Funded by
The European Union

How to Succeed in Getting an MSCA Individual Fellowship?

Dr.Özgür Atalay

İstanbul Technical University

Faculty of Textile Technologies and Design

Cv

İstanbul Technical University, Turkey
MSCA Fellow,

Harvard University, USA
Postdoc Fellow

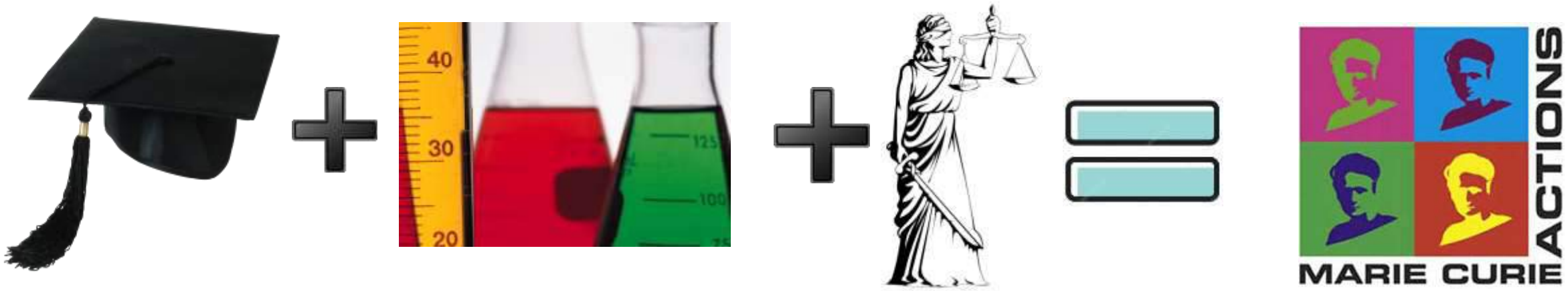
Manchester University, England
PhD., Textile Technology (smart textiles)

Manchester University, England
Msc., Textile Technology (smart textiles)

Ege Üniversitesi, Turkey
Bsc., Textile Engineering

Who Should Apply?:

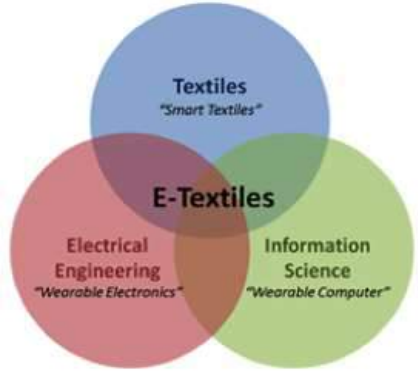
If you have



Strong background **Strong proposal** **Fair proposal evaluation**

Strong CV

- Evaluation based on the years you spent in research

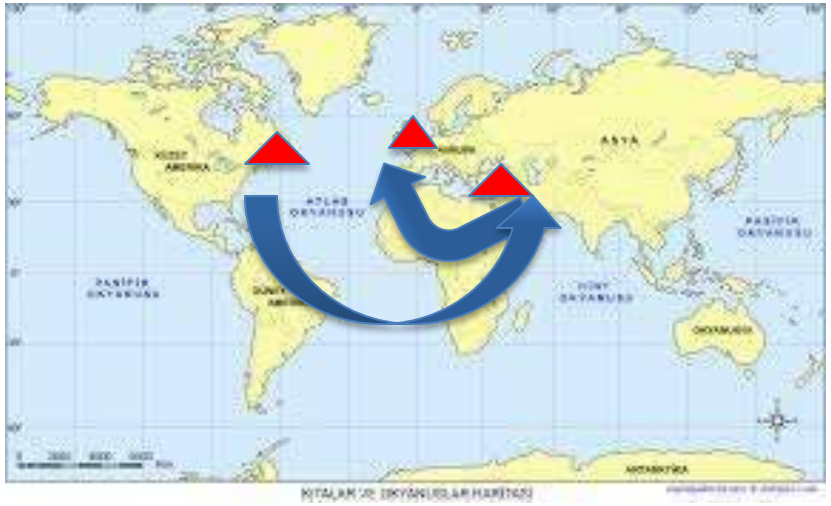


Multidisciplinary work experience

Publications on high impact journals/conferences, number of citations

International awards

Project experience



Mobility

Strong project idea

Strong project idea

- Strong CV → Strong project idea
- You should have project idea before the call announcement
- You have to focus on technical details (Project idea should be matured before the call

