Sabanci University

RESEARCH AND GRADUATE POLICY DIRECTORATE

SUPPORTS YOUR RESEARCH AT SU

in February 2011, features

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more information at: rgp.sabanciuniv.edu
1. TUBITAK “Support Program for Research Projects of Public Institutions (1007)” Program

TUBITAK 1007 Support Program for Research Projects of Public Institutions was initiated by the decision of the Supreme Council of Science and Technology taken on 10th March 2005. The purpose of the program is to solve the problems and satisfy the needs of public institutions in Turkey by R&D projects in order to:

- Develop science and technology policies with respect to national priorities,
- Provide support to build infrastructure for execution of these policies,
- Support and execute R&D activities,
- Increase the country’s competitive power in technology and the wealth of the society.

As "Customer Institutions", public institutions can propose projects in which universities, private firms or public R&D institutions act as "Project Executors".

There will be a two-stage procedure for TUBITAK 1007 applications: pre-proposals and full proposals and accordingly a two-stage review procedure. Pre-proposals will not be sent by the panel for evaluation. The main criteria used in the pre-proposal stage will be the expected impact of the proposed research to solve public institutions problems. Successful applicants from the pre-proposal stage will be invited to submit their comprehensive, more detailed full proposals.

The call for pre-proposals is closed on January 7th, 2011 and the review process has been completed. The call for full-proposals for successful applicants will be accepted from February 17 to May 2, 2011.

Funding will be awarded for a maximum of four years. There is no upper limit for support.


1.1 1007 Success Story:

"MILRES: National Wind Energy Systems Project",
PI: Dr. Mahmut Akșit

When I received an invitation from the Ministry of Energy for a special search conference on wind energy, we had just completed a project to design and develop a novel Crossflow Hydro-Turbine. It was about two and a half years ago when I attended the search conference in Ankara. In attendance, there were faculty members with turbine design and wind energy backgrounds from various universities as well as numerous industry participants in the fields related to major wind turbine components.

It all started about 4 years ago. As part of the efforts to utilize renewable energy resources the Ministry of Energy completed the long waited REPA Project maps. These maps provided wind energy potential of Turkey at various elevations. Once these maps were published, EPDK (The Electricity Market Regulatory Authority) started accepting license applications for power production from wind energy. The investor interest was tremendous. License applications were received for over 78 000 MW of wind power capacity. To let you scale how much power this means, the peak power load of entire Turkey did not exceed 40 000 MW last year. Of course, not all of the 78 000 MW application is expected to materialize. However, about half of wind power license applications is expected to get online in the long run (20 to 30 years). Ignoring some insignificant domestic mini wind turbines production, currently all industrial size wind turbines are imported. Considering the fact that wind turbines cost approximately 1.5 million USD for 1 MW capacity, some 60 billion USD is expected to flow abroad over the years. Once this picture was clear, the minister had asked his advisors to form a national team to develop our own domestic wind turbine technology. This was the reason for the search conference organization.

From the early days I was actively involved in team building and proposal phases. With major contributions in project preparation, I was first selected as the team leader for Mechanical Systems Group, and later as the project leader. The aim of the project is to develop an industrial scale (2.5 MW) large turbine prototype that is optimized for typically low Turkish wind speeds. A 2.5 MW turbine may reach 90 m tower height, 100 m wing span and about 100 tons of nacelle weight. Due to massive structures involved, wind turbine development projects require major funding. It is known that German government spent over 100 million DM in early 1980s to develop a 2 MW turbine prototype. The initial cost estimates for MILRES (National Wind Energy Systems Project) reached in tens of millions of USD. The consultations between the project team leaders and the Ministry of Energy resulted in a decision to seek project funding through TUBITAK (The Scientific Research Council of
Turkey). We have prepared almost a thousand page long application as a TUBITAK KAMAG 1007 project. It was long and tedious work. The team contained over 100 researchers from nearly 15 different institutions. The project proposal has been evaluated by 7 referees from different universities. Unfortunately, the first application has been rejected, as the panel of referees did not find one of the team leader institutions competent in R&D. We lost an entire year; however, with perseverance we re-arranged the team, revised our project proposal and applied again. This time the project team was formed under the following leadership: Sabancı University (project leader and responsible for Mechanical Systems Group), TAI Turkish Aircraft Industries (responsible for Blades), Istanbul Ulaşım AS (responsible for Electronics & Controls), TUBITAK Marmara Research Center (responsible for Generator & Electrical Systems) and Istanbul Technical University (responsible for Wind Analysis and Structural Systems). After year-long evaluations and revisions, the project has finally passed all technical and budgetary evaluations. The project has two phases. The first phase involves development of 500 kW test turbines before building a 2.5 MW prototype. For the first phase, a 10 million TL budget has been approved. We are currently completing the final paper work for contract signing ceremony.

