



Annual Report 2016

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Introduction

ICTP – Eurasian Centre for Advanced Research (ECAR) is designed as an international centre to serve as a “meeting point” for the scientists, researchers, and students of the broad Eurasia region. It is one of the five regional [partner institutions](#) of ICTP ([International Centre for Theoretical Physics](#)) that operates with high standards of scientific merit and a mission of fostering the science in developing regions of the globe since 1964. IZTECH ([Izmir Institute of Technology](#)) is hosting ICTP-ECAR. The collaboration of ICTP and IZTECH has started back in 2012, and is based on a [Memorandum of Understanding](#).

ICTP-ECAR has started its scientific activities in 2014. This year, the activities of the Centre have been negatively affected from the unfortunate developments in the region and the country. Travel restrictions and concerns have considerably reduced the number of participants and contributors to the activities of the Centre.

ICTP-ECAR activities are held at the IZTECH campus. Offices of ICTP-ECAR are located on the first floor of the Department of Mathematics Building. Currently, there are three IZTECH personnel dedicated for the administrative needs of the Centre.

2016 Director’s Annual Report is composed of the following sections:

Organization and Members

Scientific Activities 2016

List of ICTP-ECAR Visitors

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We wish a much better year in all respects for the Centre in particular and the scientific community at large.

Sincerely,
Tuğrul Senger
Acting Director

<http://ictp-ecar.org>

Organization and Members

Administrative bodies of ICTP-ECAR are the Steering Committee and the Scientific Council. Local coordination of the Centre with the host institution is managed by a unit “Avrasya İleri Araştırmalar Merkezi”, established in IZTECH. The board of this unit acts as a local executive committee of the Centre.

Steering Committee

Fernando Quevedo , ICTP Director	Chairman (Ex Officio),
Mustafa Güden , IZTECH Rector	Member (Ex Officio),
Efthimios Kaxiras , Harvard University	Member,
Serdar Sarıçiftçi , Johannes Kepler University	Member,
Cumrun Vafa , Harvard University	Member,
Seifallah Randjbar-Daemi , ICTP	Coordinator (Ex Officio),

Scientific Council

Gabriel Aeppli ,	(Chairman), Paul Scherrer Institute
Ignatios Antoniadis ,	CERN
Baha Balantekin ,	University of Wisconsin-Madison
Nihat Berker ,	Sabancı University
Athanasios Fokas ,	University of Cambridge
Ramin Golestanian ,	University of Oxford
Rahmi Güven ,	Boğaziçi University
Klaus von Klitzing ,	MPI-Stuttgart
Seifallah Randjbar-Daemi ,	(Ex Officio), ICTP
Mehmet Sarıkaya ,	University of Washington
Manfred Sigrist ,	ETH Zürich

Directorship Office

Tuğrul Senger, Acting Director, IZTECH

Local Executive Committee

Hâldun Sevinçli	IZTECH
Özgür Çakır	IZTECH
Devrim Pesen Okvur	IZTECH
Hasan Şahin	IZTECH
Cumhur Tekin	IZTECH

Administrative Staff

Tina Beşeri	Academic Affairs
Koray Sevim	IT Specialist
Canan Nurhan Karahan	Secretary

Scientific Activities 2016

In year 2016 ICTP-ECAR has organized a workshop, several seminars and colloquia. Annual meeting of the Steering Committee and the Scientific Council has been held in May.

1. Meetings

WORKSHOP:

Physical, Biological and Chemical Foundations of Bioelectronics, Biophotonics and Biosensors (26-29 July)

Under the auspices of ICTP-ECAR, the goal of the proposed workshop is to bring together the experts and interested parties to interrogate and discover a set of crucial bio-chemical parameters that correlate fundamentally with the physical electromagnetic phenomena in bioinspired, biomimetic and biological systems with an emphasis on addressing the needs for future practical implementations in technology and medicine.

More details are described on the web page of the workshop:

<http://ictp-ecar.org/events/pbcb/>



Organizers

Urartu Ozgur Safak Seker, Bilkent University
M. Hadi Zareie, Izmir Institute of Technology

Plenary Speakers

J. Errington, Newcastle University
David Cahen, Weizmann Institute

Invited Speakers

M. Z. Baykara, Bilkent University
N. Bulut, Izmir Institute of Technology
M. Culha, Yeditepe University
A. Dâna, Bilkent University
E. Durgun, Bilkent University
S. Hanay, Bilkent University
C. Kocabas, Bilkent University
E. Mutlugün, Abdullah Gül University
Devrim Pesen Okvur, Izmir Institute of Technology
B. Ortaç, Bilkent University
İ. Ozden, Brown University
E. Sari, Izmir Institute of Technology
H. Sahin, Izmir Institute of Technology
C. Tekin, Izmir Institute of Technology
S. Timur, Ege University
H. Yildiz, Izmir Institute of Technology

There were two plenary talks, sixteen invited talks and poster sessions during the workshop. There were 18 invited speakers and 56 participants. Participants came from 3 different countries: Turkey, India and Iran.