- Original idea related to your background
- Multidisciplinary
- You have to learn new things
- Training for soft skills
- Partners in academia and industry

- **<u>Strong Project Team</u>**
- Dr.Gökhan İnce, ITU
- Prof.Dr. Christian Cipriani, The BioRobotics Institute of Sant'Anna School of Advanced Studies, Italy
- Rich Walker Managing director, Shadow Robot Company, England

Project details

- TexRobots: Textile based soft sensing actuators for soft robotic applications
- Panel: ENG -Information Science and Engineering
- Duration: 24 month
- Coordinator: Istanbul Technical University
- Secondments: The BioRobotics Institute, 3 month; Shadow Robot Company, 1 month

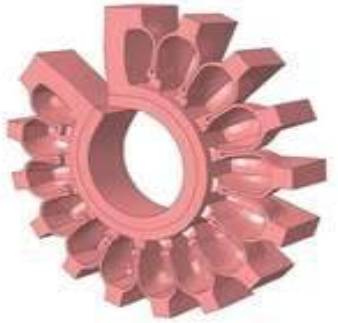
1.Excellence

1.1 Quality and credibility of the research/innovation project; level of novelty, appropriate consideration of inter/multidisciplinary and gender aspect

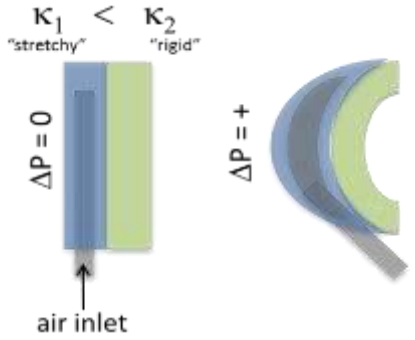
- …….Since the early 1990's, robots have been used to aid the treatment of people with neuromuscular disabilities and soft robotics offers a unique platform to develop wearable assistive devices to empower human motions given their inherent conformability to the body and enables safe human-device interaction. **Explain what you want to achieve in first sentences.**
- This interdisciplinary (application of textile technology, computer, electronic, biomedical engineering and robotic knowledge of the team) project is designed…….**Interdisciplinary**
- where I will develop technical applied skills in control strategy, testing of the proposed device from functionality and usability aspects……..**What you will learn**
- Other current Horizon 2020 projects such as EMISSR,[19] SoRoHuMI,[20] HybridHeart,[21] SomBoT,[22] XoSoft,[23] iHand,[24] Answer,[25] SoftPro,[26] and BioAct.[27] **Similar H2020 projects**
- Furthermore, this project's expected results may also contribute improving the hand function of people with neuromuscular disabilities (Letter from Spastic Children's Foundation of Turkey (SCFT), **support letters How you will improve the quality of the people life**
- expected to increase from USD 312.5 million in 2017 to 3.326 billion in just five years.[28] **Economical impact**

1.1.2. State-of-the-art

- **This part is very important!!!**
- What is the gap and missing points
- what is your contribution



- I did have experience about the subject during the postdoc studies
- Just reading the articles is not enough.
- Speak and meet with people about your project idea
- *“Although elastic materials offer some superior properties such as heat…….. present challenges in wearable applications……”*
- *“To address the challenges mentioned above, I will employ textile materials to achieve…..”*



1.1.3. Objectives ve 1.1.4. Research methodology and approach

- Objectives **should be given as a list and they should be associated with the work packages**
- *"Research Objective 1 (Work Package 1): construction and characterization of TSAs. Research Objective 2 (Work Package 2): development of soft robotic glove at textile engineering department, at ITU."*
- **Project management should be added as work package**

