

Curriculum Vitae



Full name: Avgeropoulos Apostolos
Profession: Full Professor of Polymer Materials
Institution: Department of Materials Science Engineering, University of Ioannina, Ioannina, Greece (DMSE-UOI)
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Personal Information

- **Date of Birth:** August 10th 1969
- **Place of Birth:** Thessaloniki
- **Nationality:** Greek
- **Marital Status:** Married with Nikoleta Provata and have two children (Maria and Themistoklis)
- **Military Obligations:** November 1997 - May 1999 (Reservist Sergeant, Ordnance Corps, Specialty: Scribe)

Languages

- English (holder of the “Certificate of Proficiency in English” of the University of Michigan)
- French (average level)

Studies and Professional Activities

- **Sep. 1988 – Nov. 1992:** Undergraduate Studies at the Department of Chemistry, University of Athens (BSc. in Chemistry).
- **May 1993 - Mar. 1997:** Graduate Studies in Polymer Science at the Industrial Chemistry Laboratory, Chemistry Department, University of Athens (PhD diploma), under the supervision of Professor N. Hadjichristidis in collaboration with Professor E. L. Thomas at the Department of Materials Science & Engineering (DMSE), Massachusetts Institute of Technology (MIT), USA.
- **Jan. 1996 - Jul. 1996, Apr. 1997 – Nov. 1997 and Mar. 2001 – Jun. 2001:** Postdoctoral Associate at the Department of Materials Science & Engineering (DMSE), Massachusetts Institute of Technology (MIT), USA, under the supervision of Professor E. L. Thomas. Total contract duration: Sixteen (16) months (6 + 6 + 4 months respectively).
- **Sep. 1999 – Aug. 2002:** Research Associate, Industrial Chemistry Laboratory, Department of Chemistry, University of Athens, in collaboration with Professor N. Hadjichristidis.
- **Jan. 2000 – Jun. 2001:** Postdoctoral Researcher at the National Center of Physical Research, “DEMOKRITOS”, Athens, Greece in collaboration with Professor N. Hadjichristidis and Researcher A’ P. Argitis. Contract duration: Eighteen (18) months.
- **Sep. 2002 – Nov. 2002:** Senior Chemist, National Chemistry Laboratories of Greece (public servant position).
- **Nov. 2002 – Apr. 2003:** Adjunct Assistant Professor, Department of Materials Science Engineering, University of Ioannina.
- **Apr. 2003 – Feb 2007:** Tenure Track Assistant Professor, Department of Materials Science Engineering, University of Ioannina.
- **Feb 2007 – May 2009:** Tenured Assistant Professor, Department of Materials Science Engineering, University of Ioannina.

- **May 2009 – August 2013:** Associate Professor, Department of Materials Science Engineering, University of Ioannina.
- **August 2013 – to date:** Full Professor, Department of Materials Science Engineering, University of Ioannina.

Visits – Collaborations with Foreign Institutes-Companies

- **April 1997 and August 1997:** Visiting Chemist at Brookhaven National Laboratory, National Synchrotron Light Source, Brookhaven, Rhode Island, USA. Five (5) days for each visit.
- **September 2001 and November 2001 – December 2001:** Researcher at Repsol YPF, Petroleum Company, Madrid, Spain, in collaboration with Consejo Superior de Investigaciones Cientificas (CSIC), Madrid, Spain. Five (5) days and 1,5 months respectively for giving lectures on synthesis, molecular and morphological characterization for block copolymers and terpolymers and setting up from scratch an anionic polymerization synthesis laboratory respectively.
- **August 2003, July 2004 – August 2004, July 2005, July 2006 – August 2006, August 2007, August 2008, April 2009, July 2010 - August 2010, July 2011 - August 2011:** Visiting Scientist at Massachusetts Institute of Technology, Institute of Soldier Nanotechnologies, Boston, Massachusetts, USA, in collaboration with Professor E. L. Thomas. The duration of the visits was from three (3) to six (6) weeks in order to do experiments on already synthesized experiments with transmission electron microscopy (TEM) and small-angle X-ray scattering (SAXS) respectively.
- **July 2005, July 2007, February 2008 and July 2008 - August 2008, Feb. 2014:** Visiting Scientist, University of Tennessee at Knoxville and Center for Nanophase Materials Sciences at ORNL, Knoxville, Tennessee, USA, in collaboration with Professor J. W. Mays, Professor M. Dadmun and Senior Researcher P. Britt). The duration of the visits was from one (1) week up to four (4) weeks. Invited lectures.
- **July 2006:** Invited Professor, Dow Corning Corporation, Midland, Michigan, USA. The duration of the visit was for five (5) days. Invited lecture.
- **December 2006, March 2008, February 2014:** Visiting Professor at Carnegie-Mellon University, Department of Materials Science & Engineering, Pittsburgh, Philadelphia, USA, in collaboration with Professor M. Bockstaller. The duration of the visits was one (1) week and two (2) weeks respectively based on the bilateral collaboration between the two Institutions through funding from the General Secretariat of Research and Development of Greece. The last visit on February 2014 was for four (4) days in order to expand the collaboration on other projects with Professor M. Bockstaller.
- **February 2008:** Invited Professor, Leibniz-Institut für Polymerforschung, Dresden, Germany in collaboration with Professor M. Stamm and Assistant Professor N. Zafeiropoulos (during that visit Dr. Zafeiropoulos was a Group Leader in Prof. Stamm's research group). The duration of the visit was four (4) days. Invited lecture.
- **February 2008, August 2011:** Visiting Professor, Department of Materials Science & Engineering, Cornell University, Ithaca, New York, USA in collaboration with Professor C. K. Ober. The duration of the visits was for one (1) week and three (3) days respectively. Invited lectures.
- **April 2009:** Visiting Professor at Yale University, Department of Chemical Engineering, New Haven, Connecticut, USA in collaboration with Professor C. Osuji. The duration of the visit was for two (2) days. Invited lecture.
- **March 2010:** Visiting Professor at the University of California at Santa Barbara, Department of Chemical Engineering, Santa Barbara, California, USA in collaboration with Prof. G. H. Fredrickson. The duration of the visit was for four (4) days. Invited lecture.

- ***August 2010, August 2011:*** Visiting Professor at the University of Akron, School of Polymer Science & Engineering, Akron, Ohio, USA in collaboration with Dean Professor S. Z. Cheng and Professor S-Q. Wang. The duration of the visits was for four (4) and three (3) days respectively. Invited lectures and initiation-continuance of collaboration with Professor S-Q. Wang.
- ***May 2011, November 2018:*** Visiting Professor at the Department of Chemical Engineering, National Tsing Hua University, Taiwan-Republic of China in collaboration with Professor Rong-Ming Ho. The duration of the visits was for one (1) week. Invited lectures and initiation-continuance of collaboration with Professor Rong-Ming Ho.
- ***February 2014:*** Invited Professor, Rice University, Engineering School, Houston, Texas, USA, in collaboration with Professor E. L. Thomas, Dean of Engineering - Rice University. The duration of the visit was for three (3) days. Invited lecture.
- ***February 2015:*** Visiting Professor, King Abdullah University of Science and Technology (KAUST), Physical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, in collaboration with Professor N. Hadjichristidis. The duration of the visit was for two (2) weeks. Initiation of collaboration and use of instruments that is not available at the University of Ioannina.
- ***September 2015-March 2016:*** Visiting Professor in Sabbatical, King Abdullah University of Science and Technology (KAUST), Physical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia, in collaboration with Professor N. Hadjichristidis. The duration of the visit was for six (6) months. Strengthen collaboration with Professor Hadjichristidis, writing manuscripts and review articles/book chapters, teaching courses to graduate students and use of equipment not available at the University of Ioannina.
- ***December 2019, August 2021, September 2021, November-December 2021, June 2022, August-December 2023:*** *Visiting Professor as Scientific Coordinator of a research program (Megagrant) funded directly by the Russian Federation (Moscow State University, Moscow, Russian Federation, in collaboration with Professor. D. Ivanov).* The duration of the visits was from ten (10) days up to five (5) weeks. Initiation of collaboration within the framework of the funded program with minimum duration being thirty (30) months with an extension up to 48 months (12/2019-12/2023).

Research Interests

- a). Synthesis of novel polymers via anionic polymerization using the high vacuum technique, preparation of new monomers, synthesis of biodegradable polymers, of various types of co- and terpolymers linear and non linear exhibiting high molecular weight, photonic polymers, conjugated polymers for photovoltaic applications, carbon nanotubes/graphite oxide composite materials with various polymer matrices. Elaboration of ATRP, SFRP and ROP techniques under inert atmosphere conditions for synthesis of a wide range of polymers.
- b). Characterization and properties of polymers in dilute solutions via Size Exclusion (SEC), Membrane Osmometry (MO), Vapor Pressure Osmometry (VPO), Low-Angle Laser Light Scattering (LALLS), Differential Refractivity (DR), Viscometry (V), Proton and Carbon Nuclear Magnetic Resonance ($^1\text{H-NMR}$, $^{13}\text{C-NMR}$).
- c). Morphological Characterization via Transmission Electron Microscopy (TEM), Atomic Force Microscopy (AFM), Scanning Electron Microscopy (SEM), Small-Angle X-ray Scattering (SAXS), Differential Scattering Calorimetry (DSC).

Current Research Interests

- Synthesis of new monomers leading to composites
- High molecular weight copolymers and terpolymers
- Amphiphilic functionalized block copolymers
- Dendritic architected thermoplastic elastomers
- Nanocrystal/block copolymer composites (structure and structure properties)
- Biodegradable biopolymers
- Conjugated polymers for photovoltaic applications
- Various types of complex copolymers and terpolymers
- Nano-lithographic and nano-patterning applications of block copolymers with various architectures
- Patterned polymer media for nanostructured applications
- Functionalization of non-linear polydienes and chemical modification
- Nanocomposites with “grafting from” or “grafting to” SWCNTs, MWCNTs, graphite oxide and graphene
- Morphological topography and identification of microstructures via TEM, HRTEM, EFTEM and SAXS
- 3D reconstruction of complex cubic structures via simulations
- Theoretical study with Monte Carlo simulations of the behavior and properties of linear/linear and non-linear block copolymers

Polymers Laboratory Infrastructure: through competitive projects national and international

Polymer Synthesis

- Six (6) high vacuum lines ($\sim 10^{-6}$ Torr) for the synthesis of polymers via anionic and living radical polymerization
- One (1) simple vacuum line or/and inert atmosphere where reactions under inert atmosphere or simple vacuum ($\sim 10^{-2}$ Torr)
- Two (2) Schlenk lines for the synthesis of conjugated polymers and for the synthesis of polymers via living radical polymerizations
- Four (4) glass blowing stations for the preparation of complex apparatuses where the polymer synthesis takes place
- Pyrex & Kimax glassware, for resistance in very large temperature variations ($-196^\circ - +650^\circ\text{C}$)
- Annealing ovens (2), vacuum ovens (2) and drying ovens (2)
- Refrigerators (2) and low temperature freezers down to -30°C (4) for storing samples and reagents

Control of Molecular Characterization-Properties-Morphology

- Size Exclusion Chromatography (SEC) equipped with RI & UV detectors up to 50°C
- Size Exclusion Chromatography (SEC) equipped with RI & DALS detectors up to 50°C
- Medium Temperature (120°C) Size Exclusion Chromatography (SEC) equipped with RI detector
- High Temperature (220°C) Size Exclusion Chromatography (SEC) equipped with RI detector

- Membrane Osmometry (MO)
- Vapor Pressure Osmometry (VPO)
- Automated Viscometry for concentrated solutions
- Viscometry of diluted solutions
- Purity and yield control of organic reaction with gas chromatography-mass spectrometry (GC-MS)
- Dynamic Light Scattering (DLS)
- Dynamic Mechanical Analysis (DMA)
- Thermal Mechanical Analysis (TMA) (donation from IPF-Dresden through Professor M. Stamm and Professor N. Zafeiropoulos)
- Differential Scanning Calorimetry (DSC) from -180°C up to 600°C
- Instron 5966 (Dual Column Tabletop Model)
- Contact Angle (CA) measurement instrument for measurement of contact angle, surface energy, surface interfacial tension (Instrument OCA 25, DataPhysics Instruments). Instrument upgrade with heating setup up to 700°C to study the behavior of droplets/thin films under specific substrates by increasing temperature close or above melting point (T_m). (*Electron Microscopy Unit – University of Ioannina*)
- Two (2) Ultra-Cryomicrotomes for thin sections used in TEM [1 through donation from DMSE/MIT and Professor E. L. Thomas) and a new one as of May 2012 (four diamond knives, two for cryomicrotoming and two for environmental microtoming) from Leica Instruments through competitive funding, Leica EM UC7 Ultramicrotome] (*Electron Microscopy Unit – University of Ioannina*)
- High-Resolution Transmission Electron Microscopy (HR-TEM) from JEOL (JEM-2100, LaB₆ filament) (*Electron Microscopy Unit – University of Ioannina*)
- Scanning Electron Microscopy-Low Vacuum (SEM-LV) from JEOL (JSM-6510LV, LaB₆ filament) (*Electron Microscopy Unit – University of Ioannina*)
- Precision Ion Polishing system (PIPS), cross-sectional kit, ultrasonic cutter, disc grinder, dimple grinder from Gatan Inc. (*Electron Microscopy Unit – University of Ioannina*)
- Nuclear Magnetic Resonance Spectroscopy [Proton (¹H-NMR), Carbon (¹³C-NMR) and Silicon (²⁹Si-NMR)] through the Network of Research Supporting Laboratories at the University of Ioannina
- UV-Vis Spectroscopy through the Network of Research Supporting Laboratories at the University of Ioannina
- Purity and yield control of organic reactions with gas chromatography-mass spectrometry (GC-MS) through the Network of Research Supporting Laboratories at the University of Ioannina

Laboratory's Webpage (POLYLAB): <http://www.materials.uoi.gr/polymers/>
Total Cost of Equipment (approximately): ~2,150,000 €

Participation – Supervision/Coordination of Research Programs

A). As PhD Candidate

1. **Brite program TPRO-CT92-0003 (1/5/1993-31/8/1995) title:** *"Cleaning technologies for stripping of high chemical resistant paint"*, University of Athens, Greece - Aerospatiale, France - CTTM, France International Celomer, France - TNO, The Netherlands - RTM, Italy (Participating research groups), **as Researcher**. Contract duration: Twenty eight (28) months.
2. **Exxon Chemical Company, Linden, N.J., USA (1/9/1995-31/5/1996) title:** *"Polymerization and characterization of anionic polymers"*, **as Researcher**. Contract duration: Nine (9) months.
3. **Scholarship for Graduate Studies from the Institute of Electronic Structure and Laser, Foundation for Research and Technology – Hellas (FORTH), Heraklion, Crete, Greece (1/6/1996-31/12/1996).** Duration of scholarship: Six (6) months.