SYMPOSIUM**Science-Technology-Innovation Policies for a Sustainable Development and Role of International Collaborations (26 May)****(Sürdürülebilir Kalkınma için Bilim-Teknoloji-İnovasyon Politikaları ve Uluslararası İşbirliklerinin Rolü)**

This one-day symposium was planned as a bilingual activity. Some of the invited talks were given in Turkish. Participants discussed the importance of innovation and international collaborations for the development of science.

More details are given on the web page of the symposium:

<http://ictp-ecar.org/events/public-activities/s9576/>



Talks given by the invited speakers:

M. Hakan Kızıltoprak, TOBB

Türkiye'nin CERN'e Ortak Üyeliği ve Kazanımlar

Mehmet Öztürk, iBG-İzmir

Türkiye'de uluslararası ölçekte tanınır araştırma merkezleri kurmak: iBG-izmir örneği

Mehmet Sarıkaya, University of Washington

Molecular Biomimetics: From Biology to Technology Remineralization towards Novel Dental Technologies

Baha Balantekin, University of Wisconsin

Temel Bilimler, Uluslararası İşbirliği ve Uluslararası Bilim Enstitüleri

N. Serdar Sarıçiftçi, Johannes Kepler University of Linz

Innovation transfer from academia to industry: A personal experience report

Gabriel Aeppli, Paul Scherrer Institute

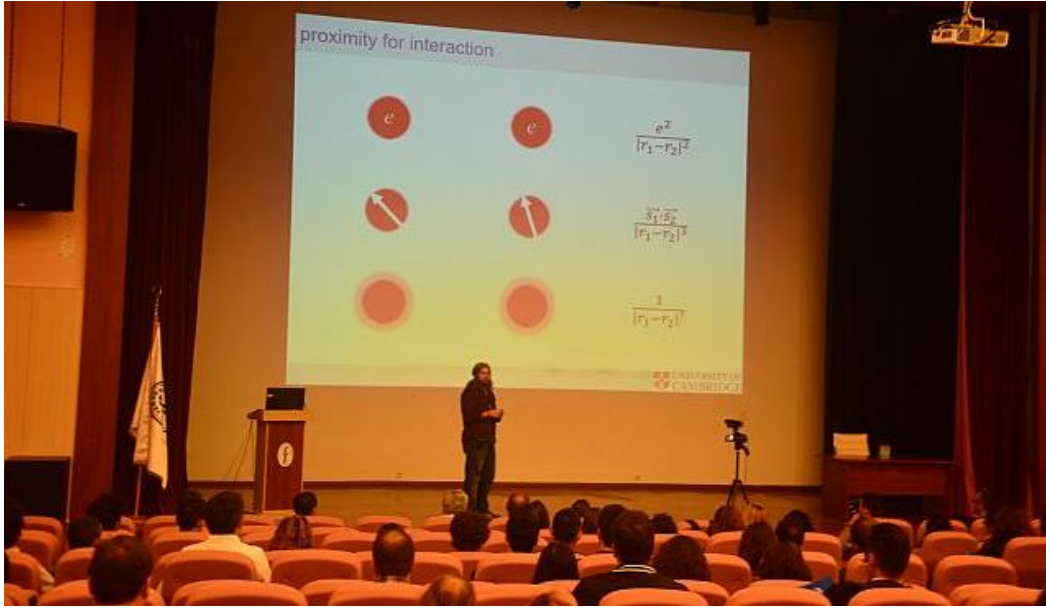
From basic science to innovation

SPONSORED EXTERNAL ACTIVITY

Izmir Young Physicists Congress (12-14 October)

ICTP-ECAR gave organizational support to the Izmir Young Physicists Congress. This was the 4th occasion of the annual student congress organized and hosted by three universities of Izmir: Ege University, Dokuz Eylül University, and Izmir Institute of Technology. There were one plenary talk, three invited talks, 42 oral presentations given by graduate and undergraduate students and 15 posters in the poster session of the workshop. There were 4 invited speakers, including Prof. Mete Atatüre from Cambridge, and over 100 participants.