- **Introduction paragraph** should be written Research methodology section
- "*During this project, I aim to leverage textile materials using……"*
- Use first person singular. ***This is your project!!***
- **Specify your workplace and aim for each workpackage.** "*In the User Experience (UX) lab in Computer Engineering and Informatics Faculty at ITU, I will perform to the design and evaluation of the human machine interface (HMI) and human computer interface (HCI) used in the project*.
- **You can cite your previous works**" *conductive loops will be separated from each other, thereby, increasing electrical resistance of the sensor, based on my previous experience, my CV → Section 4*
- Use high quality images and graphics

1.1.5.Originality of the planned research ve 1.1.6. Innovative aspects of the planned research

- **Specify novelty and innovative points of the project**
- **You have to know state-of-art very well**
- *"…….actuators will be tailored to mimic the movement of …… articulation **for the first time**."*

1.1.7. The interdisciplinary aspects of the action ve 1.1.8 Gender Dimension

- *"……..is one of the specific examples of the alliance of a number of several researchers and experts in the textile, robotic, material science, control, biomedical and electronic engineering among others"*
- *thus, I plan to employ equal number of the human volunteers from both genders to conduct the tests.*

1.2. Quality and appropriateness of the training and of the two way transfer of knowledge between the researcher and the host

- **What they will learn from you!!**
- **Soft skills+ Technical skills** *" I will learn principles of microcontroller-based signal acquisition….."*
- *"ITU-TTO office will provide assistance on EU Proposal writing and IPR and innovation management*."
- **Be specific (Where what with whom)**
- *"I have already extensive knowledge of smart textiles structures and wearable electronics, which is originated from my master……".*
- ***Write about workshops, courses etc that you can run***

1.3 Quality of the supervision and of the integration in the team/institution

- They should be expert in the area that you will work/learn
- Promote the supervisors (patents, number of students they supervise, industrial collaborations, international network, projects, publications)
- Multidisciplinary proposal
- I will do textile part
- Supervisors were selected from the areas that I will learn new things
- Selection of secondment supervisor is also important

- **Introduce the departments where you will work** *"I will use facilities of textile engineering department to manufacture proposed TSAs and soft robotic glove at ITU……"*
- **Give details about how you will integrate to secondment institutions**
- *"A postdoctoral fellow (See section Part2 B-5) will assist me during the secondment period of my project at Biorobotics Institute*."

1.4. Potential of the researcher to reach or re-enforce professional maturity/independence during the fellowship

- **What you have done so far and what you are going to do**
- **Promote yourself**
- *"Through this fellowship, I expect to expand my knowledge from manufacturing side of the soft structures to the controlling and application of these structures by acquiring new skills."*
- **"Leadership:** During my postdoc appointment at …….. **Mobility:** *I have a strong track record of international mobility. I studied textile engineering in Turkey. Thereafter, I chose The University of Manchester for my MSc and PhD studies*."

2.Impact

2.1 Enhancing the future career prospects of the researcher after the fellowship

- **Be specific about the project contribution for your academic improvement and soft skill development**
  "I will also have an opportunity to investigate process of assistive device product development at the Shadow Robotic Company. This training will help me to convert my research outcomes into the real life products"
- *"I am also planning to apply for a position of Associate Professor at ITU"*
- **Write about the possible future collaborations.**
- *"This research project has high capacity to develop lasting cooperation between ITU and The Biorobotics Institute, since they offer complementary teaching and research programs in the area of smart textiles, wearable electronics, and robotics"*
- **Possible new projects**
- *"I also aim to apply Industrial R&D Projects Grant Programme with the industrial partner in order to develop mass manufacturing strategy for the proposed prototype."*

2.2 Quality of the proposed measures to exploit and disseminate the project results

- Be very specific
- Conferences, publications, courses, network activities
- Write about IP rights and how you will manage it.
- Create a table (good for space)

Activity	Target	Expected Impact
Scientific publications	My target is to publish 2-3 papers……..	
Participations in international conferences	**1)** RoboSoft 2019- IEEE RAS International Conference on Soft Robotics	
Seminars at ITU		
	This course aims to attract both undergrad and grad level students	To deliver the fundamentals of this highly new and exciting research area
Working with industrial partner SRC	Other research groups working on robotics, specifically on soft robotics for assistive and rehabilitative technologies	Building stronger network of researchers working on assistive technologies and soft robotics
		.

