

3rd International Conference
on Computational and Experimental Science
and Engineering
(ICCESEN–2016)

Antalya, Turkey, October 19–24, 2016

Editor of the Special Issue:
Prof. Dr. İskender Akkurt

WARSAW

POLISH ACADEMY OF SCIENCES
INSTITUTE OF PHYSICS

Organizing Committee:

Prof. Dr. Iskender Akkurt (*Chairman*)
Dr. Hakan Akyıldırım
Dr. Ahmet Beycioglu
Dr. Nilgün Demir
Dr. Kadir Günoğlu
Dr. Ümit Kara
Dr. Nurdan Karpuz
Dr. Feride Kulali
Dr. M. Fatih Kuluöztürk
Dr. Zehra Nur Kuluöztürk
Dr. Hüseyin Ozan Tekin
Dr. Özge Kozgus Güldü

Suleyman Demirel University, Isparta, Turkey
Suleyman Demirel University, Isparta, Turkey
Düzce University, Düzce, Turkey
Uludag University, Bursa, Turkey
Suleyman Demirel University, Isparta, Turkey
Suleyman Demirel University, Isparta, Turkey
Suleyman Demirel University, Isparta, Turkey
Üsküdar University, İstanbul, Turkey
Bitlisseren University, Bitlis, Turkey
Bitlisseren University, Bitlis, Turkey
Üsküdar University, İstanbul, Turkey
Ege University, İzmir, Turkey

Scientific Committee:

Prof. Dr. Iskender Akkurt (*Chairman*)
Prof. Dr. Zahid Hussain Abra
Prof. Dr. Dilek Altaş
Dr. John R.M. Annand
Prof. Dr. Majid Abbaspour
Dr. Ömer Aras
Prof. Dr. Nezam Mahdavi-Amiri
Prof. Dr. Mohamed K. Aroua
Dr. Azeez Abdullah Barzinjy
Dr. Radhey S. Beniwal
Dr. Djoudi Bouhafs
Prof. Oleg Burdakov
Prof. Dr. Lotfi Chouchane
Prof. Dr. İbrahim Dinçer
Prof. Dr. Mitra Djamal
Prof. Dr. Witold Dobrowolski
Prof. Dr. Nazime M. Dogan
Prof. Dr. Mahmut Doğru
Prof. Dr. M. Mostafa el Tokhi
Dr. Zuhal Er
Prof. Dr. Mustafa Ercavi
Prof. Dr. Zeynep Erdogan
Prof. Dr. Mustafa Erol
Dr. Atilla Evcim
Prof. Dr. Madjid Fath
Prof. Dr. S. Mostafa Ghiaasiaan
Prof. Dr. Mustafa Günal
Prof. Dr. Amir Hussain
Dr. Ahmed A. Ibrahim
Dr. Sibel Kaçmaz
Dr. Durmuş Karayel
Prof. Dr. İsmail Koyuncu
Prof. Dr. Bakir Mehic
Dr Asghar Mesbah
Dr. F. Zümrüt B. Müftüler
Prof. Dr. Mohammed Ouali
Dr. Özge Özmen
Dr. Zeynep Parlar
Dr. Tomasz Piotrowski
Prof. Dr. Javad Rahighi
Prof. Dr. Saleh Sultansoy
Prof. Dr. Gülgün Tinaz
Dr. Huseyin Toros
Prof. Dr. A. Beril Tğru
Prof. Dr. Ali Ünl'"u
Prof. Dr. Abolhassan Vafai
Prof. Dr. Gerhard-Wilhelm Weber
Prof. Dr. Hasan Yetim

Suleyman Demirel University, Isparta, Turkey
Quadi-E-Awam University, Sindh, Pakistan
Marmara University, İstanbul-Turke
Glasgow University, Glasgow, Scotland (UK)
Sharif University of Technology, Iran
Memorial Sloan Ket Cancer Centre, New York, USA
Sharif University, Iran
University of Malaya, Malaya
Salahaddin University, Erbil, Iraq
CSIR-NISCAIR, New Delhi, India
Centre de Recherche en Technologie, Algeria
Linköping University Linköping, Sweden
Weill Cornell Medical College, Qatar
University of Ontario, Institute of Techn. (UOIT), Canada
Institute Teknologi, Bandung, Indonesia
Instytut Fizyki, Warszawa, Poland
Pamukkale University, Denizli, Turkey
Bitlis Eren University, Bitlis, Turkey
United Arab Emirates University, UA
Istanbul Technical University, İstanbul, Turkey
Yıldırım Beyazıt University, Ankara, Turkey
Mustafa Kemal University, Hatay, Turkey
Dokuz Eylül University, İzmir, Turkey
Afyon Kocatepe University, Afyonkarahisar, Turkey
Dept. of EECS University of Siegen, Germany
Mechanical/Nuclear Engin., Georgia Tech US
Gaziantep University, Gaziantep, Turkey
University of Stirling, Scotland(UK)
University of Kirkuk, Iraq
Giresun University, Giresun, Turkey
Sakarya University, Sakarya, Turkey
Istanbul Technical University, İstanbul, Turkey
University of Sarajevo, Sarajevo, Bosnia
Tabriz University Tabriz, Iran
Ege University, Izmir, Turkey
Blida 1 University, el Boulaïda, Algeria
Düzce University, Düzce, Turkey
Istanbul Technical University, İstanbul, Turkey
Warsaw University of Technology, Warsaw, Poland
AEOI, Tehran, Iran
TOBB University, Ankara, Turkey
Marmara University, Istanbul, Turkey
Istanbul Technical University, İstanbul, Turkey
Istanbul Technical University, İstanbul, Turkey
Selçuk University, Konya, Turkey
Sharif University Tehran, Iran
Middle East Technical University, Ankara, Turkey
Erciyes University, Kayseri, Turkey

Preface

This special issue of *Acta Physica Polonica A* is dedicated to selected articles of 3rd International Conference on Computational and Experimental Science and Engineering (ICCESEN-2016) held in Kemer-Antalya, Turkey in the period of October 19–24, 2016. ICCESEN founded by Prof. Dr. İskender Akkurt, is a remarkable platform where both computational and experimental works on both science and engineering fields are discussed and shared. There were about 700 presented papers from about 50 different countries in ICCESEN-2016. All manuscripts were subjected to the peer review procedure. We appreciate all the authors and reviewers for their valuable contribution in order to achieve a publication of high scientific quality. We are thankful to all invited speakers, scientific and organizing committee and surely also all participants from all over the world. I am also thankful to Prof. Dr. Witold Dobrowolski (Editor-in-Chief of *Acta Physica Polonica A*) and his team for collaboration with us for publishing over 200 papers in this issue. I am looking forward to meet all again in future ICCESEN conferences (www.iccesen.org).

Prof. Dr. İskender Akkurt
Chair of ICCESEN
Editor for Special Issue

Invited Speakers:

Prof. Oleg Burdakov
Prof. Dr. Mitra Djamal
Prof. Dr. Madjid Fathi
Prof. Dr. Amir Hussain
Dr. Ken Ledingham
Dr. Maria-Ana Popovici
Prof. Gerhard-Wilhelm Weber

Linköping University Department of Mathematics, Linköping Sweden
Faculty of Math. and Natural Sciences, Institut Teknologi Bandung, Indonesia
Dept. of EECS, University of Siegen, Germany
University of Stirling, School of Natural Science, Scotland (UK)
Strathclyde University, Glasgow, Scotland (UK)
Politehnica University, Bucharest, Romania
Middle East Technical University, Ankara, Turkey