B). As Senior Researcher

1. **ExxonMobil Research and Engineering Co, Annandale, N.J., USA (1/11/1999-31/12/1999, 1/7/2001-30/9/2001), title:** *"Development of synthetic strategies for preparing well-defined model long-chain-branched polydienes and polyolefins"*, **as Postdoctoral Associate**. Contract duration: Five (5) months.
2. **Hellenic Ministry of Development, General Secretariat for Research & Technology: PENED (1/1/2000-30/6/2001), title:** *"Use of polymers for the growth of nanostructures with UV-lithography and self-assembly"*, **as Postdoctoral Associate**. Contract duration: Eighteen (18) months.
3. **European Union, IST (Information Society Technologies Programme), IST-2000-30143 (1/10/2001-30/9/2002), title:** *"Critical Resist and Processing Issues at 157 nm Lithography addressing the 70 nm node"*, University of Athens, Chemistry Department, Industrial Chemistry Lab, Greece-Institute of Microelectronics, NCSR Democritos, Greece-National Hellenic Research Foundation, Institute of Theoretical and Physical Chemistry, Greece-Inter University Microelectronics Center, Belgium-ARCH Chemicals, Belgium-Centre National de la Recherche Scientifique, Institute de Matériaux de Nantes, France (Participating research groups) **as Postdoctoral Associate**. Contract duration: Twelve (12) months.

After Appointment as Faculty at DMSE-UOI (date of appointment: 17/4/2003)

1. **Start-up by the University of Ioannina** (Rector's Decision, through the Operational Costs of UOI), 5/2004: **70.000 €**, for the infrastructure – equipment – consumables of the new Polymers Laboratory.

C). In Collaboration with Other Faculty Members of UOI

2. **Funding by the Hellenic Ministry of National Education & Religious Affairs, Managing Authority of Operational Programme "Education and Initial Vocational Training" PITHAGORAS I (32 months, 1/5/2004-31/12/2006), title:** *"Experimental and Theoretical Study of Dendritic Polymers"*, **as Leader of the Experimental Group**, P.I.: Professor M. Kosmas – PhD, Department of Chemistry/University of Ioannina and total budget: **60.000 €**.
3. **Training Seminar** with title: **"New Materials for Viability Development"** within the Project - Network **"Energy Technologies for Viability Development"** (Call 8.3, Action 8.3.6 "Human Networks of Research and Technological Training" of the Programme: "Competitiveness" by the Hellenic Ministry of Development, General Secretariat of Research & Development, **as Senior Teacher/Professor** (12/2004).

4. **Inter-Departmental Graduate Studies Program (18/10/2004-17/10/2013), title: “Materials Chemistry & Technology”, as Teaching Professor and Responsible for the Coordination of two (2) Courses (until 2009, and for one Course to date), funded by the Hellenic Ministry of National Education & Religious Affairs (budget: 23.000 € /year for 10 years).**
5. **Training Seminar with title: «Design and Development of Novel Materials for Energy and Environmental Applications” within the Project - Network “Energy Technologies for Viability Development” (Call 8.3, Action 8.3.6 “Human Networks of Research and Technological Training” of the Programme: “Competitiveness” by the Hellenic Ministry of Development, General Secretariat of Research & Development, as Senior Teacher/Professor (10/2007).**
6. **European Union under the National Strategic Reference Framework (NSRF) Call 2007-2013, Action “THALES: Reinforcement of the Scientific and/or Institutional Research and Innovation with the Ability to Attract High Level Researchers from Overseas Through the Conduction of Basic and Applied Research of Excellence” (48 months, 1/1/2012-31/12/2015), title: “Self-Assembly and Dynamics in Metastable States. From Molecular to Supramolecular and Mesoscopic Systems”, with acronym: “META-ASSEMBLY”, as Senior Researcher, budget for the University of Ioannina: **220.000 €**, P.I.: Professor G. Floudas - PhD, Department of Physics/University of Ioannina and total budget: **600.000 €**.**
7. **European Union under the National Strategic Reference Framework (NSRF) Call 2007-2013, Action of National Range “COOPERATION 2010”, Collaborations of Productive and Research Bearers in Focused Research and Technology Sectors, (36 months, 18/04/2011-17/04/2014), title: “Application of Novel Inorganic Nanostructures for the Development of Polymer Matrix Nanocomposite Materials with Improved Properties”, as Senior Researcher, budget for the University of Ioannina: **135.000 €**, P.I./University of Ioannina: Professor D. Gournis - PhD, DMSE) and general P.I.: S. Messaritakis – PhD, Head of Research & Development – Masterbatch Sector, PLASTIKA KRITIS SA and total budget: **572.560 €**.**
8. **European Union under the National Strategic Reference Framework (NSRF) Call 2007-2013, Action of National Range “COOPERATION 2011”, Collaborations of Productive and Research Bearers in Focused Research and Technology Sectors (36 months, 1/11/2012-31/10/2015), title: “Multifunctional Nanocoatings with Hybrid Organic – Inorganic Interfaces”, with acronym: “NANO-HYBRID”, as Senior Researcher, budget for the University of Ioannina: **212.000 €**, P.I.: Associate Professor P. Patsalas - PhD, DMSE in collaboration with BIC SA and UNION Ophthalmic Lens Industries, total budget: **809.856,25 €**.**
9. **General Secretariat of Research & Innovation (GSRI) Funding under “Flagship actions in interdisciplinary scientific fields with a special focus on the productive fabric”, Greece 2.0 – National Recovery and Resilience Fund under Sub-Action 7.1 entitled: “Advanced Materials for Energy?Materials for Photovoltaic Cells” (29 months, 2/8/2023-1/12/2025), title: “Development of efficient third generation PV materials and devices for enhancing the competitiveness of the production sector in green energy” as Senior Researcher, budget for the University of Ioannina: **154.999 €**, P.I.: Professor E. Lidorikis - PhD, DMSE (for the University of Ioannina) in collaboration with University of Patras, Aristotle University of Thessaloniki, National Research Council, University of the Peloponnese, Hellenic Mediterranean University and National Center for Scientific Research-DEMOKRITOS, total budget: **2.457.000 €**. (*Approximately 50.000 € will be allocated to Prof. Avgeropoulos laboratory*)**
10. **General Secretariat of Research & Innovation (GSRI) Funding under “Flagship actions in interdisciplinary scientific fields with a special focus on the productive fabric”, Greece 2.0 – National Recovery and Resilience Fund under Sub-Action 7.2 entitled: “Advanced Materials for Energy/Materials for Modification, Storage of Energy or Antipollution Applications” (29 months, 2/8/2023-1/12/2025), title: “Advanced Nanostructured materials for Sustainable Growth: Green Energy Production/Storage, Energy Saving and Environmental Remediation” as Senior Researcher, budget for the University of Ioannina: **600.000 €**, P.I.: Professor D. Gournis - PhD, DMSE (for the University of Ioannina) in collaboration with University of Crete, Technical**

University of Crete, and International Hellenic University, total budget: 2.456.404,80 € (Approximately 20.000 € will be allocated to Prof. Avgeropoulos laboratory)

D). As Principal Investigator (Scientific Coordinator)

1. **Funding by a Foreign Company: Dow Corning Corporation, (30 months, 1/4/2004-30/9/2006), title: “High Molecular Weight Diblock and Triblock Copolymers”, as Principal Investigator**, total budget: 105.000\$ US or 83.771€.
2. **Funding by the Hellenic Ministry of National Education & Religious Affairs, Managing Authority of Operational Programme “Education and Initial Vocational Training” PITHAGORAS II (1/4/2005-31/12/2007), title: “Synthesis and Theoretical Study of Linear and Complex Architecture Polypeptides”, as Principal Investigator**, total budget: 50.000€.
3. **Funding by the General Secretariat of Research & Technology, Ministry of Development, Bilateral Proposal between Greece and U.S.A. (24 months, 1/4/2006-31/3/2008), title: “Structure Formation and Structure-Property Relations in Self-Organized Block Copolymer/Nanoparticle Composite Materials”, as Principal Investigator**, total budget: 60.000€ (in collaboration with Carnegie-Mellon University, Department of Materials Science & Engineering).
4. **Funding by the European Union under the Call identifier: FP7-NMP-2007-LARGE-1 with Proposal No: CP-IP 213939-1 POCO (48 months, 1/11/2008-31/10/2012), title: “Carbon Nanotube Confinement Strategies to Develop Novel Polymer Matrix Composites” and Acronym: “POCO”, as Principal Investigator of the Greek Partner**, total budget (requested by the EU for the Greek side): 323.481,50€ (17 partners in total, major total budget requested by the EU: 5.524.450 €, general P.I.: B. Coto - PhD, TEKNIKER, Eibar, Spain)
5. **Funding by the European Union under the Call identifier: FP7-NMP-2009-SMALL-3 with Proposal No: CP-FP 245565-2 LAMAND (36 months, 1/7/2010-30/6/2013), title: “Large Area Molecularly Assembled Nanopatterns for Devices” and Acronym: “LAMAND”, as Principal Investigator of the Greek Partner**, total budget (requested by the EU for the Greek side): 346.710,00€ (9 partners in total, major total budget requested by the EU: 3.963.000 €, general P.I.: Professor M. Morris - PhD, University College Cork, National University of Ireland, Cork, Ireland)
6. **Funding by the General Secretariat of the Epirus Region under the National Strategic Reference Framework (NSRF) Call 2007-2013, Proposal for Research & Development, (36 months, 1/7/2012-30/6/2015), title: “Development of New Materials for Immediate Use in Biological Wastewater Treatment and on Land Disposal of Solid Waste”, as Principal Investigator**, total budget: 150.000€.
7. **Funding by the General Secretariat of the Epirus Region and the European Union under the National Strategic Reference Framework (NSRF) Call 2007-2013, Proposal for Infrastructure for Research and Development, to establish an Advanced Electron Microscopy Facility at the University of Ioannina, comprising of a HR-TEM and a Low-Vacuum SEM. (after evaluation of competitive proposals, 45 in total, from major Laboratories)**
It is the largest funding given in the University of Ioannina for the establishment of such advanced equipment which is considered among the best in Eastern Europe and was fully established/functional since 01/03/2013 in the Department of Materials Science & Engineering, University of Ioannina, as Principal Investigator, total budget: 2.000.000€.
8. **Funding by the European Union under the Call identifier: FP7-PEOPLE-2012-IEF (IEF: Intra-European Fellowships) title: “Development of Low Band Gap Conjugated Polymers by EcoFriendly Synthetic Methodologies for High Performance Organic Photovoltaics” and acronym “ECO-CHEM” (24 months, 1/4/2013-31/3/2015), total budget (requested by the E.U.): 161.968,80€ (Post-Doctoral Researcher and Scholar Dr. C. Chochos), as Principal Investigator** for the management of the budget in collaboration with the Research Committee of the University of Ioannina.