2.3. Quality of the proposed measures to communicate the project activities to different target audiences

- **Be creative**
- *"1) Engaging with Spastic Children's Foundation of Turkey. "*
- *"2) Organizing a workshop among young school students " How to make your own soft robotics". The workshop will focus on helping younger students, i.e., 10-14 years old become aware of the field of engineering through hands-on construction and activities "*
- **Standart activities**, "*Setting up a Marie Skłodowska-Curie Fellow website"*

Türkiye Spastik Çocuklar Vakfı
CEREBRAL PALSY
TÜRKİYE

MARIE CURIE ACTIONS

3. Quality and Efficiency of the Implementation

3.1 Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

- Workpackages, milestones and deliverables should be given as tables .

Work Packages (WP) **WP1** Construction and characterization of TSAs (Research Objective 1); **……**
List of major deliverables (D) **D1.1** report on preparation fabric tubes with different stretch properties; **D4.1** Learning about EMG measurement; **……**
List of major milestones (M) **M5** Validation of the device from usability side……

- High quality Gantt chart.
- Gantt chart should summarize your project activities

Months		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP1					D1.1			D1.2	M1																
WP2										D2.1	D2.2	M2													
WP3															D3.2		M3								
WP4																			D4.2	M4					
WP5																							D5.2	M5	
WP6				D6.1									D6.2						D6.3						D6.4
Training and Professional Development														D3.1				D4.1				D5.1			
							L1				L2			L3							L4			L5	
Dissemination and Exploitation		WEBSITE																							
								U1			V1		R1		U2					U3	V2			U4	R2
P.M[1]	Kick-off meeting																								
	C.D.P.[2]																								
	W.M.[3]																								
	Q.P.E.[4]																								
	Publications										J.P													J.P	
Secondments										S								S							

[1]Progress monitoring, [2]Career development plan, [3]Weekly meetings, [4] Quarterly progress evaluation, L1-L5 (5 lectures on soft robotics at ITU), U1-U4 (updates disseminated through the SCFT and Crowdhelix), V1-V2 (2 school visit), R1- R2 (ITU robot Olympics), J.P (journal articles

3.2 Appropriateness of the management structure and procedures, including risk management

- Financial management of the project
- You have to mention project meetings with your supervisor and advisory committee (frequency)
- Risk table is very important.

WP	Risks	Contingency Plan
1	a) Lamination may .....(low-medium risk) b) Lamination may affect sensor performance (low risk)	a) TPE ... b) .....
3	Linear control system may not be sufficient	A more advanced control strategy .....

3.3 Appropriateness of the institutional environment (infrastructure)

ITU is a leading state university in Turkey with approximately 32,000 students. ITU has currently a wealth of EU-funded research projects and has more than 130 international partnership agreements and is a member of various international networks. **ITU's European Union Centre Research Office** has extensive knowledge and experience on EU Framework Programmes and offers: 1) Information about EU Framework Programs and other EU Programs to the academic staff by giving seminars and workshops,.....

TTO-ITUNOVA protects IPR and secures university's interests in all agreements for non-disclosure, partnership, and collaboration,.....

ITU has a **Public Relations and Communications Office** dedicated to help academics and researchers to publish research news releases at University main website as well as to national and international news agencies. **Textile Engineering department** at ITU has **state-of-art textile machineries and test equipment** (computerized knitting machines, tensile testing machines, sewing machines and physical textile testing lab, to conduct the research from the manufacturing side of the TSAs and soft robotic glove in relation WP1 and WP2. https://tekstil.itu.edu.tr/en/homepage).....

Seek for help!!!

İTÜ AVRUPA BİRLİĞİ MERKEZİ ARAŞTIRMA OFİSİ

TÜBİTAK

Evaluation Summary Report

Evaluation Result

Total score: 94.60% (Threshold: 70/100.00)

Form information

SCORING

Scores must be in the range 0-5.

