and over 125 schools and departments across the spectrum of sciences, humanities and the arts. Situated in Israel's cultural, financial and technological capital, TAU shares Tel Aviv's unshakable spirit of openness and innovation – and boasts a campus life as dynamic and pluralistic as the metropolis itself. Consistently ranked in the top 20 in the world in terms of scientific citations and among the top 100 universities internationally, Tel Aviv University is also Israel's first choice for students, and its graduates are the most sought after by Israeli companies. Global in outlook and impact, TAU advances teaching and research that break down the walls between disciplines, striving to address the twenty-first century's most pressing challenges through bold, interdisciplinary solutions.

The Musculoskeletal Biomechanics Laboratory of the Department of Biomedical Engineering at the Faculty of Engineering of Tel Aviv University is equipped with top-tier measurement instrumentation for macroscopic and microscopic tissue and biomaterial characterization as well as high-end workstations and software for multiscale and multiphysics, computational modelling and analyses. In addition, Prof. Gefen supervises a Cell and Tissue Engineering Laboratory which allows for wet-biology and tissue engineering experimental work as well as sophisticated microscopy. Altogether, our experimental and computational facilities are a one-stop shop which facilitate conduct of all aspects of a research project, empirical and theoretical alike, under the same roof, which is a unique and rare strength. The graduate school of the Faculty of Engineering offers a diverse collection of courses and training in all theoretical and practical aspects related to biomedical engineering, particularly innovation and entrepreneurship for which Israel, Tel Aviv and Tel Aviv University are famous. Our group is associated with the largest hospitals in the country.

**Two Marie Curie ITN Early Stage Researcher (ESR) positions are available from June 2019 for 36 months,** as part of STINTS. The STINTS Industrial Training Network will provide multidisciplinary research training in understanding the complex biomechanical and biochemical pathways leading to loss of skin and subcutaneous tissue integrity, following the exposure of skin to prolonged compressive and shear forces that ultimately result in damage at the cellular level e.g. pressure ulcers or diabetic foot ulcers. This is critical since the prevention and treatment for patients with pressure ulcers and diabetic foot ulcers is costly, with an estimated annual spend of health services across Europe ranging at the order of billions of Euros and increasing even more with an aging population suffering from chronic diseases such as diabetes. The total of treating (just) pressure ulcers in the UK alone has been estimated to range between £1.4–£2.1 billion annually, which at the time of the study was 4% of total NHS expenditure (Bennet et al. Age and Ageing, 2004).

These job openings are for a 3-year research positions located mainly at **Tel Aviv University**, Tel Aviv, Israel with secondments and visits to other organisations in the consortium. The focus of the work will be on structure-function relationships in skin and subcutaneous fat in the context of chronic wound prevention and care, and the use of smart materials in support surfaces. The 13 ESRs in the project will attend training courses in the various scientific aspects of the project and also professional skills. Effective collaboration between the ESRs will be critical to the success of the project.
Job Description:

- Perform novel research under the supervision of academic members of staff and industrial advisors where applicable, regarding structure-function relationships in skin and subcutaneous fat and the implementation of smart materials in support surfaces to protect skin and underlying tissues, in collaboration with other ESRs in the consortium.
- Apply the knowledge to understand how skin and subdermal tissue conditions are affected by mechanical interactions with materials such as bedding, dressings, skin protectants and medical devices that are commonly in contact with patients at all ages and across different populations and facilities.
- Contribute to the development of products and care procedures to minimise the occurrence of pressure ulcers and diabetic foot ulcers.
- Participate in the activities of the STINTS programme: attending training workshops, collaborating with network partners, and undertaking periodic secondments at STINTS partner organisations.
- Produce written outputs as required during their studies and training and to contribute to engagement and dissemination activities of STINTS.
- Present regular progress reports as required by the STINTS program of research.

Personal requirements:

- Master’s degree in Biomedical Engineering, Bioengineering, Mechanical Engineering, Electrical Engineering, Chemical Engineering, Biology or Materials Science, Applied Physics or a closely related discipline.
- High motivation and ambition to develop a career in science & engineering.
- Knowledge in biomechanics, tissue mechanics and mechanobiology is a plus.
- Strong commitment to science and to conducting applied research in particular (including in collaboration with industry).
- Outstanding communication skills in English, both oral and written.
- Ability to work in a laboratory environment and be part of a research group.
- Excellent analysis skills and an analytical mind-set, ability to work both independently and as a member of a research team.
- Ability to engage with interdisciplinary studies and technological areas.

Eligibility: Applicants must satisfy the eligibility requirements for an ESR under the Horizon 2020 ITN Programme; in particular, they should be eligible to be appointed as an ESR in Israel by satisfying the following criteria:

- To have less than four years research experience after Undergraduate/Masters graduation (this is cumulative research experience and does not include management/industrial or other work experience).
- To NOT hold a PhD degree (PhD candidates under 4 years of registration and before completion may apply).
- To NOT have resided or carried out their main activity in Israel for more than 12 months (cumulative) in the three years prior to their recruitment.

Candidates from minorities underrepresented in science are strongly encouraged.

Contact for additional details: Informal enquiries are encouraged and should be directed to:

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