9. **Matching Funds for European Union Projects, title:** “National Contribution for Collaborative Project with Code by the Research Committee of the University of 80178 (“POCO”) for year 2008”, (12 months, 28/5/2010-27/5/2011), total budget: **488,49€**, as Principal Investigator.
10. **Matching Funds for European Union Projects, title:** “National Contribution for Collaborative Project with Code by the Research Committee of the University of 80178 (“POCO”) for year 2009”, (12 months, 22/11/2010-21/11/2011, extended until 4/11/2012), total budget: **19.325,04€**, as Principal Investigator.
11. **Matching Funds for European Union Projects, title:** “National Contribution for Collaborative Project with Code by the Research Committee of the University of 80178 (“POCO”) for years 2010-2013”, (12 months, 1/9/2014-31/8/2015), total budget: **12.742,39€**, as Principal Investigator.
12. **Matching Funds for European Union Projects, title:** “National Contribution for Collaborative Project with Code by the Research Committee of the University of 80482 (“LAMAND”) for years 2010-2013” (12 months, 1/9/2014-31/8/2015), total budget: **12.158,11€**, as Principal Investigator.
13. **Matching Funds for European Union Projects, title:** “National Contribution for Collaborative Project with Code by the Research Committee of the University of 81104 (“ECOCEM”) for years 2010-2013” (12 months, 1/9/2014-31/8/2015), total budget: **1.997,01€**, as Principal Investigator.
14. **Funding by a Foreign Company: 3M Company (St. Paul, MN, USA), (24 months, 21/3/2016-30/11/2018), title:** “Block Copolymers for Filtration”, as Principal Investigator, total budget: **250.000\$ US** (or 227.273€).
15. **Funding by a Foreign Company: BIC VIOLEX, (38 months, 1/3/2016-31/10/2023), title:** “Investigation of the Appropriate Distribution for PTF Films on Razor Blades and Substitution Possibility by Other Polymers”, as Principal Investigator, total budget: **131.563,83€**.
16. **Matching Funds for European Union Projects, title:** “National Contribution for Collaborative Project with Code by the Research Committee of the University of 81104 (“ECOCEM”) for years 2014-2016” (12 months, 1/9/2016-31/12/2017), total budget: **13.568,31€**, as Principal Investigator.
17. **Scholarship provided by the PhD Thesis Grant Program of the Hellenic Foundation of Research & Innovation for PhD candidate Athanasios Katsouras to support his thesis research entitled:** “Design and Development of New Conjugated Polymers for Organic Photovoltaic Applications” (10 months, 21/08/2018 – 31/05/2019), total budget: **8.400€**, as Principal Investigator.
18. **Funding by a Foreign Company: BIC VIOLEX, (12 months, 25/10/2017-24/10/2018), title:** “Characterization in Solution and in Bulk of Polymerization Reactions via Surface Initiation for Industrial Applications and Scale-Up”, as Principal Investigator, total budget: **22.362,12€**.
19. **Funding by the Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK) within the Framework of the Call: “Research-Create-Innovate” (36 months + 8 months extension due to the Corona-virus pandemic, 28/6/2018-27/2/2022) entitled:** “Portable diagnostic medical devices and “diagnostic cards” with smartphone-aided operation utilizing novel responsive polymer film-based biosensors and low-cost transducers for point-of-care applications (BIOPOC)” as Principal Investigator for the Laboratory of Polymer Science & Engineering, total budget: **186.865€**.
20. **Funding by the Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK) within the Framework of the Call: “Research-Create-Innovate” (36 months + 8 months extension due to the Corona-virus pandemic, 17/10/2018-16/5/2022) entitled:** “Solid Electrolytes for Lithium Ion Batteries (SOLIDEL)” as Principal Investigator for the Laboratory of Polymer Science & Engineering, total budget: **35.920 €** (in collaboration with Foundation for Research & Technology – Hellas or FORTH by subcontracting).

21. **Funding by a Foreign Company: BIC VIOLEX, (12 months, 24/10/2018-23/10/2019), title:** “Characterization in Solution and Thermal Properties of Polymer Based Lubricants and Effect of Polymer Molecular Weight”, ***as Principal Investigator***, total budget: **24.873,27€**.
22. **Scholarship provided by the PhD Thesis Grant Program of the Hellenic Foundation of Research & Innovation for PhD candidate Gkreti-Maria Manesi to support her thesis research entitled:** “Macromolecular Architecture: Synthesis, Characterization and Properties of Linear and Non Linear Block Copolymers of Polystyrene and Poly(dimethylsiloxane) for Applications in Nanotechnology” (starting date of PhD: 31/01/2018, duration of scholarship for 30 months: 02/10/2019 – 01/04/2022), total budget: **27.000€**, ***as Principal Investigator***.
23. **Scholarship provided by the PhD Thesis Grant Program of the Hellenic Foundation of Research & Innovation for PhD candidate Ioannis Moutsios to support his thesis research entitled:** “Synthesis and Characterization of Diblock and Triblock Copolymers for Nanotechnology Applications” (starting date of PhD: 03/10/2017, duration of scholarship for 26 months: 02/10/2019 – 01/12/2021), approximate total budget: **23.400€**, ***as Principal Investigator***.
24. **Funding by the Hellenic Foundation of Research & Innovation (H.F.R.I.) during the 1st National Call for Research Project Submission Through H.F.R.I. for University Faculty and Institute Research in the Sector of Physical Sciences (30 months, 20/02/2020 – 19/08/2022) entitled:** “Nanotechnology Applications of Polymer Brushes Formed onto Surfaces from Linear Triblock Terpolymer Precursors”, ***as Principal Investigator***, total budget: **200.000€**.
25. **Funding from the Russian Federation, in the framework of Megagrant Proposals with pioneering/exceptional researchers from overseas (outside the Russian Federation) entitled:** “Macromolecular Engineering of Block Copolymer Nanocomposites with Applications as Phononic-Photonic Band Gap Materials with High Conductivity Efficiency” (initial registration number: 2019-220-07-5284 and renewed registration number: 075-15-2022-1105), submitted by Lomonosov Moscow State University. Initial duration of the project: **26 months (02/11/2019 – 31/12/2021)**, ***as Principal Investigator with total budget: ~1.280.000,00€ (or 90.000.000 Rubles)***. After evaluation the proposal was extended for additional 24 months until **31/12/2023 with additional funding from the Russian Federation equal to 23.000.000 Rubles for year 2022 and finding additional funding for year 2023. Total budget from the Russian Federation: ~1.500.000,00€ (or 113.000.000 Rubles)**.
26. Participation in a Regional Excellence proposal (NSRF 2014-2020) entitled: «*Development of Research Infrastructure for the Design, Production and Highlighting Quality and Safety Characteristics of Agri-food and Biofunctional Products (AGRIFOOD)*», **total budget: 3.000.000€ and Principal Investigator Professor T. A. Albanis**. In this proposal the Polymer Science & Engineering Laboratory group members under the supervision of Professor Avgeropoulos participate in WP3 (**WP3 Principal Investigator: Professor A. Avgeropoulos**) entitled: «Use of New Materials for Food Standardization and Preservation» and especially action 3.1 entitled: «Development of New Materials for Active and Smart Packaging». Duration 30 months + 8 months extension (1/11/2020-30/9/2023)
Budget for Professor Avgeropoulos’ group is for one (1) Post-Doctoral Associate for 24 months and one (1) MSc student for 12 months. **Total budget for the Polymer Science & Engineering Laboratory: 55.200€**
27. Participation in a Regional Excellence proposal (NSRF 2014-2020) entitled: «*Developing New Infrastructures that Build 'Capacity' in Biomedical Research (BIOMED-20)*», **total budget: 3.000.000€ and Principal Investigator Professor S. Georgatos**. Additional supplementary equipment will be purchased for the SEM and TEM instruments from the Electron Microscopy Unit: *Cryo-holder for the SEM, Automated Freeze Cryo-Plunger for the preparation of samples for cryo-TEM, Electron Gun/Anode for the TEM*). **Professor Avgeropoulos is Principal Investigator for WP4** entitled: «Support of Research Activities» and specifically in action WP.4.1 entitled: «Support from the Electron Microscopy Unit». Duration 30 months + 8 months extension (1/11/2020-30/9/2023)
The budget for Professor Avgeropoulos’ group is also for four (4) Post-Doctoral Researchers (3 working for 12 months each and 1 for 4months) and two (2) MSc students for 6 months each. **Total**

budget for the Polymer Science & Engineering Laboratory and the Electron Microscopy Unit of the University of Ioannina: 329.000€ (220.000€ are for the proposed new supplementary equipment for the Electron Microscopy Unit).

28. **Scholarship provided by the PhD Thesis Grant Program of the Hellenic Foundation of Research & Innovation for PhD candidate George Papadopoulos to support his thesis research entitled: “Synthesis, Characterization and Properties of Polymer Ionic Liquids” (starting date of PhD: 05/06/2019, duration of scholarship for 19 months: 15/04/2022 – 14/11/2023), approximate total budget: 17.100€, as Principal Investigator.**
29. **Funding by a private company: Sunlight S.A., (6 months, 1/3/2023-31/08/2023) entitled: “Characterization of Commercial Separators”, as Principal Investigator, total budget: 18.600€.**
30. **Funding by the Kingdom of Saudi Arabia King Abdullah University of Science and Technology (KAUST) in collaboration with: CNRS/Mulhouse, Department of Chemistry-University of North Carolina at Chapel Hill and the Department of Materials Science Engineering-University of Ioannina, entitled: «*Innovative Bottlebrush-Type Copolymers for Tissue Engineering*». Duration of project: 36 months (01/04/2023-31/03/2023), as Principal Investigator for the University of Ioannina, total budget for the University of Ioannina: 70.000\$ US (or 65.420€).**
31. **Funding by the Hellenic Foundation of Research & Innovation (H.F.R.I.) during the call of Basic Research Financing (Horizontal Support for all Sciences), National Recovery and Resilience Plan (Greece 2.0) in the Thematic Area 1 (TA1): Physical Sciences, Engineering Sciences & Technology, Environment & Energy (24 months, 01/02/2024 – 31/01/2026) entitled: “*Incorporating Conjugated Polymers and Non Fullerene Materials of Long Exciton Lifetimes and Low Synthetic Complexity Into Printable Indoor Organic Photovoltaics From Sustainable Solvents*”, as Principal Investigator for the University of Ioannina, total budget (for the University of Ioannina): 200.000€.**

Total Budget (as Principal Investigator)

For Research Projects:	4.310.906,00€
For Infrastructure/Equipment Projects:	2.000.000,00€
Start-up by the University as new Faculty Member (4/2004):	70.000,00€
Operational Costs, DMSE/UOI (2003-2020):	~ 90.000,00€
In collaboration with other faculty members of UOI:	~ 150.000,00€
Total Budget (2004-to date):	~ 6.620.906€ (or ~ 7.260.000\$ US)

Teaching of Undergraduate and Graduate Courses

A). Undergraduate Courses (DMSE-UOI)

1. Polymer Materials (autonomous teaching since academic year 2002-2003 to date)
2. Materials Laboratory V-Polymer Materials (autonomous teaching since 2003-2004 and co-teaching since 2008-2009 to date)
3. Synthetic Chemistry and Modification Methods of Polymers (autonomous teaching since academic year 2002-2003 to date)
4. Polymer and Related Materials of Controlled Structure (autonomous teaching since academic year 2003-2004 and co-teaching since academic year 2008-2009 to date)
5. Polymer Materials – Special Issues (autonomous teaching since academic year 2003-2004 and co-teaching since academic year 2008-2009 to date)
6. Petroleum, Petrochemicals and Lubricants (autonomous teaching since academic year 2005-2006 and co-teaching since academic year 2015-2016 to date)
7. Chemistry I (co-teaching since academic year 2020-2021)
8. Polymer Technology (co-teaching since academic year 2008-2009)
9. Photonic Materials (autonomous teaching for academic year 2005-2006)
10. General Chemistry Laboratory (co-teaching for academic year 2019-2020)
11. Packaging Materials and Recycling (co-teaching for academic year 2006-2007)
12. Chemistry II (co-teaching for academic year 2005-2006)

B). Graduate Courses (DMSE-UOI)

1. Science & Technology of Polymer and Ceramic Materials (9 out of 39 h/semester), 11 semesters
2. Science & Technology of Advanced Materials (6 out of 36 h/semester), 11 semesters
3. Materials' Technology Laboratory (4 out of 12 experiments), 11 semesters
4. Polymer Nanotechnology (21 out of 39 h/semester), 2 semesters
5. Polymer Properties (21 out of 39 h/semester), 2 semesters

C). Other Graduate Courses

1. "Physical Properties of Polymers. Relation between Structure and Properties" (Dept. Chemistry-University of Athens, 24h/semester), 5 semesters (January 2008, January 2009, January 2011, October 2012, June 2014)
2. "Synthesis and Modification Methods of Well-Defined Polymers" (Dept. Chem. & Environ. Eng.-University of the Basque Country-San Sebastian-Spain, 24h/semester), 1 semester (March 2009)
3. "Physical Properties of Polymers. Relation between Structure and Properties" (Dept. Chem. & Environ. Eng.-University of the Basque Country-San Sebastian-Spain, 24h/semester), 1 semester (September 2012)
4. "Principles of Anionic Polymerization" (Department of Fibre and Polymer Technology, KTH Royal Institute of Technology, Stockholm-Sweden, 10h/semester), 1 semester (May 2019, September 2022)