Interpretation of the score:

0– *The* ***proposal fails to address the criterion*** *or cannot be assessed due to missing or incomplete information.*

1– Poor. *The criterion is inadequately addressed, or there are serious inherent weaknesses.*

2– Fair. *The proposal broadly addresses the criterion, but there are significant weaknesses.*

3– Good. *The proposal addresses the criterion well, but a number of shortcomings are present.*

4– Very good. *The proposal addresses the criterion very well, but a small number of shortcomings are present.*

5– Excellent. *The proposal successfully addresses all relevant aspects of the criterion.Any shortcomings are minor.*

Criterion 1 - Excellence

Score: **5.00** (Threshold: 0/5.00 , Weight: 50.00%)

• Quality and credibility of the research/innovation project; level of novelty, appropriate consideration of inter/multidisciplinary and gender aspects
• Quality and appropriateness of the training and of the two way transfer of knowledge between the researcher and the host
• Quality of the supervision and of the integration in the team/institution
• Potential of the researcher to reach or re-enforce professional maturity/independence during the fellowship

Strengths

- The research topic and methodology are clearly presented with sufficient level of detail, and they entail a significant level of innovation, advancing over the state of the art. The proposal presents a multidisciplinary approach.
- There is appropriate equal gender representation in the tests.

- The proposal evidences a very relevant customised training for the researcher to enhance their actual skills. The host and the researcher have complementary competences. The measures for the transfer of knowledge from the host to the researcher are well described.
- The host group will benefit from the researcher's expertise in smart textiles and wearable electronics, and specific knowledge transfer measures are planned.
- The supervision team – including several renowned academics and an industrialist – has a high quality track record that is fully in line to supervise the proposed research.
- The proposal describes a convincing integration of the researcher in a strong and qualified team at the host institution. The hosting arrangements cover well both scientific and personal integration and are extended also to the secondment environments.
- The researcher has already achieved professional maturity and independence, which will be further strengthened through the project, with the capacity to re-enforce their professional position as a scientist in a University.

Weaknesses

None

Criterion 2 - Impact

Score: **4.50** (Threshold: 0/5.00 , Weight: 30.00%)

- **Enhancing the future career prospects of the researcher after the fellowship**
- **Quality of the proposed measures to exploit and disseminate the project results**
- **Quality of the proposed measures to communicate the project activities to different target audiences**

Strengths

- The grant is expected to facilitate the researcher's career by acquiring new scientific skills and experimental knowledge and attract further research grants to build a team. The current fields of expertise of the researcher will be broadened and links will be established with key industries in the sector.
- The potential of building an own start-up company is seriously considered.
- IP rights between the researcher and the participating organisation are appropriately planned to be regulated during the project, through a detailed partnership agreement.
- Scientific publications and several other dissemination actions are planned in detail (indicating how many, to which journals, etc.), promising high diffusion and impact on several target audiences.
- There is a comprehensive list of actions to communicate the project actions and results to several target audiences by means of a website, workshops, social media and academic sessions; the actions are shown on the Gantt chart.

Weaknesses

- It is not clear how the plans for a start-up are combined with the primary aim of the researcher to follow an academic career.
- The plans to transfer know-how and potential patents to industry as well as exploitation paths are not clear. Not enough emphasis is given to patents, which are very relevant to the specific research.

Criterion 3 - implementation

Score: **4.40** (Threshold: 0/5.00 , Weight: 20.00%)

- **Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources**
- **Appropriateness of the management structure and procedures, including risk management**
- **Appropriateness of the institutional environment (infrastructure)**

Strengths

- The work plan is clear and concise, including a clear Gantt chart (with major and minor deliverables and milestones) and appropriate allocation of tasks, time plan and resources.
- The management plan is appropriate and detailed, including risk management during the project.
- The preliminary recognised risks are real and the associated mitigation strategies are convincing.
- All the required infrastructure is available to the researcher, either at the host Institute or through the two secondments.

Weaknesses

- Both pilot studies are planned with only a limited number of users and only with healthy subjects; thus, the prototype robotic glove assessment will not be fully assessed.
- Operational and behavioural risks (i.e. user comfort, acceptance or usability) are not well considered.

Thanks!