## CURRICULUM VITAE Dr. habil. Souren A. Grigorian Soft Matter Physics Group, University of Siegen Walter-Flex Str 3, D-57072 Siegen Tel./Fax: +49-271-740-3796/3763 Webpage: www.smpg-siegen.de E-mail: grigorian@physik.uni-siegen.de



## Education

- 2021: Habilitation in Physical Chemistry, section 03/A2, ASN National Scientific Habilitation, Italy
- 2015: Habilitation in Chemistry of Materials, Université de Haute-Alsace, Mulhouse-Strasbourg, France, Title: Correlation of Structural and Electrical Properties of Conjugated Polymer and Oligomer Films
- 2000: Ph.D. in Crystallography, Institute of Crystallography Russian Academy of Sciences, Moscow, Russia, Title: *Influence of atomic vibrations on the formation of X-ray wave field in a crystal under dynamical diffraction conditions* Supervisors: Prof. M. Kovalchuk, Prof. I. Vartaniants
- 1994: Diploma in Physics, Yerevan State University, Department of Physics, Yerevan, Armenia

## Experience

- 2010 present: Head of Soft Matter Physics Group, University of Siegen, Germany
- 2018, 2022: Visiting Professor, Chemistry Department, Sapienza University of Rome, Italy
- 2015-2016: Invited Professor, IM2NP, Aix-Marseille University, France
- 2010: Guest Researcher, National Institute of Standards and Technology (NIST), Gaithersburg, USA
- 2005 2009: Assistant scientist, University of Siegen, Siegen, Germany
- 2004: Senior scientist, Institute of Crystallography RAS, Moscow, Russia
- 2004: Visiting scientist, CEMES, Toulouse, France
- 2003: Post-doctoral fellow, University of Potsdam, Germany
- 2001- 2002: DAAD fellow, University of Potsdam, Germany

## Awards/Fellowships/Qualifications

- 2019: Honorary Doctor of Sciences (D.Sc.) of the Yerevan State University
- 2019 Qualified (N°: 19133303943) for the function of university professor by the section 33 Chemistry of Materials, of the national council of universities of the ministry of higher education, research and innovation, MESRI, Paris, France
- 2018: Visiting Professorship Award, Sapienza University of Rome
- 2015-2016: Invited Professor Fellowship, supported by CNRS and Aix-Marseille University
- 2011-2014: University of Siegen awards for successful accomplishment of scientific research
- 2010: Guest Researcher Fellowship, National Institute of Standards and Technology (NIST), Gaithersburg, USA
- 2008 Young scientist award, 1st Material Science and Engineering Congress (MSE), Nuremberg, Germany
- 2005-2008: Awards for participation in the several international conferences
- 2001-2002: DAAD-German Academic Exchange Service Fellowship
- 1998: A.V. Shubnikov Institute of Crystallography RAS first prize for successful accomplishment of scientific research

# CURRICULUM VITAE Dr. habil. Souren A. Grigorian Soft Matter Physics Group, University of Siegen

#### **Scientific interests**

Main expertise in Chemistry of Materials/Inorganic Chemistry/Physical Chemistry with valuable experience in advanced studies of the structure-property relationships (in particular at the different European synchrotron radiation facilities) focusing to the following directions

- Surface-sensitive X-ray techniques, development of *in situ* X-ray methods for investigations of multifunctional novel materials
- Microstructural characterization of multifunctional materials, advanced X-ray crystallography analysis of bulk materials/single crystals and polycrystalline thin films
- Mesoscale *in situ* studies of working devices, direct correlation of microstructures and optoelectronic properties of complex hybrid organic/inorganic networks
- Optimization of fabrication processes of active layers of smart devices with novel metal nanoparticles, monitoring and control of the liquid-solid transition on different scales
- Flexible and printed inorganic and hybrid electronics, microstructural studies of stability and alteration of solar cells, field effect transistors

#### **Main Projects**

PI of 11 International projects, total budget ~ **1.5 M Eur** Main proposer and co-proposer of 62 accepted experimental short and long-term projects at leading synchrotrons: ESRF, SOLEIL, BESSY II, DELTA, PETRA III, total budget ~ **3.5 M Eur** 

(BMBF - Federal Ministry of Education and Research, DFG - German Research Foundation, DAAD - German Academic Exchange Service, Volkswagen Foundation etc)