Overall, the entire project is a success story with a lot of long hard team work and perseverance. The project aims to save over 15 billion USD by estimated 25 % domestic turbine installations over the years. The other goals include establishing wind turbine manufacturing infrastructure in Turkey. The project is expected to start in March once the contract is signed.

2. Open Call for Proposals
EU 7TH FRAMEWORK - TUBITAK

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EU FP7 People Specific Program

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EU FP7 Capacities Specific Program

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### TUBITAK

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**Abbreviations:**
- **NMP**: Nanosciences, Nanotechnologies, Materials and new Production Technologies
- **TPT**: Transport (including Aeronautics)
- **ICT**: Information and Communication Technologies
- **JTI**: Joint Technology Initiatives

### 3. RGP News

**Proposals submitted by RGP**

The RGP Directorate has processed 9 proposals for the following sponsoring agencies in January and February 2011:

- 1 proposal for TUBITAK-COST 2515
- 1 proposal for EU FP7 People Marie Curie Initial Training Networks (ITN)
- 1 proposal for EU FP7 Cooperation Information & Communication Technologies (ICT)
- 1 proposal for EU FP7 Cooperation Nanosciences, nanotechnologies, Materials & new Production Technologies (NMP)
- 1 proposal for EU FP7 Cooperation Socio-economic Sciences and the Humanities (SSH)
- 1 proposal for EACEA Centres of Excellence
- 1 proposal for EACEA Ad Personam Jean Monnet Chair
- 1 proposal for EACEA European Module
- 1 proposal for Ecosystem Services for Poverty Alleviation (ESPA)

**Attended Meetings and Events of the RGP Directorate in January and February 2011**

- "i20 Annual Conference", January 11-16, 2011, Dr. Cemil Arıkan attended to the conference, Washington, USA.
- "Winning FP7 Bids Workshop", January 18, 2011, Mrs. Gonca Girit McDaniel attended to the workshop, Cambridge, UK.
- "Wind Energy Platform Meeting", January 21, 2011, Dr. Cemil Arıkan attended to the meeting, Istanbul.
- "ERC Advanced Grant Workshop", January 27, 2011, Dr. Didem Kılıçoğlu attended to the workshop, Amsterdam.
- "TUSIAD - UIG Pre-Competition Partnerships Seminar", February 07, 2011, Dr. Cemil Arıkan was a panel chair, TUSIAD, Istanbul.
- "Finance in FP7", February 09, 2011, Mrs. Yeşim Kaya attended to the workshop, Cambridge, UK.
- "National Nano Enterprise Meeting", February 19, 2011, Dr. Cemil Arıkan was a panel chair, Istanbul.

### 4. Latest Research News
Sabanci University Faculty has been awarded with seven new grants from TUBITAK Support Program for Scientific and Technological Research Projects (1001)

Dr. Albert Levi, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Support Program for Scientific and Technological Research Projects for his project entitled “Design and Development of Security Infrastructure for Mobile Sensor Networks”.

Dr. Canan Atılgan, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Support Program for Scientific and Technological Research Projects for her project entitled “Structural Analysis and Classification of Protein Conformational Motions by Perturbation Response Scanning and Molecular Dynamics”.

Dr. Erhan Budak, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Support Program for Scientific and Technological Research Projects for his project entitled “Analysis, Modeling and Optimization of Simultaneous Machining Processes Performed on Multi-Tasking Machine Tools”.

Dr. İnanç Adagideli, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Support Program for Scientific and Technological Research Projects for his project entitled “Spintronics and Quantum Computing with Topological Insulators”.