Reviewer for Manuscripts in Scientific Journals and Proposals

- A). Reviewer for manuscripts in scientific journals related with polymer science & technology:
1. *Polymer* (55 articles)
 2. *European Polymer Journal* (32 articles)
 3. *ACS Applied Materials & Interfaces* (8 articles)
 4. *Microelectronic Engineering* (6 articles)
 5. *Macromolecules* (15 articles)
 6. *Journal of Polymer Science, Part A: Polymer Chemistry* (5 articles)
 7. *Journal of Applied Polymer Science* (5 articles)
 8. *Polymer Chemistry-RSC* (5 articles)
 9. *Journal of Materials Chemistry C* (3 articles)
 10. *European Physical Journal E* (3 articles)

11. *Progress in Polymer Science* (3 articles)
12. *ACS Industrial & Engineering Chemistry Research* (2 articles)
13. *Materials Science & Engineering B* (2 articles)
14. *Journal of Nanostructured Polymers and Nanocomposites* (2 articles)
15. *Nanoscale-RSC Publishing* (2 articles)
16. *Macromolecular Rapid Communications* (2 articles)
17. *Materials Letters* (2 articles)
18. *Journal of Polymer Science, Part B: Polymer Physics* (1 article)
19. *Advanced Materials Interfaces* (1 article)
20. *Physica Status Solidi* (1 article)
21. *Macromolecular Symposia* (2 articles)
22. *Australian Journal of Chemistry* (1 article)
23. *Molecules Online Journal* (1 article)
24. *Science of Advanced Materials* (1 article)
25. *Progress in Organic Coatings* (1 article)
26. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* (1 article)
27. *Biomacromolecules* (1 article)
28. *ACS Nano* (2 article)
29. *Polymers, an Online Journal* (1 article)
30. *Nature Communications* (2 article)
31. *Soft Matter-RSC* (5 articles)
32. *Applied Surface Science* (2 article)
33. *Chemical Papers* (1 article)
34. *Journal of Colloid and Interface Science* (1 article)
35. *Journal of Chemistry* (1 article)
36. *Macromolecular Chemistry and Physics* (1 article)
37. *Polymers-MDPI* (10 articles)
38. *Molecules-MDPI* (8 articles)
39. *Nanomaterials* (10 articles)
40. *Acta Biomaterialia* (1 article)
41. *Langmuir* (2 articles)
42. *ACS Applied Polymer Materials* (2 articles)

Total number of manuscripts reviewed: ~215

B). Referee/Reviewer/Expert Evaluator in Proposals funded by:

1. *Hellenic Ministry of National Education & Religious Affairs, Managing Authority of Operational Programme "Education and Initial Vocational Training": "HERAKLITUS"* (1 proposal),
2. *Hellenic Ministry of National Education & Religious Affairs, Managing Authority of Operational Programme "Education and Initial Vocational Training": "HERAKLITUS"* (8 proposals),
3. *National Science Foundation - NSF* (7 proposals),
4. *Basic Research of the University of Patras "K. Karatheodoris"* (2 proposals)
5. *Program for the Reinforcement of Basic Research, National Technical University of Athens, Π.Ε.Β.Ε. 2011* (2 proposals)
6. *Program for the Reinforcement of Basic Research, National Technical University of Athens, Π.Ε.Β.Ε. 2020* (1 proposal)
7. *Hellenic Ministry of National Education & Religious Affairs, General Secretariat of Research & Development* (2 proposals, Bilateral between Greece - China)
8. *Hellenic Ministry of National Education & Religious Affairs, General Secretariat of Research & Development* (2 proposals, "Verification of Knowledge 2012")
9. *Croatian Science Foundation – CSF* (1 proposal)
10. *Hellenic Institute of National Scholarships, IKYDA 2014, Exchange Program and Scientific Collaboration between Greece and Germany* (1 proposal)

11. *Cypriot Foundation of Research Advancement, Sector of Cypriot Proposals – New Researcher 2015*, (3 proposals)
12. *Cypriot Foundation of Research Advancement, Sector of Cypriot Proposals – Students in Research 2018*, (2 proposals)
13. *Hellenic Ministry of National Education & Religious Affairs, General Secretariat of Research & Development* (3 proposals in the framework of the call ΕΔΒΜ34, one proposal was finally evaluated)
14. *Hellenic Foundation for Research & Innovation (H.F.R.I.) as Chairman of the Panel “Natural Sciences” for the evaluation of proposals submitted under the 2nd call for HFRI research projects from Faculty Members and Researchers (ΑΠ. 20741/08.01.2020)*, total submitted proposals for evaluation for the natural Sciences’ Panel: 283, evaluated by Avgeropoulos in phase A: 57 proposals and in phase B: 24 full proposals)
15. *European Union as expert for proposals under the call H2020-MSCA-IF-2020* (11 proposals)
16. *European Union as expert for the proposal H2020-FETOPEN-2018-2019-2020-01-829010-PRIME* (12-month progress)
17. *European Union as expert & rapporteur) for proposals under the call H2020-MSCA-IF-2021* (6 proposals)
18. *Hellenic Foundation for Research & Innovation (H.F.R.I.) as Member of the Panel “Natural Sciences” for the evaluation of proposals submitted under the 4th call for HFRI research projects for PhD Candidates Scholarships (Α.Π. 42328/21.12.2021)* (total submitted proposals: 136, evaluated by Avgeropoulos: 21 proposals).
19. *European Union as expert for proposals for the proposal H2020-FETOPEN-2018-2019-2020-01-829010-PRIME* (36-month progress)
20. *European Union as expert & rapporteur for proposals under the call H2020-MSCA-IF-2022* (5 proposals)
21. *Swiss National Science Foundation* (1 proposal)

Total number of proposals reviewed: ~161

C). Member of the Editorial Board for journals:

1. *Advances in Materials Science & Engineering*, Hindawi Publishing Corporation, USA, (IF-2022: 2.098), **as Academic Editor**
2. *Molecules* (section: *Macromolecular Chemistry*), MDPI, Basel, Switzerland (IF-2022: 4.927), **as Section Editor**
3. *Frontiers in Physics*, Frontiers Publishing, Lausanne, Switzerland (IF-2022: 3.718) **as Associate Editor in Section of Soft Matter Physics**

Awards-Honors

- Scholarship for Graduate Studies as a PhD candidate at the Department of Chemistry, University of Ioannina (4/1996-3/1997) from the Foundation for Research and Technology – Hellas, Institute of Electronic Structure and Laser.
- ScienceDirect TOP25 Hottest Articles since January 2006 for review article: “*Linear and Non-linear Multiblock Terpolymers. Synthesis, Self-Assembly in Selective Solvents and in Bulk*” by Hadjichristidis N., Iatrou H., Pitsikalis M., Pispas S. and Avgeropoulos A. ***Progress in Polymer Science*, 2005, 30, 725.**
- Major Contributor and Reader of the_Honoris Doctoris Causa award and nominated an Honorary Doctorate from the DMSE-UOI to the distinguished Professor (Morris Cohen Professor) Edwin L. Thomas and Department Head of DMSE-MIT, USA, September 29th 2008, University of Ioannina, Ioannina, Greece.
- Major Contributor and Reader of the_Honoris Doctoris Causa award and nominated an Honorary Doctorate from the DMSE-UOI to the distinguished Professor Nikolaos Hadjichristidis and Department Head of Chemistry Department, University of Athens, Greece, September 27th 2010, University of Ioannina, Ioannina, Greece.
- **3rd Poster Award at the 4th Panhellenic Conference on Green Chemistry & Sustainable Development** (University of Ioannina, Ioannina, Greece, October 30-November 1, 2014) for the

Poster entitled: “High band gap indacenodithiophene and indacenodithienothiophene copolymers as electron donors in organic photovoltaics” by A. Katsouras, C. L. Chochos, A. Avgeropoulos

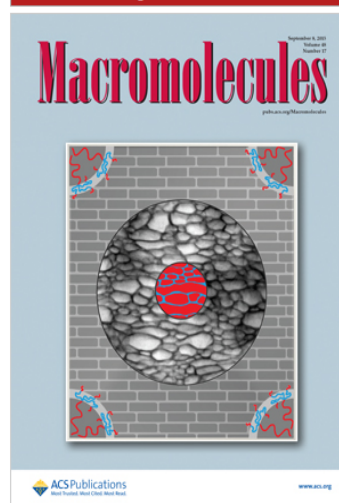
- **Cover for *Macromolecules* (ACS Publications), 2015, vol. 48, issue 17**, concerning the scientific results of manuscript N° 98 entitled: “Aperiodic “Bricks and Mortar” Mesophase in Miktoarm Star Block Copolymer-Homopolymer Blends” by W. Shi, A. Hamilton, K. T. Delaney, G. H. Fredrickson*, E. J. Kramer, C. Ntaras, A. Avgeropoulos*, N. A. Lynd, Q. Demassieux and C. Creton. *Macromolecules*, 2015, 48, 5378-5384.

September 8, 2015: Vol. 48, Iss. 17

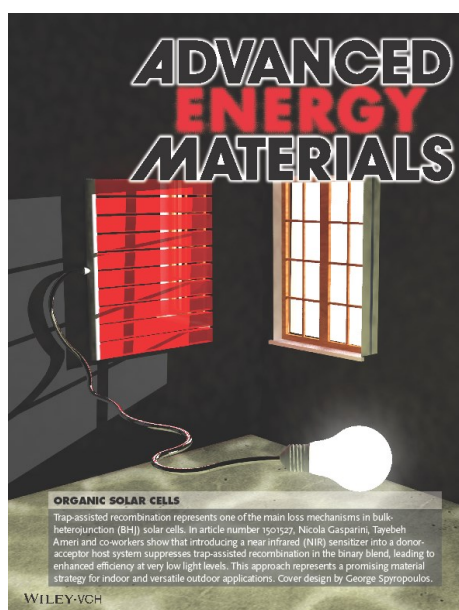
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A new thermodynamically stable, aperiodic “bricks-and-mortar” (B&M) cellular mesophase structure is created in PS₁-b-(PI-b-PS₂)₃ miktoarm copolymer and PS homopolymer blends [PS₁: long polystyrene; PI: poly(isoprene); PS₂: short polystyrene], where PS comprises discrete hard “bricks” and PI the continuous soft “mortar”. The mesophase is unique in its extreme domain volume fractions, its quasi-long-range orientational order, and lack of positional order. The BM phase is an unusual type of *fluctuation-stabilized mesophase*, bridging traditional notions of microphase and macrophase segregation. Based on this unusual structure, a series of PS-based thermoplastic elastomers are realized, combining rigidity from an exceptionally high content of discrete glassy PS domains (up to 82 wt%) and high extensibility with recoverable elasticity from a low content of continuous rubbery PI (down to 18 wt%). The new elastomers show sharp yielding behavior while maintaining good elasticity at large strains. Tensile-SAXS experiments reveal that voiding plays an important role for the mechanical behavior and voids can open/close reversibly with/without loading. Plastic deformation only results in a slight loss of recoverable elasticity. See Shi, W.; Hamilton, A. L.; Delaney, K. T.; Fredrickson, G. H.; Kramer, E. J.; Ntaras, C.; Avgeropoulos, A.; Lynd, N. A.; Demassieux, Q.; Creton, C. *Macromolecules* 2015, 48, 5378-5384. [View the article.](#)

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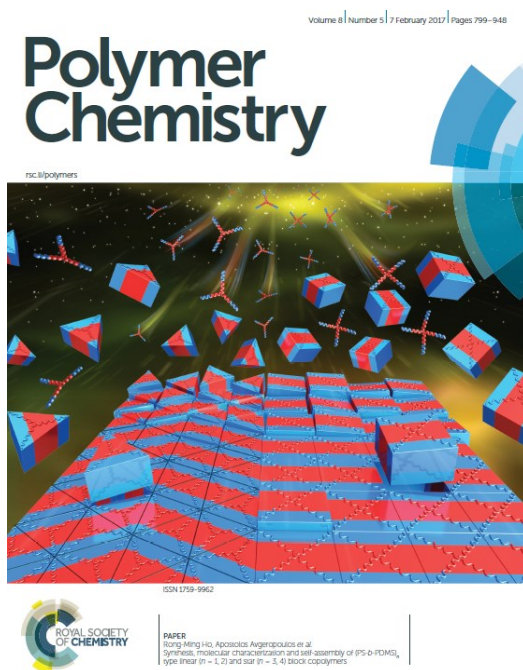


- **Frontispiece for the theme: “Organic Solar Cells” in *Advanced Energy Materials* (Wiley-VCH)** concerning the scientific results of manuscript N° 102 entitled: “An alternative strategy to adjust the recombination mechanism of organic photovoltaics by implementing ternary compounds” by N. Gasparini, M. Salvador, S. Fladischer, A. Katsouras, A. Avgeropoulos, E. Spiecker, C. L. Chochos, C. J. Brabec and T. Ameri. *Advanced Energy Materials*, 2015, 5, 1501527 (7 pages).



