

Gagik Shmavonyan was born in Yerevan, Armenia on May 12, 1963. He got Master's Degree in Electronic Engineering at State Engineering University of Armenia (SEUA) in 1985, PhD Degree in Physics in 1996 and D.Sc in Technical Sciences in 2009. He worked at SEUA first as a Junior and then as a Senior research scientist. In 2004 he became Assistant Professor and in 2007 - Associate Professor at SEUA. Currently he is Associate Professor at the Microelectronics and Biomedical Devices Department, National Polytechnic University of Armenia (NPUA). He carried out his postdoctoral research at the National Taiwan University, Taipei (2001-2002). He was a Visiting Professor at the University of Hull, UK (2000 and 2003), Polytechnic of Milan, Italy (2004-2005), University of Bremen, Germany (2002 and 2006), Free University Berlin, Germany (2011), Trinity College Dublin, Ireland (2012), University of Santiago de Compostela, Spain (2013-2014) and University of Cergy-Pontoise, France (2016).

He has more than 170 publications in international journals, 20 patents and 4 books. He has made scientific visits to 22 countries (USA, Europe and Asia).

His research was initially based on the optical and photoelectrical properties of standard semiconductors. Then he broadened his research interests to the design, epitaxial growth and characterization of the nanostructured semiconductor optoelectronic devices (photoelectrochemical cells, photovoltaic cells, thermophotovoltaic cells, optical amplifiers and lasers). In 2011 he moved his research interests towards new carbon forms, such as graphene. Current research interests are 2D atomic materials (graphene, BN, MoS<sub>2</sub>, etc.), their structures and devices.

G. Shmavonyan got the following research grants:

- UNIDO Cleantech Innovation Grant "Graphene-assisted thermophotovoltaic cells" (2015).
- UNIDO Cleantech Innovation Grant "Graphene and graphene electronics" (2014).
- NATO Research Grant "Characterization of semiconductor surfaces, interfaces and structures for photoelectrochemical, photovoltaic and thermophotovoltaic conversion of solar energy" (2004-2007).

He got research awards and prizes, such as:

- CleanTech Oscar Prize (Silicon Valley), 1st prize and National winner of UNIDO GEF Business ideas Competition, 2015.
- 1st prize and Winner of UNIDO GEF Business ideas Competition, 2014.
- 3<sup>rd</sup> prize of the ARPA Institute Invention Competition for the research "Non-conventional, cheap and easy technology for large-scale production of graphene", Los Angeles, USA, 2014.
- 2<sup>nd</sup> prize of the ARPA Institute Invention Competition for the research "Heterostructure thermophotovoltaic cells", Los Angeles, USA, 2013.
- 2<sup>nd</sup> Prize for the best research work at SEUA published in 2004-2005 - for series of papers published in the field of semiconductor optical amplifiers and elaboration of signal in nanostructures, Yerevan, Armenia, 2005.
- 1<sup>st</sup> prize, Alexander Popov Diploma of Honor, Soviet Union Students' Scientific Competition, Baku, Azerbaijan, 1986.
- 1<sup>st</sup> prize, Diploma for Students' excellent research at 32<sup>nd</sup> Republican Students' Scientific Competition, Yerevan, Armenia, 1985.
- 1<sup>st</sup> prize for the best graduation paper at SEUA Scientific Competition, Armenia, 1985.

He is member of Management Committee of the COST Actions MP1302 "NanoSpectroscopy" (since 2014). Besides, he is member of American Physical Society (USA), Institute of Physics (UK), St. Petersburg Scientists and Scholars Society (Russia) and Athens Institute for Education and Research (since 2016).