Dr. İnci Gümüş, Faculty Member at the Faculty of Arts and Social Sciences, has been awarded with TUBITAK Support Program for Scientific and Technological Research Projects for her project entitled “The Effects of Foreign Currency Borrowing and Real Exchange Rates on Macroeconomic Fluctuations in Developing Countries”.

Dr. Javed Kolkar, Visiting Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Support Program for Scientific and Technological Research Projects for his project entitled “In-vitro Selection of ssDNA Aptamers and Their Use for the Development of Label-Free Aptamer Based Biosensors for Cancer Diagnosis”.

Dr. Meriç Özcan, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Support Program for Scientific and Technological Research Projects for his project entitled “Development of Digital Holographic Microscope”.

Sabanci University Faculty has been awarded with two new grants from TUBITAK Career Development Program (3501)

Dr. Güvenç Şahin, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Career Development Program for his project entitled “Tactical and Strategic Railway Crew Planning Problems”.

Dr. Mehmet Yıldız, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Career Development Program for his project entitled “A Smoothed Particle Hydrodynamics Model for the deformation and motion of a bubble in a Newtonian and Non-Newtonian viscous liquid under the combined effects of gravity and externally applied electric field”.

Sabanci University Faculty has been awarded with a new grant from TUBITAK Bilateral Cooperation-Slovenian Research Agency Program (2508)

Dr. Cleva Owyang-Gülgün, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with TUBITAK Bilateral Cooperation-Slovenian Research Agency for her project entitled “Electron Energy-Loss Spectroscopy of Boron Incorporation in Strontium Aluminate”.

Sabanci University Faculty has been awarded with a new grant from TUBITAK Short-Term R&D Funding Program (1002)

Dr. Nihat Kasap, Faculty Member at the School of Management, has been awarded with theTUBITAK Short-Term R&D Funding Program for his project entitled “Provider Selection and Task Allocation Problems under Fuzzy Quality of Service Constraints and Volume Discount Pricing Policy for Telecommunication Network”

Sabanci University Faculty has been awarded with a new grant from EC FP7 People Marie Curie Program

Dr. Ayşe Turak, Faculty Member at the Faculty of Engineering and Natural Sciences, has been awarded with EU FP7 Marie Curie European Reintegration Grants (ERG) for her project entitled “High Efficiency Nanostructured Electrodes for Organic Solar Cells Using Solution Processed LiF”.

5. Upcoming Events

- “European Education Research Quality Indicators”, March 15-16, 2011, Brussels, Belgium
- "Innovact", March 16, 2011, Reims, France.
- "Fit for Health - International Training for FP7 Newcomers", April 06, 2011, Budapest, Hungary.
- "EIT’s Strategic Innovation Agenda Stakeholder Conference", April 14, 2011, Budapest, Hungary.
- "International Conference on Sustainability in Energy and Buildings", June 01-03, 2011, Marseille, France.
- "Water Governance Meeting The Challenges of Global Change", June 05-10, 2011, Obergurgl, Austria.
- "Workshop on social and privacy aspects of mobility", June 06, 2011, Lulea, Sweden.
- "FP7 Health - Open Information Day & Brokerage Event", June 09-10, 2011, Brussels, Belgium.
- "Web science 2011", June 14-17, 2011, Koblenz, Germany.
- "FOOD-OMICS: A science for nutrition, health and wellness in the post-genomic era", June 22-24, 2011, Cesena, Italy.
- "ICICITE- International Conference on Information Communication Technologies in Education", July 07-09, 2011, Rhodes, Greece.
- "Third Workshop on Social Mobile Web", July 17-21, 2011, Barcelona, Spain.
- "Conference on advances in social networks analysis and mining", July 25, 2011, Kaohsiung, Taiwan.
- "Fourth Conference on Artificial General Intelligence", August 03-06, 2011, California, USA.
- "14th Biennial EARLI Conference for Research on Learning and Instruction", August 30- September 03, 2011, Exeter, UK.
- "12th International Conference on Environmental Science and Technology", September 08-10, 2011, Rhodes island, Greece.
- "Ninth European Conference on Web Services", September 14-16, 2011, Lugano, Switzerland.
- "Fourteenth International Conference on Discovery Science", October 05-07, 2011, Espoo, Finland.
6. Call Forecast

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7. Editorial

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