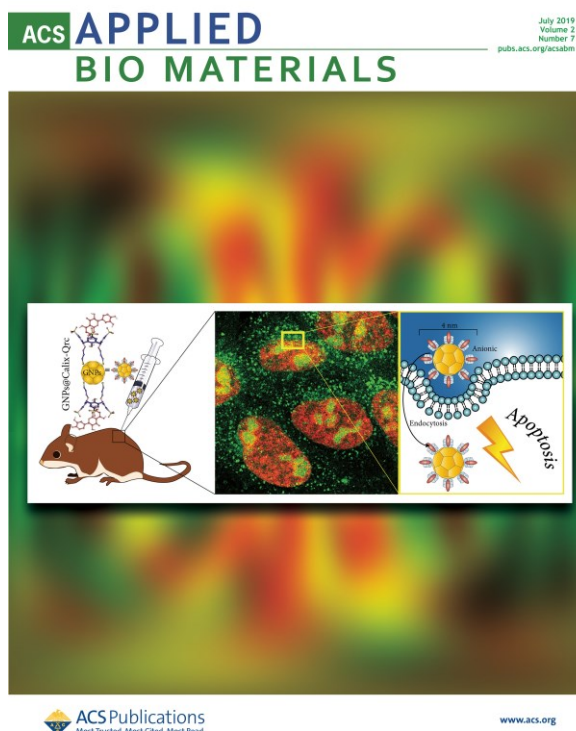
- **Cover for *Polymer Chemistry* (RSC Publishing), 2017, volume 8, issue 5**, concerning the scientific results of manuscript N° 119 entitled: “Synthesis, Molecular Characterization and Self-Assembly of

*(PS-*b*-PDMS)_n Type Linear (n = 1,2) and Star (n = 3,4) Block Copolymers*” by P. Georgopoulos, T.-Y. Lo, R.-M. Ho* and A. Avgeropoulos*.
Polymer Chemistry, 2017, 8, 843-850.



- **Cover for ACS Applied Bio Materials (ACS Publications), volume 2, issue 7** concerning the scientific results of manuscript N° 161 entitled: *“Inclusion of Quercetin in Gold Nanoparticles Decorated with Supramolecular Hosts Amplifies its Tumor Targeting Properties”* by Yilmaz M., Karanastasis A., Chatziathanasiadou M., Oguz M., Kougioumtzi A., Clemente N., Kellici T. F., Zafeiropoulos N., Avgeropoulos A., Mavromoustakos T., Dianzani U., Karakurt S. and Tzakos A. G.
ACS Applied Bio Materials, 2019, 2, 2715-2725.

“Encapsulation of natural products in supramolecular nanohybrid architectures can unleash, without tedious manipulations, their pharmaceutical capacity.”



- ***Cover for ACS Applied Polymer Materials (ACS Publications), volume 5, issue 11*** concerning the scientific results of manuscript N° 232 entitled: “*Extreme Plasticity, Adhesion, and Nanostructural Changes of Diblock Copolymer Microparticles in Cold Spray Additive Manufacturing*” by Ara Kim, Salih Duran, Apostolos Avgeropoulos, Sinan Müftü and Jae-Hwang Lee. *ACS Applied Polymer Materials*, 2023, 5, 8929-8936.



Administrative Work as Faculty in DMSE-UOI

1. Member of the faculty General Assembly of DMSE-UOI since April 2003.
2. Since 2003 – to date, member of the following faculty inter-departmental committees:
 - a). Undergraduate Studies Committee,
 - b). Laboratories Committee,
 - c). Graduate Studies Committee (served as Committee Chair for 2008-2009)
 - d). General Studies program Committee,
 - e). Summer Internship of undergraduate students Committee,
 - g). Department Building Infrastructure Committee,
 - h). Teaching and Examination program Committee.
3. Appointed as **Head Faculty of the Polymers Laboratory** for DMSE-UOI, since June 2004.
4. Since 2005-to date, member of the faculty General Assembly for the DMSE-UOI Graduate Studies program: “Chemistry and Technology of Materials”.
5. Participation in more than twenty (20) committees for purchasing instruments for UOI, total value: ~ 8.000.000 €, through open public national calls.
6. Member of the election board-general assembly for more than twenty (20) faculty members for DMSE-UOI, and in three (3) of those elections has served as the coordinator of the 3-Member Rapporteur Committee and responsible for handling the whole procedure-election.
7. Member of the election board-general assembly for Adjunct Teaching Professors according to the teaching needs of DMSE-UOI, and in three (3) of those elections has served as the coordinator of the 3-Member Rapporteur Committee and responsible for handling the whole procedure-election.
8. Member of the election board-general assembly for the election of Special Teaching and Laboratory Staff in DMSE-UOI and served as the coordinator of the 3-Member Rapporteur Committee
9. Served as **Vice-Head of the Department of Materials Science Engineering**, University of Ioannina from 01/9/2009 until 31/8/2011.
10. Served as **Head of the Department of Materials Science Engineering**, University of Ioannina until 31/12/2012. Starting date: 01/9/2011.
11. Served as a **Member of the Senate of the University of Ioannina** since September 1st 2011 due to my appointment as Department Head (01/9/2011 until 31/12/2012)
12. Elected as **Internal Member of the Board of Trustees at the University of Ioannina**, according to the new Greek laws 4009/2011 and 4076/2012 for higher education. This Board is a 15-member council comprising from 8 internal members from the University, 6 external members (which are elected by the 8 internal members) and 1 student. Date of election: 05/11/2012 and date of official inauguration: 01/1/2013. Duration: 01/1/2013 – 31/08/2017).
13. **Chairman of the Internal Evaluation Committee** for the Department of Materials Science Engineering and responsible for gathering all the necessary information (students’ evaluation for their Instructors/Professors, Professors’ evaluation, students/Professors/Technical and Administrative staff statistics and information) in order to complete four (4) Internal Evaluation Reports corresponding to the DMSE of the University of Ioannina for the academic years: 2008-2009, 2009-2010, 2010-2011 and 2011-2012. These evaluations are posted in the DMSE-UOI website: <http://www.materials.uoi.gr/>.
14. As Department Head and Chairman of the Internal Evaluation Committee I was responsible for the coordination of all students and staff of the DMSE-UOI to complete the External Evaluation from a 5-member External Evaluation Committee consisting of foreign Greek Distinguished Professors/Scientists in the field of Materials Science & Engineering during September 2011 (5th to 7th). The External Evaluation Report (20 pages) was evaluated as excellent and it is posted officially in the Hellenic Quality Assurance and Accreditation Agency for Higher Education: http://www.hqaa.gr/eks/ExternalEvaluation%20Mat%20Sci%20Eng%20Ioannina_Final.pdf
15. **DMSE-UOI Graduate program Director** entitled: “Advanced Materials”. The specific graduate program was written by A. Avgeropoulos and was accepted by the Hellenic Ministry of Education. It is a 1-year MSc program (60 ECTS) and involves seven (7) specialties in Materials Science &

- Engineering. Starting academic year: 2014-2015 and maximum graduate students: 30. Duration of the Graduate Program: 8 academic years and re-evaluation for additional 8 academic years.
16. Member of the 3-Member Advisor Committee for fifteen (15) PhD candidates. Ten (10) of them have been successfully accomplished.
 17. Member of the 7-Member Examining Committee for thirty (30) PhD candidates. All of them were successfully defended.
 18. Member of the 3-Member Examining Committee for ten (10) MSc candidates. All of them were successfully defended.
 19. **Member of the Hellenic Polymer Society Board of Directors** (starting date January 1st 2013 for 3 years and re-elected until 31-12-2020 as well as until November 2023)
 20. **Chairman of the Board of Directors** for the Peripheral society of Epirus, Corfu and Lefkada, Greek Chemistry Society (starting date January 1st 2013 for 3 years)
 21. **Chairman, CEO and Legal Representative** of the Board of Directors for the Scientific & Technological park of Epirus (STEP) S.A. as Faculty member of the University of Ioannina (larger share holder). Date of appointment: July 1st 2016 for five (5) years.
 22. Served as **Head of the Department of Materials Science Engineering**, University of Ioannina until 31/08/2022. Starting date: 01/9/2020.
 23. As Department Head and Chairman of the Internal Evaluation Committee I was responsible for the coordination of all students and staff of the DMSE-UOI to complete the External Evaluation of the Undergraduate Studies Program from a 5-member External Evaluation Committee consisting of foreign Greek Distinguished Professors/Scientists in the field of Materials Science & Engineering during December 2020. The External Evaluation Report (20 pages) was evaluated as excellent and fully compliant (10/10) with the regulations of Hellenic Authority for Higher Education.
 24. Serving as a **Member of the Senate of the University of Ioannina** since September 1st 2020 due to my appointment as Department Head (01/9/2020 until 31/08/2022).
 25. Serving as **Head of the Department of Materials Science Engineering**, University of Ioannina until 31/08/2024. Starting date: 01/9/2022 (Re-elected).
 26. Serving as a **Member of the Senate of the University of Ioannina** since September 1st 2022 due to my appointment as Department Head (01/9/2022 until 31/08/2024).
 27. Serving as **Chairman of the Hellenic Polymer Society Board of Directors** (starting date December 1st 2023 after elections held during the 14th **Panhellenic Polymer Conference** (Thessaloniki, Greece, November 22-25, 2023).

Member in Societies

American Chemical Society (ACS since 2003),
American Physical Society (APS since 2008 until 2016),
Materials Research Society (MRS since 2008 until 2016),
Greek Chemical Society (since 1993),
Greek Polymer Society (since 1994 and acting member of the 7-member of the Board of Directors until 31/12/2023)

Participation in Conference Organizing/Scientific Committees-Session Chair

1. Member of the Organizing Committee for the XX Panhellenic Conference of Solid State Physics and Materials Science (Ioannina, Greece, September 2004).
2. Member of the Scientific Committee for the 25th Panhellenic Chemistry Conference (Ioannina, Greece, September 2005).
3. Vice-Chair of the Organizing Committee for the 7th Panhellenic Polymers Conference (Ioannina, Greece, September 2008).
4. Chairman of Session: Nanocomposites for the 7th Panhellenic Polymers Conference (Ioannina, Greece, September 2008).
5. Chairman of Session: Polymer Blends IV for the 2nd International Conference On Polymer Blends, Composites, Ions, Membranes, Poly Electrolytes, And Gels, Macro To Nano Scales (ICBC-2008), (Kottayam, Kerala, India, September 2008).
6. Member of the Organizing and the Scientific Committee for the 8th Panhellenic Polymers Conference (Crete, Greece, October 2010).
7. Member of the Scientific Committee for the 5th Panhellenic Thermal Analysis and Calorimetry Conference (Therma 2012) (Thessaloniki, Greece, May 2012).
8. Member of the Organizing Committee for the Ireland Autumn Workshop for Nanotechnology 2012, (Intel Ireland, Leixlip, Co Kildare, Ireland, October 2012).
9. Member of the Scientific Committee for the 9th Panhellenic Polymers Conference (Thessaloniki, Greece, December 2012).
10. Chairman of Session: Phononics, Photonics and Nanostructured Materials for the 9th Panhellenic Polymers Conference (Thessaloniki, Greece, December 2012).
11. Member of National Advisory Committee, NAC for the International Conference: Industrial Technologies 2014, Athens, Greece, April 2014).
12. Workshop Organizer within the framework of the International Conference: Industrial Technologies 2014, Athens, Greece, 2014, with topic: "Directed Self-Assembly for Nanostructuring", Co-organizer: Intel Ireland (WS12).
13. Member of the Scientific Committee for the 10th Panhellenic Polymers Conference (Patras, Greece, December 2014).
14. Chairman of Session IX (together with Prof. J. Kallitsis): Properties & Applications for the 10th Panhellenic Polymers Conference (Patras, Greece, December 2014).
15. Chairman of Session: Polymer Solar Cell I for the 2015 EMN Meeting in Polymers (EMN: Energy, Materials and Nanotechnology), (Orlando, Florida, USA, January 2015).
16. Member of the Scientific Committee for the symposium: "Block-Copolymer Self-Assembly for Nanotechnology Applications" within the framework of the E-MRS 2015 Spring Meeting (Lille, France, May 2015).
17. Member of the Scientific Committee for the 11th Panhellenic Polymers Conference (Heraklion, Crete, Greece, November 3-5, 2016).
18. Organizer and Chairman of the Organizing Committee for the 12th Panhellenic Polymers Conference (Ioannina, Greece, 30 September-3 October 2018).
19. Member of the Local Organizing Committee for European Polymer Congress, EPF 2019 (Hersonissos, Crete, Greece, June 9-14, 2019).
20. Member of the Scientific Committee for the 13th Panhellenic Polymers Conference (Athens, Greece, December 12-16, 2021, virtual conference).
21. Member of the Scientific Committee for the 14th Panhellenic Polymers Conference (Thessaloniki, Greece, November 22-25, 2023).