- Main proposer and co-proposer, multiple grants for conduction of short and long-term at leading synchrotron radiation facilities including ESRF, SOLEIL, BESSY II, DELTA, PETRA III (2008-2021); Co-PI of LTP SC-3898 "Enhancing functionality of combined fast calorimetry / nano-focus X-ray scattering setups" at ID13 beamline, ESRF (2014-2016); Co-PI of Partnership for Soft Condensed Matter (PSCM) project "Development of advanced in-operando MEMS-based techniques and sample environments for investigation of structure formation processes in novel functional organic and hybrid materials" at ID13, ID10 and ID2 beamlines, ESRF (since 2020)
- Principal investigator, the ATHENA European University project, "Structure and morphology of heterogeneous nanostructured semiconducting polymers" in cooperation with University of Orléans, (2021-2022)
- Main organizer and chair, Volkswagen Foundation grant A130160, International Conference and Young Scientist School, ANAM2019 Advanced Nanomaterials and Methods, (2019)
- Main coordinator, Procope Accelerator programme of the French Embassy in Berlin: grant to establish the French-German consortium in the field of flexible electronics, organized International workshops in Germany and France, (2018)
- Principal investigator, Russian-German joint project of Ministry of Education and Science of the Russian Federation, "Elaboration of an experimental setup and optimization of the structure formation processes in the industrially-relevant processing of polymeric nanomaterials used for fabrication of organic solar cells" in cooperation with MIPT, Moscow Institute of Physics and Technology, (2016-2017)
- Principal investigator, French-German DAAD-PROCOPE project 57211900, "Correlating Structure, Mechanical and Optical Properties of Low Bandgap polymer films on flexible substrates CorFlex" in cooperation with IM2NP, Aix-Marseille University, (2016-2017)
- Principal investigator of international BMBF project 05K13PS, "Spatially and temporally controlled growth of conjugated polymers and nanostructured systems", in cooperation with the Chemistry Department, Sapienza University of Rome, Italy; Enikolopov Institute of Synthetic Polymer Materials RAS, Moscow, Russia; University of Freiburg, Germany, (2013-2016)

# CURRICULUM VITAE

#### Dr. habil. Souren A. Grigorian Soft Matter Physics Group, University of Siegen

- Main coordinator and chair, Volkswagen Foundation project A115147, International Symposium and Young Scientist School, DOM2015 Disordered and Ordered Materials Analysis and Characterization, (2015)
- Principal investigator of international BMBF project 05K10PSC, "Nanoengineering and Enhancement of Structural and Electrical Properties of thiophene based thin films", in cooperation with Enikolopov Institute of Synthetic Polymer Materials RAS, Moscow, Russia (2010-2013)
- Main proposer, DAAD projects for cooperation with East European countries (2012, 2014, 2016)

## **Bibliometric Indexes**

H-index 17, citations 168075 peer-reviewed publications; 4 book chapters29 invited and plenary talks on International Conferences, Symposiums and Workshops (last 10 years)

# **Collective scientific activities**

- Supervised and co-supervised 3 Post-docs, 5 PhD and 6 Master students
- Upgraded chemistry and optics laboratories with novel equipment's for fabrication and characterization of organic devices at the Department of Physics, University of Siegen
- Developed unique chambers equipped with nanopositioners for in situ microdroplet analysis, in situ micromechanical and electrical studies, upon request available for synchrotron user community
- Responsible for X-ray laboratories and radiation safety at Department of Physics, University of Siegen,
- Initiated multiple national and international cooperation resulted in joint projects, proposals and common beamtimes at the synchrotron radiation facilities
- Organized and chaired international conferences, workshops and young scientist schools
- Reviewed PhD theses and participated in examination commissions at the Institute Charles Sadron ICS, Strasbourg; Moscow State University; Sapienza University of Rome

# Educational and teaching activities

- Courses lectured at the University of Siegen for Master and Bachelor students of the Physics, Chemistry and Materials Science Departments : Introduction to Crystallography, Modern Crystallography, Soft matter physics, Material research using synchrotron radiation, 2008-2021
- Participated in development of teaching concept for International Master Program in Physics, Chemistry and Materials Science at the University of Siegen, 2015-2020
- Reviewer for peer review journals: Nanoscale, Scientific Reports Nature, Journal of Materials Chemistry, Organic Electronics, RSC Advances, Langmuir, Journal of Physical Chemistry, Crystal Growth and Design, Physical Chemistry Chemical Physics, Journal of Applied Polymer Science, Polymer Chemistry, Applied Materials and Interfaces, 2010-2021
- Edited and co-edited of biannual report of scientific activities at the Physics department, University of Siegen (2012,2014)
- Edited of the abstract book of the Young Scientist School and International Symposium Disordered and Ordered Materials Analysis and Characterization, DOM 2015
- Edited of the abstract book the International Workshop and Young Scientist School Advanced Nanomaterials and Methods, ANAM2019, <u>https://anam2019.org/Abstract\_book\_full\_online.pdf</u>, 2019
- Guest editor for Special Issue "X-ray Diffraction of Functional Materials" in Materials, MDPI, <u>https://www.mdpi.com/journal/materials/special\_issues/Ray\_Diffr</u>, 2020-2021