[Website of the Congress](#)



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Scientific & Advisory Committee

Nadide Kazancı, Ege University
 Uğur Tırnaklı, Ege University
 Tuğrul Senger, İzmir Institute of Technology
 Durmuş Ali Demir, İzmir Institute of Technology
 Muhammed Deniz, Dokuz Eylül University
 Ümit Akıncı, Dokuz Eylül University

Organizing Committee

Canan Karahan, İzmir Institute of Technology
 Emir Haliki, Ege University
 Erol Vatansver, Dokuz Eylül University
 Gözde Özbal, İzmir Institute of Technology
 Mehmet Özdoğan, Ege University
 Nasuf Sönmez, Ege University
 Özgür Afşar, Ege University
 Özgür Naci Öztaykutlu, Dokuz Eylül University
 Sevil Sarıkurt, Dokuz Eylül University
 Yusuf Yüksel, Dokuz Eylül University

2. Seminars

2.1 Prof. Sanli Faez (May 5)

(Debye Institute for Nanomaterials Science, Utrecht University)

Title: New fiber-optics platform for high-speed tracking of diffusion processes in fluids

3. Colloquia

3.1 Prof. François Peeters (July 12)

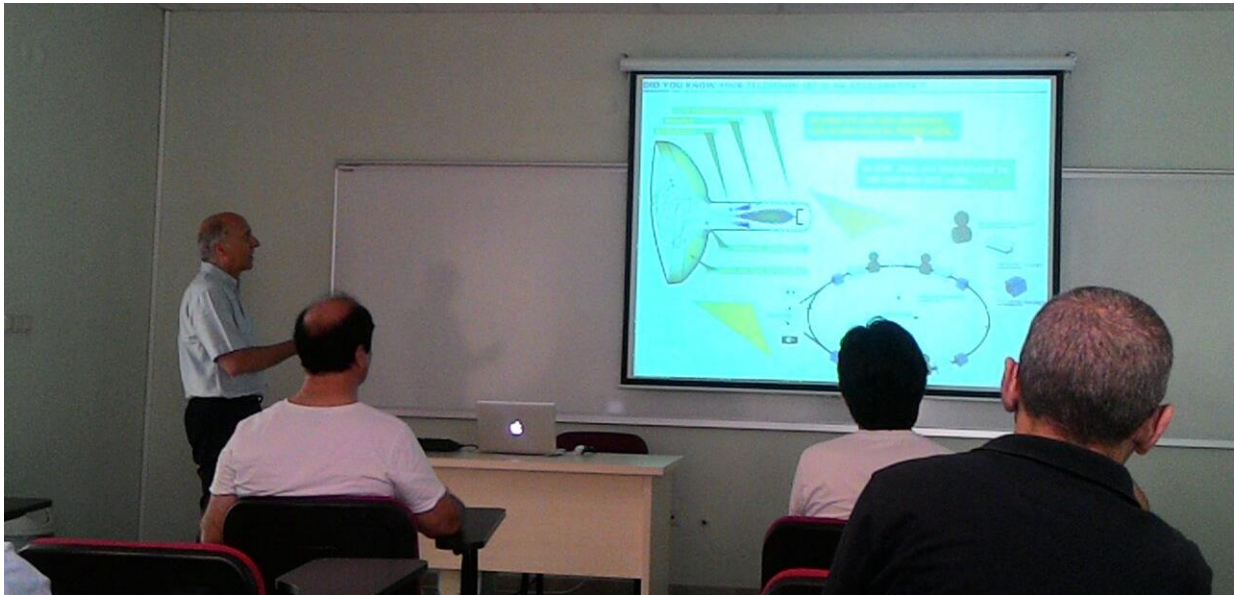
(University of Antwerp)

Title: Atomic Collapse in Graphene

3.2 Prof. Ignatios Antoniadis (September 8)

(University of Bern)

Title: Unweilling the Fundamental Laws of Nature



3.3 Prof. Mete Atatüre (October 11)

(University of Cambridge)

Title: High Quality Solid-State Spin-Photon



3.4 Prof. Bilge Demirköz (November 4)

(Middle East Technical University)

Title: Uzun Radyasyon Ortamı Test Laboratuvarı: Bir CERN İşbirliği Projesi



3.5 Prof. Mourad Ismail (December 23)

(University of Central Florida)

Title: The Asymptotic Integration Method



Visitors of ICTP-ECAR in 2016

Name	Home Institution	Period of Visit
Sanli Faez	Utrecht University, The Netherlands	May 04-05
M. Hakan Kızıltoprak	TOBB, Turkey	May 26
Mehmet Öztürk	IBG-Izmir, Turkey	May 26
François Peeters	University of Antwerp, Belgium	July 11-13
John Errington	Newcastle University, England	July 26-29
David Cahen	Weizmann Institute, Israel	July 26-29
M. Z. Baykara	Bilkent University, Turkey	July 26-29
M. Culha	Yeditepe University, Turkey	July 26-29
A. Dâna	Bilkent University, Turkey	July 26-29
E. Durgun	Bilkent University, Turkey	July 26-29
S. Hanay	Bilkent University, Turkey	July 26-29
B. Ortaç	Bilkent University, Turkey	July 26-29
İ. Ozden	Brown University, USA	July 26-29
Urartu Ozgur Safak Seker	Bilkent University, Turkey	July 26-29
Ignatios Antoniadis	University of Bern, Switzerland	September 07-08
Mete Atatüre	University of Cambridge, England	August 27-28
Bilge Demirköz	METU, Turkey	November 04
Mourad Ismail	University of Central Florida, USA	December 22-24