Post-Doctoral Researcher Supervision as Faculty

1. **Dr. G. Sakellariou**, Post-Doctoral Researcher (6 months, under contract in an EU-FP7 proposal, 1/7/2009-31/12/2009) was appointed as Lecturer at the Department of Chemistry, University of Athens (now Associate Professor).
2. **Dr. S. Rangou**, Post-Doctoral Researcher (3 months, under contract in an EU-FP7 proposal, 1/10/2009-31/12/2009) before moving to Institute of Polymer Research, Helmholtz-Zentrum Geesthacht GmbH, Geesthacht, Germany under the supervision of Prof. V. Abetz from January 2010 to date where she is as a Senior Experienced Researcher/Group Leader (permanent position).
3. **Dr. N. Politakos**, Post-Doctoral Researcher (3 months, under contract in an EU-FP7 proposal, 1/7/2010-30/9/2010) before moving to Universidad del Pais Vasco, UPV, San Sebastian, Spain as Post-Doctoral Researcher under the supervision of Professors I. Mondragon, G. Kortaberria and S. Moya since November 2010 to date.
4. **Dr. P. Georgopanos**, Post-Doctoral Researcher (3 months, under contract in an EU-FP7 proposal, 1/4/2011-30/6/2011) before moving initially to Leibniz-Institute für Polymerforschung Dresden e.V., Dresden, Germany, under the supervision of Prof. M. Stamm (July 2011-February 2012) and then to Institute of Polymer Research, Helmholtz-Zentrum Geesthacht GmbH, Geesthacht, Germany under the supervision of Prof. V. Abetz from February 2012 to date where she is as a Senior Experienced Researcher/Group Leader (permanent position).
5. **Dr. C. L. Chochos**, Post-Doctoral Researcher and Marie Curie Fellow under the call **FP7-PEOPLE-2012-IEF** (24 months, 1/4/2013-31/3/2015) was appointed as Junior Researcher equivalent to Assistant Professor at the Institute of Biology, Medicinal Chemistry and Biotechnology, National Hellenic Research Foundation (now Senior Researcher).
6. **Dr. D. Bellas**, Post-Doctoral Researcher (May 2022-April 2023) under contract (12 months) in a national, proposal from NSRF 2014-2020.
7. **Dr. A. Katsouras**, Post-Doctoral Researcher (May 2021-August 2023) under contract (27 months) in a national, proposal from NSRF 2014-2020. He is now funded through a private company project until December 2023. He will be compensated through his involved in a new project by HFRI starting in February 2024 for 24 months.
8. **Dr. A. Karydis-Messinis**, Post-Doctoral Researcher (May 2022-April 2023) under contract (12 months) in a national, proposal from NSRF 2014-2020. He is currently funded by a Research Committee scholarship from the University of Ioannina until January 31st 2024. He will be compensated through his involved in a new project by HFRI starting in February 2024 for 24 months.
9. **Dr. D. Moschovas**, Post-Doctoral Researcher (April 2016-January 2023) under contract (95 months) in various national, international and private companies' proposals such as: HFRI, NSRF 2014-2020, 3M Ltd., BIC-Violex SA, Sunlight SA. He will be compensated through his involved in a new project by HFRI starting in February 2024 for 24 months.
10. **Dr. G.-M. Manesi**, Post-Doctoral Researcher (February 2023-April 2023) under contract (3 months) in a national, proposal from NSRF 2014-2020. Dr. Manesi is currently financed by the Bodosakis Foundation through a scholarship for post-doctoral studies from September 1st 2023 for 24 months.

PhD Supervision as Faculty

1. **Theodorakis Panagiotis (Nov. 2004 – Feb. 2008) (Co-supervisor: Assoc. Professor C. Vlahos), PhD supported by GSRT proposals**
“Polymer Blends Study of Various Architectures by Monte-Carlo Simulations”
(Prof. A. Charalampopoulos and Assoc. Prof. C. Vlahos were the other 2 members of the 3-member Advisor Committee). **Major Supervisor: Assoc. Professor C. Vlahos**
The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor D. Theodorou (Department of Chemical Engineering, NTUA¹), Professor M. Kosmas (Department of Chemistry, UOI), Professor G. Floudas (Department of Physics, UOI), Researcher A' I. Economou (National Center for Scientific Research “DEMOKRITOS”)

¹ NTUA: National Technical University of Athens

Dr. Theodorakis has been appointed as a Postdoctoral Scholar in various institutions and now is an Associate Professor at the Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

2. **Rangou Sophia (Apr. 2006 – Oct. 2009), PhD supported by EU-FP7 and GSRT proposals**
“Synthesis, Molecular and Morphological Characterization of High Molecular Weight Non-Linear Terpolymers (Miktoarms – Dendrimers)”
(Professors D. Gournis and K.G. Beltsios were the other 2 members of the 3-member Advisor Committee).
The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor N. Hadjichristidis (Department of Chemistry, UOA²), Professor S. Anastasiadis (Department of Chemistry, UOC³), Professor G. Floudas (Department of Physics, UOI), Asst. Professor N. Zafeiropoulos (DMSE, UOI)

Dr. Rangou has been appointed as a Postdoctoral Researcher (October 2009 until December 2009): DMSE, University of Ioannina, Ioannina, Greece in the framework of a research program funded by the European Union with acronym: “POCO”. Advisor: **Prof. Dr. A. Avgeropoulos**

Dr. Rangou has been appointed as a Postdoctoral Scholar (January 2010 until August 2010): Institute of Polymer Research, Helmholtz-Zentrum Geesthacht GmbH, Geesthacht, Germany. Advisor: **Prof. Dr. Volker Abetz**

Dr. Rangou is now working as a Senior Experienced Researcher/Group Leader (permanent position) (September 2010 to date): Institute of Polymer Research, Helmholtz-Zentrum Geesthacht GmbH, Geesthacht, Germany. Advisor: **Prof. Dr. Volker Abetz**

3. **Politakos Nikolaos (Nov. 2006 – Jun. 2010), PhD supported by EU-FP7 and GSRT proposals**
“Synthesis, Molecular and Morphological Characterization of Complex Architecture Block Copolymers Where One Chain is Either Poly(dimethylsiloxane) or Polydiene of Various Microstructures”.
(Professor M. Kosmas and Professor K. G. Beltsios were the other 2 members of the 3-member Advisor Committee)
The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor G. Floudas (Department of Physics, UOI), Assoc. Professor H. Iatrou (Department of Chemistry, UOA), Assoc. Professor M. Pitsikalis (Department of Chemistry, UOA), Asst. Professor N. Zafeiropoulos (DMSE, UOI)

Dr. Politakos has been appointed as a Postdoctoral Researcher (July 2010 until August 2010): DMSE, University of Ioannina, Ioannina, Greece in the framework of a research program funded by the European Union with acronym: “LAMAND”. Advisor: **Prof. Dr. A. Avgeropoulos**

Dr. Politakos worked as a Postdoctoral Researcher (November 2010 to November 2014): Department of Chemical Engineering, University of the Basque Country (Universidad del Pais Vasco, UPV), San Sebastian, Spain. Advisor: **Prof. Dr. Inaki Mondragon (until January 2012), Prof. Dr. Galder Kortaberria (from January 2012 to November 2014)**

Dr. Politakos worked as a Postdoctoral Researcher (December 2014 to December 2017): IC biomaGUNE, San Sebastian, Basque Country, Spain. Advisor: **Prof. Dr. S. E. Moya**

Dr. Politakos is working as a Senior Researcher (January 2018 to date): POLYMAT and Department of Applied Chemistry, Faculty of Chemical Sciences, University of the Basque Country, UPV/EHU, San Sebastian, Basque Country, Spain. Advisor: **Prof. Dr. S. E. Moya**

² UOA: University of Athens

³ UOC: University of Crete

4. Georgopoulos Prokopios (Jul. 2007 – Mar. 2011), PhD supported by EU-FP7 and GSRT proposals

“Synthesis, Characterization, properties and Applications of Polymer Materials Where One Segment is Poly(dimethylsiloxane)”.

(Professors D. Gournis and K.G. Beltsios were the other 2 members of the 3-member Advisor Committee)

The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor C. Tsitsilianis (Department of Chemical Engineering, UOP⁴), Professor M. Kosmas (Department of Chemistry, UOI), Professor G. Floudas (Department of Physics, UOI), Asst. Professor N. Zafeiropoulos (DMSE, UOI)

Dr. Georgopoulos has been appointed as a Postdoctoral Researcher (April 2011 until June 2011): DMSE, University of Ioannina, Ioannina, Greece in the framework of a research program funded by the European Union with acronym: “LAMAND”. Advisor: **Prof. Dr. A. Avgeropoulos**

Dr. Georgopoulos has been appointed as Guest Scientist – Researcher, July 2011 until February 2012): Leibniz-Institute für Polymerforschung Dresden e.V., Dresden, Germany. Advisor: **Prof. Dr. Manfred Stamm**

Dr. Georgopoulos has worked as Postdoctoral Researcher (February 2012 to August 2018): Institute of Polymer Research, Helmholtz-Zentrum Geesthacht GmbH, Geesthacht, Germany. Advisor: **Prof. Dr. Volker Abetz**

Dr. Georgopoulos is now working as a Senior Researcher/Group Leader (permanent position) (September 2018 to date): Institute of Polymer Research, Helmholtz-Zentrum Geesthacht GmbH, Geesthacht, Germany. Advisor: **Prof. Dr. Volker Abetz**

5. Grana Eftychia (Jul. 2007 – Dec. 2011), PhD supported by EU-FP7 and matching funds proposals

“Synthesis, Molecular and Morphological Characterization of Complex Architecture Conductive Polymers”.

(Professors D. Gournis and K.G. Beltsios were the other 2 members of the 3-member Advisor Committee)

The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor J. Kalitsis (Department of Chemistry UOP), Professor M. Kosmas (Department of Chemistry, UOI), Professor G. Floudas (Department of Physics, UOI), Asst. Professor N. Zafeiropoulos (DMSE, UOI)

Dr. Grana worked as a Postdoctoral Researcher (April 2012 to April 2016): Laboratoire de Chimie des Polymères Organiques, Université Bordeaux 1/CNRS Ecole Nationale Supérieure de Chimie, de Biologie & de Physique, Bordeaux, France. Advisor: **Prof. Dr. Georges Hadjiioannou**

Dr. Grana is now working (June 2017 to date) as the **R&D Director at Kemica Coatings, Chartres, Centre-Val de Loire, France**

6. Misichronis Konstantinos (May 2007 – Jun. 2012), PhD supported by EU-FP7 and matching funds proposals

“Synthesis, Molecular and Morphological Characterization of Linear and Complex Architecture Block Copolymers Consisting of Poly(1,3-cyclohexadiene)”.

(Assoc. Professor C. Vlahos and Professor K. G. Beltsios were the other 2 members of the 3-member Advisor Committee)

⁴ UOP: University of Patras

The defense of the Doctoral Thesis has been accomplished, was presented in English (and not in Greek) and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor J. W. Mays (Chemistry Department, UOT at Knoxville, TN, USA), Professor M. Kosmas (Department of Chemistry, UOI), Professor M. Karakassides (DMSE, UOI), Asst. Professor N. Zafeiropoulos (DMSE, UOI)

Dr. Misichronis worked as a Postdoctoral Researcher (November 2012 to June 2018): Department of Chemistry, University of Tennessee at Knoxville, USA. Advisor: **Prof. Dr. Jimmy W. Mays**

Dr. Misichronis is now working as a Senior Scientist (permanent position) (July 2018 to date): BIC Violex S.A. (permanent staff)

- 7. Katsigiannopoulos Dimitrios (Mar. 2009 - Jun. 2013) (co-supervisor with Assistant Professor N. Zafeiropoulos), PhD supported by EU-FP7 and matching funds proposals**
“Synthesis and Characterization of Advanced Carbon Nanostructures with Various Polymers”. (Professor D. Gournis and Asst. Professor N. Zafeiropoulos are the other 2 members of the 3-member Advisor Committee). ***Major Supervisor: Professor A. Avgeropoulos***
The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor K. G. Beltsios (DMSE, UOI), Professor M. Karakassides (DMSE, UOI), Professor M. Kosmas (Department of Chemistry, UOI), Lecturer G. Sakellariou (Department of Chemistry, UOA)

Dr. Katsigiannopoulos worked as a Postdoctoral Researcher (February 2014 to February 2017): Laboratoire de Chimie des Polymères Organiques, Université Bordeaux 1/CNRS Ecole Nationale Supérieure de Chimie, de Biologie & de Physique, Bordeaux, France. Advisor: **Prof. Dr. Georges Hadjiioannou**

- 8. Ntaras Christos (Mar. 2010 – Oct. 2014), PhD supported by EU-FP7 and matching funds proposals**
“Synthesis, Molecular Characterization and Properties of Linear and Non-Linear (Graft and Star Like) Copolymers and Terpolymers Where at Least One Segment is Poly(dimethylsiloxane). Applications”. (Professor D. Gournis and Asst. Professor N. Zafeiropoulos are the other 2 members of the 3-member Advisor Committee)
The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor K. G. Beltsios (DMSE, UOI), Lecturer G. Sakellariou (Department of Chemistry, UOA), Asst. Professor N.-M. Barkoula (DMSE, UOI), Asst. Professor L. Gergidis (DMSE, UOI)

Dr. Ntaras worked as a Researcher/Postdoctoral Researcher (November 2015 to July 2018) in the R&D of the private company “BIC Violex” under the Bodosakis Institute Scholarship as organic Coatings Engineer

Dr. Ntaras is now working (August 2018 to date) as Product Manager (permanent position) in Megaplast Industrial – Exporting S.A., Koropi Attikis, Greece

- 9. Ntetsikas Konstantinos (Nov. 2010 - May 2015), PhD supported by EU-FP7 and matching funds proposals**
“Macromolecular Architecture of Complex Structures of Elastomers. Synthesis–Characterization–Properties”. [Asst. Professor N. Zafeiropoulos and Professor S.-Q. Wang (Department of Polymer Science, The University of Akron, Ohio, USA) are the other 2 members of the 3-member Advisor Committee]
The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee are: Professor D. Gournis (DMSE, UOI), Professor K. G. Beltsios (DMSE, UOI), Professor M. Kosmas (Department of Chemistry, UOI), Lecturer G. Sakellariou (Department of Chemistry, UOA)

Dr. Ntetsikas worked as a Postdoctoral Researcher (July 2016 to June 2020): King Abdullah University of Science and Technology (KAUST), Physical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia. Advisor: **Prof. N. Hadjichristidis**

Dr. Ntetsikas is now working as Senior Engineer (July 2020 to date): King Abdullah University of Science and Technology (KAUST), Physical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia. Advisor: **Prof. N. Hadjichristidis**

10. Polymeropoulos Georgios (Dec. 2011 - May 2015), PhD supported by GSRT proposal

“Macromolecular Architecture: Amphiphilic Copolymers and Terpolymers. Synthesis– Characterization – Properties”.

(Professor D. Gournis and Asst. Professor N. Zafeiropoulos are the other 2 members of the 3-member Advisor Committee)

The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee are: Professor K. G. Beltsios (DMSE, UOI), Professor M. Kosmas (Department of Chemistry, UOI), Assoc. Professor M. Siskos (Department of Chemistry UOI), Lecturer G. Sakellariou (Department of Chemistry, UOA)

Dr. Polymeropoulos worked as a Postdoctoral Researcher (September 2015 to February 2019): King Abdullah University of Science and Technology (KAUST), Physical Sciences and Engineering, Thuwal, Kingdom of Saudi Arabia. Advisor: **Prof. N. Hadjichristidis**

Dr. Polymeropoulos is now working as Senior Engineer (March 2019 to date): Johnson & Johnson Co, Cork, Ireland

11. Lontos Georgios (Nov. 2010 – Jun. 2015), PhD supported by EU-FP7 and matching funds proposals

“Macromolecular Architecture of Copolymers Consisting of Poly(dimethylsiloxane). Synthesis – Characterization – Properties”.

(Professor D. Gournis and Asst. Professor N. Zafeiropoulos are the other 2 members of the 3-member Advisor Committee)

The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee are: Professor K. G. Beltsios (DMSE, UOI), Professor M. Kosmas (Department of Chemistry, UOI), Assoc. Professor M. Siskos (Department of Chemistry UOI), Lecturer G. Sakellariou (Department of Chemistry, UOA)

Dr. Lontos is currently working (September 2015 – to date) as an experienced researcher and Senior Engineer in the private sector.

12. Katsouras Athanasios (Dec. 2014 - Jun. 2018), HFRI Scholar for PhD Thesis

“Design and Development of New Conjugated Polymers for Organic Photovoltaic Applications”

(Professor E. Lidorikis and Assoc. Professor N. Zafeiropoulos are the other 2 members of the 3-member Advisor Committee)

The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor M. Prodromidis (Department of Chemistry, UOI), Researcher A’ V. Grigoriou (National Hellenic Research Foundation), Assoc. Professor D. Fokas (DMSE, UOI), Asst. Professor L. Gergidis (DMSE, UOI)

Dr. Katsouras is currently working as a Postdoctoral Researcher (July 2018 to date): DMSE, University of Ioannina, Ioannina, Greece in the framework of research programs. Advisor: **Prof. Dr. A. Avgeropoulos**

13. Miskaki Christina (Jul. 2015 - Jun. 2020), PhD supported by 3M Ltd. private company Proposal “Macromolecular Architecture: Synthesis, Characterization and properties of Copolymers and Terpolymers with Nanotechnology Applications”

(Professor N. Zafeiropoulos and Professor D. Gournis are the other 2 members of the 3-member Advisor Committee)

The defense of the Doctoral Thesis has been accomplished and was graded as “Excellent”.

The other four (4) members of the final 7-Member Examining Committee were: Professor M. Karakassides (DMSE, UOI), Professor S. Agathopoulos (DMSE, UOI), Assoc. Professor A. Karantzalis (DMSE, UOI), Asst. Professor K. Salmas (DMSE, UOI)

Dr. Miskaki is currently working (July 2020 – to date) as an experienced researcher and Senior Engineer in the private sector.

14. Moutsios Ioannis (Oct. 2017- July 2022), HFRI Scholar for PhD Thesis

“Synthesis and Characterization of Copolymers and Terpolymers for Applications in Nanotechnology”

[Asst. Professor M. Gioti, (Department of Physics, Aristotle University of Thessaloniki or AUTH), and Professor E. Lidorikis are the other 2 members of the 3-member Advisor Committee]

The other four (4) members of the final 7-Member Examining Committee were: Professor D. Gournis (DMSE, UOI), Professor N. Zafeiropoulos (DMSE, UOI), Assoc. Professor G. Sakellariou (Department of Chemistry, UoA), Professor P. Patsalas (Department of Physics, AUTH)

Dr. Moutsios is currently working as a Post-Doctoral Researcher (October 2022 – to date) at Institut de Sciences des Matériaux de Mulhouse—IS2M, CNRS, Mulhouse, France. Advisor: **Prof. and Director of Research D. Ivanov**

15. Manesi Gkreti-Maria (Jan. 2018-July 2022), HFRI Scholar for PhD Thesis

“Macromolecular Architecture: Synthesis, Characterization and Properties of Linear and Non-Linear Copolymers of Poly(styrene) and Poly(dimethylsiloxane) for Applications in Nanotechnology”

[Professor N. Zafeiropoulos, and Assoc. Professor G. Sakellariou (Department of Chemistry, UoA) are the other 2 members of the 3-member Advisor Committee]

The other four (4) members of the final 7-Member Examining Committee were: Professor D. Gournis (DMSE, UOI), Professor D. Bikiaris (Department of Chemistry, AUTH), Professor R.-H. Ho (Department of Chemical Engineering, National Tsing Hua University Hsinchu, Taiwan), Professor D. Ivanov (Institut de Sciences des Matériaux de Mulhouse—IS2M, CNRS, Mulhouse, France)

11. Dr. Manesi is currently working as a Postdoctoral Researcher (August 2022 to date): DMSE, University of Ioannina, Ioannina, Greece in the framework of research programs. Advisor: **Prof. Dr. A. Avgeropoulos** (she was accepted as Post-Doctoral researcher at Professor E. L. Thomas research group at Texas A&M, TX, USA). ***Dr. Manesi is currently financed by the Bodosakis Foundation through a scholarship for post-doctoral studies from September 1st 2023 for 24 months.***

16. Chalkia Vasiliki (Apr. 2014 – to date), PhD supported by EU-FP7 proposals (from Prof. V. Stathopoulos resources

“Synthesis, Characterization and Modification with the Gel-Casting Method of Advanced Ceramic Materials”

[Assoc. Professor V. Stathopoulos (Department of Electrical Engineering, TEI⁵ Chalkidos) and Professor M. Karakassides are the other 2 members of the 3-member Advisor Committee]

17. Papadopoulos George (6/2019 – to date), HFRI Scholar for PhD Thesis

⁵ TEI: Technological Education Institution

“Synthesis, Characterization and Properties of Polymer Ionic Liquids”

(Professor N. Zafeiropoulos, and Professor D. Gournis are the other 2 members of the 3-member Advisor Committee)

18. Artopoiadis Konstantinos (5/2020 – to date), PhD supported by HFRI research Proposal

“Synthesis, Characterization and Structure/Properties Relationship of Linear Triblock Terpolymers and Their Applications Through Chemical Modification Reactions”

(Professor N. Zafeiropoulos, and Professor D. Gournis are the other 2 members of the 3-member Advisor Committee)

MSc Supervision as Faculty

- 1. Rangou S. (2004-2006)**
“Synthesis and Molecular Characterization of Dendritic Homo- and Copolymers of Poly(butadiene) and Poly(isoprene) with Increased 3,4-Microstructure”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 2. Ntoukas E. (2004-2006)**
“Synthesis, Molecular and Morphological Characterization of Linear Diblock and Triblock Copolymers of Polystyrene and Poly(dimethylsiloxane)”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 3. Politakos N. (2005-2007)**
“Synthesis and characterization of Linear and Cyclic Homopolypeptides”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 4. Misichronis K. (2005-2007)**
“Synthesis, Molecular and Morphological Characterization of Linear Triblock terpolymers Where One of the Chains is Poly(1,3-cyclohexadiene)”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 5. Grana E. (2005-2007)**
“Synthesis, Characterization and Properties of Conductive Polymers”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 6. Georgopoulos P. (2005-2007)**
“Morphological Characterization and Applications of Block Copolymers Consisting of PS or PI and PDMS”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 7. Douli E. (2005-2007)**
“Synthesis of High Molecular Weight Block Copolymers Consisting of PS and PEO”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 8. Klontzas E. (2004-2008)**
“Theoretical Study of Hydrogen Storage in Coordination Polymers and Metal Organic Frameworks (CP/MOF)”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 9. Georgiou N. (2005-2008)**
“Synthesis of High Molecular Weight Block Copolymers Consisting of PS and PMMA”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 10. Constantinou M. (2007-2009)**
“Synthesis, Characterization and Properties of Methacrylate Block Copolymers”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 11. Kasapis E. (2006-2009)**
““Grafting From” Approach of Diblock and Triblock Linear Copolymers in SWCNTs and MWCNTs”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 12. Zapsas G. (2007-2009)**
“Synthesis, Characterization (Molecular-Morphological) of Linear Triblock Terpolymers Consisting of PS, PB and PI with Increased 3,4-Microstructure”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 13. Ntaras C. (2007-2010)**

- “Complex Architecture Polymers Consisting of Divinyl PDMS as the Major-Core Chain”.*
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
14. **Evangelou G. (2007-2010)**
“Synthesis, characterization and Modification Reactions of Diblock Copolymers Consisting of at Least One p-Substituted Styrene Chain”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 15. **Ntetsikas K. (2008-2010)**
“Synthesis and Characterization of Methacrylate Block Copolymers. Properties Study of Precursors and Modified Final Products”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 16. **Liontos G. (2008-2010)**
“Synthesis of Biocompatible and/or Biodegradable Polymers”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 17. **Katsigiannopoulos D. (2008-2011)**
““Grafting From” and Grafting To” Approach of Homopolymers and Copolymers in MWCNTs. Synthesis – Characterization – Properties”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 18. **Strati A. (2008-2011)**
“Synthesis and Characterization of Linear Diblock Copolymers Consisting of P2VP and PMMA”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 19. **Polymeropoulos G. (2009-2011)**
“Synthesis and Characterization of Linear Copolymers and/or Terpolymers Consisting of P2VP, PI and/or PEG”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 20. **Stefanidou A. (2009-2012)**
“Linear and Non-Linear Homo- and Block Copolymers of PEO. Synthesis, Characterization and Properties”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 21. **Orfanidou T. (2009-2012)**
“Composites Consisting of Modified Graphene and Homopolypeptides and/or Copolypeptides”.
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 22. **Diakoumi Laskarina (2010-2013)**
“Cyclic Homopolypeptides and Copolypeptides of Tyrosine and Glutamic Acid. Synthesis and Characterization”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 23. **Chalkia Vasiliki (2010-2013)**
“Synthesis of Amphiphilic Diblock and Triblock Copolymers”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 24. **Kati Anastasia (2010-2013)**
“Synthesis and Characterization of Copolymers (Initial and Amphiphilic after Modification) of the AB type with Atom Transfer radical Polymerization”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
 25. **Pitouli Nadia - Theodora (2011-2013)**
“Molecular and Morphological Characterization of Amphiphilic Diblock and Triblock Copolymers”
The defense of the Master’s Thesis has been accomplished and was graded as “Very Good”.

26. **Katsouras Athanasios (2012-2014)**
“Synthesis and Characterization of Conjugated Polymers Based on Indacenodithiophene for Applications in Organic Photovoltaics”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
27. **Asoniti Anastasia (2012-2015)**
“Synthesis and Characterization of Linear and Star Copolymers of the ABA’ and (ABA’)₃ Type”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
28. **Geitona Anna (2013-2015)**
“Synthesis and Characterization of Diblock Copolymers by Combining Anionic and Atom Transfer Radical Polymerizations”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
29. **Miskaki Christina (2013-2015)**
“Synthesis and Characterization of Low-Band Gap Conjugated Polymers for Applications in Organic Photovoltaics”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
30. **Spanos Michail (2014-2015)**
“Effect of the Catalytic System on the Molecular Characteristics of Conjugated Polymers”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
31. **Kordias Panagiotis-Theodoros (2014-2015)**
“Characterization and Properties of Copolymers and Terpolymers in Dilute Solutions”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
32. **Charoni Marisia (2014-2016)**
“Applications of Poly(dimethylsiloxane) Polymers in Nanotechnology”
The defense of the Master’s Thesis has been accomplished and was graded as “Very Good”.
33. **Oikonomou Konstantina (2014-2016)**
“Characterization and Properties of Copolymers and Terpolymers”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
34. **Pelekanou Styliani (2014-2016)**
“Synthesis and Structure/Properties Relationship of Miktoarm Star Terpolymers and Homopolymer Blends”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
35. **Michael Marios (2015-2017)**
“Synthesis and Characterization of Linear Copolymers of Polystyrene and Poly(dimethylsiloxane)”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
36. **Manesi Gkreti-Maria (2015-2017)**
“Synthesis and Characterization of Linear Copolymers with High Flory-Huggins Interaction Parameter (χ)”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
37. **Pronoitis Charalampos (2016-2017)**
“Synthesis and Characterization of Polymer Ionic Liquids from Linear Diblock Copolymer Precursors”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
38. **Theodosaki Magdalini (2016-2017)**
“Synthesis and Characterization of Polymer Materials for Applications as Polymer Brushes”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.

- 39. Skoufa Irini (2016-2017)**
“Synthesis and Characterization of Hydrophilic Polymer Networks”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 40. Lazanas Alexandros (2016-2018)**
“Synthesis and Characterization of Hybrid materials Consisting of Conjugated Polymers and Carbon Structures”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 41. Pappa Christina (2016-2018)**
(co-supervision with Assoc. Professor K. Triantafyllidis, Department of Chemistry, AUTH)
“Novel Polymer Based Systems for Preparing Formulations of Controlled Drug Release”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 42. Papadopoulos Georgios (2015-2019)**
(co-supervision with Asst. Professor L. Gergidis, DMSE, UoI)
“Kinetic Study and Characterization of the Chemical Modification for the P4VP Segments in a Diblock Copolymer of the PB_{1,2}-b-P4VP Type”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 43. Theodoridis Lazaros (2017-2019)**
“Polymer Matrix (Diblock Copolymers) Nanocomposites with Nanoparticles: Synthesis and Characterization”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 44. Toulia Marina (2018-2020)**
“Synthesis and Characterization of Amphiphilic and Organic Conjugate Polymers Nanoparticles for Application in Diagnostics and Treatment of Cancer Tumors”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 45. Kounoupa Despoina (2018-2020)**
“Amphiphilic Polymers and Organic Conjugated Copolymers: Nanoparticles Formation for Potential in-vivo Display-Treatment”
The defense of the Master’s Thesis has been accomplished and was graded as “Excellent”.
- 46. Christou Dimitrios (2021-2023)**
“Synthesis via Atom Transfer Radical Polymerization and Characterization of Diblock Copolymers Consisting of Polyacrylates and Poly(methacrylates) Segments”
- 47. Tsirkas Spyridon (2021-to date)**
“Synthesis, Characterization and Structure/properties Relationship of Linear Triblock Copolymers of the ABA Type where A: Poly(dimethylsiloxane) and B: Polystyrene”
- 48. Giannoutsos Achileas (2021-to date)**
“Synthesis, Characterization and Modification of Conjugated Polymers for Use as Poly(electrolytes)”
- 49. Kartalis Ioannis (2022-to date)**
“Preparation and Characterization of Nanocomposites Comprising of Silicon Containing Diblock Copolymers and Carbon Nanotube Fillers”

Undergraduate Diploma Thesis Supervision as Faculty

Supervised one hundred and fifty-five (155) Undergraduate Diploma Theses in various topics involving synthesis, characterization and properties of various types of polymers. Eight (8) of them were in collaboration with Plastic Industries and Private Multinational Companies and fifteen (15) of them in collaboration with other laboratories of DMSE-UOI but also with other Universities (Department of Chemistry, University of Athens, Department of Chemistry, Aristotle University of Thessaloniki).

National and International Collaborations

1. **With other Faculty of the Department of Materials Science Engineering, University of Ioannina** (Profs. N. Zafieropoulos, D. Gournis, M. Karakassides, P. Patsalas, E. Lidorikis)
2. **Solid State Physics Laboratory, Department of Physics, University of Ioannina** (Prof. G. Floudas)
3. **Physical Chemistry Laboratory, Department of Chemistry, University of Ioannina** (Profs. M. Kosmas and C. Vlahos)
4. **Medicine School, Pharmacology Department, Pharmacology Laboratory, University of Ioannina** (Profs. M. Marselos, P. Pappas and E. Briasoulis)
5. **Industrial Chemistry Laboratory, Department of Chemistry, University of Athens** (Profs. N. Hadjichristidis, H. Iatrou, M. Pitsikalis and G. Sakellariou)
6. **National Research Council, Organic Chemistry Institute** (Dr. S. Pispas)
7. **Department of Chemistry, University of Crete** (Profs. S. Anastasiadis, P. Trikalitis)
8. **Department of Chemical Engineering, University of Patras** (Prof. C. Tsitsilianis)
9. **Department of Chemistry, Aristotle University of Thessaloniki** (Profs. D. Bikiaris, D. Achilias)
10. **Department of Physics, Aristotle University of Thessaloniki** (Profs. K. Chrysafis, H. Pavlidou)
11. **Department of Materials Science & Engineering, Massachusetts Institute of Technology (MIT), USA** (Prof. C. Ross)
12. **School of Engineering, Rice University, USA** (Prof. E. L. Thomas)
13. **Department of Chemistry, University of Tennessee at Knoxville, USA** (Prof. J. W. Mays)
14. **Oak Ridge National Laboratory, Macromolecular Section of CNMS (Center for Nanophase Materials Science), USA** (Prof. J. W. Mays, Dr. J. Messman)
15. **Department of Materials Science & Engineering, Carnegie-Mellon University, USA** (Prof. M. Bockstaller)
16. **Department of Materials Science & Engineering, Cornell University, USA** (Prof. C. K. Ober)
17. **Department of Chemical Engineering, National Tsing Hua University, Taiwan-Republic Of China** (Prof. Rong-Ming Ho)
18. **Department of Chemical Engineering, Yale University, USA** (Prof. C. Osuji)
19. **Liebniz-Institut für Polymerforschung, Dresden, Germany** (Prof. M. Stamm)
20. **Department of Chemistry, College of Natural Sciences, Hanyang University, Korea** (Prof. Y. Kang)
21. **Department of Chemical Engineering, University of California at Santa Barbara, USA** (Prof. G. H. Fredrickson, E. J. Kramer, C. J. Hawker)
22. **School of Polymer Science & Engineering, University of Akron, USA** (Prof. S-Q. Wang)
23. **University College Cork, National University of Ireland, Cork, Ireland** (Prof. M. Morris, Dr. B. Kosmala)
24. **Institut Català de Nanotecnologia (ICN), Phononic and Photonic Nanostructures Group, Barcelona, Spain** (Prof. C. Sotomayor, Dr. N. Kehagias, Dr. C. Delgado-Simao)
25. **CIDETEC, Centre for Electrochemical Technologies, Parque Tecnológico de San Sebastian, New Materials Department, San Sebastian, Spain** (Researchers Dr. P. M. Carrasco, Dr. I. Garcia)
26. **INTEL Ireland, Leixlip, Co Kildare, Ireland** (Researchers M. Shaw, J. McKenna)
27. **King Abdullah University of Science & Technology (KAUST), Division of Physical Sciences & Engineering, Thuwal, Kingdom of Saudi Arabia** (Prof. N. Hadjichristidis)
28. **3M Corporation, Research Materials Laboratory, 201-1N-34, 3M Center, St. Paul, MN, USA** (Dr. C. Laskowski)
29. **BicViolex SA, R&D Blade / Group Shavers, Anixi Attikis, Greece** (Dr. G. Vlachos, Dr. V. Papachristos)
30. **Institut de Sciences des Matériaux de Mulhouse—IS2M, CNRS, Mulhouse, France** (Director of Research and Professor D. Ivanov)

Visiting Scientists-Researchers through International Collaborations

From Polymers Laboratory, DMSE-UIO to Other Institutions

1. **Misichronis K. (5/2007-8/2007):** Department of Chemistry University of Tennessee at Knoxville, USA - Collaboration with Prof. J. W. Mays
2. **Rangou S. (8/2007):** ISN/MIT & DMSE/MIT, USA - Collaboration with Prof. E. L. Thomas
3. **Politakos N. (1/2008-2/2008):** Oak Ridge National Laboratory CNMS, USA – Collaboration with Dr. J. Messman, Prof. J. W. Mays
4. **Rangou S. (2/2008):** IPF at Dresden, Germany - Collaboration with Prof. M. Stamm
5. **Politakos N. (3/2008):** DMSE/Cornell University, USA - Collaboration with Prof. C. K. Ober
6. **Zapsas G. (7/2008):** IPF at Dresden, Germany - Collaboration with Prof. M. Stamm, Prof. N. Zafeiropoulos
7. **Kasapis E. (7/2008):** Groningen Materials Science Centre, University of Groningen, the Netherlands - Collaboration with Prof. P. Rudolf
8. **Rangou S. (2/2009-5/2009):** ISN/MIT & DMSE/MIT - Collaboration with Prof. E. L. Thomas
9. **Georgopoulos P. (8/2010-10/2010):** Department of Chemical Engineering, National Tsing Hua University, Taiwan, Taiwan-Republic of China – Collaboration with Prof. Rong-Ming Ho
10. **Katsigiannopoulos D. (2/2011-3/2011):** University of the Basque Country, San Sebastian, Spain – Collaboration with Prof. I. Mondragon and Prof. G. Cortaberria (through the European Union program with acronym: “POCO”)
11. **Grana E. (2/2011-3/2011):** University of the Basque Country, San Sebastian, Spain – Collaboration with Prof. I. Mondragon and Prof. G. Cortaberria (through the European Union program with acronym: “POCO”)
12. **Misichronis K. (2/2012-4/2012):** Oak Ridge National Laboratory CNMS, USA – Collaboration with Dr. K. Hong, Prof. J. W. Mays
13. **Ntetsikas K. (5/2012):** Institut Català de Nanotecnologia (ICN), Phononic and Photonic Nanostructures Group, Barcelona, Spain with Prof. C. Sotomayor, Dr. N. Kehagias and Dr. C. Delgado-Simao (through the European Union program with acronym: “LAMAND”)
14. **Moschovas D. (5/2012):** Institut Català de Nanotecnologia (ICN), Phononic and Photonic Nanostructures Group, Barcelona, Spain with Prof. C. Sotomayor, Dr. N. Kehagias and Dr. C. Delgado-Simao (through the European Union program with acronym: “LAMAND”)
15. **Ntetsikas K. (6/2013):** Institut Català de Nanotecnologia (ICN), Phononic and Photonic Nanostructures Group, Barcelona, Spain with Prof. C. Sotomayor, Dr. N. Kehagias and Dr. C. Delgado-Simao (through the European Union program with acronym: “LAMAND”)
16. **Polymeropoulos G. (2/2015-3/2015):** King Abdullah University of Science & Technology (KAUST), Division of Physical Sciences & Engineering/ Catalysis Center, Thuwal, Kingdom of Saudi Arabia in collaboration with Prof. N. Hadjichristidis
17. **Manesi Gkreti-Maria (10/2018-12/2018):** Department of Chemical Engineering, National Tsing Hua University, Taiwan, Taiwan-Republic of China – Collaboration with Prof. Rong-Ming Ho
18. **Manesi Gkreti-Maria (7/2019-8/2019):** Department of Chemical Engineering, National Tsing Hua University, Taiwan, Taiwan-Republic of China – Collaboration with Prof. Rong-Ming Ho

Invited Speaker to Universities and Institutions in Greece and Abroad

1. **“Synthesis for Controlled Architectures in Polymers through Anionic Polymerization”,** Repsol YPF, Petroleum Company (Madrid, Spain) και Consejo Superior de Investigaciones Científicas (CSIC, Madrid, Spain), September 2001, Madrid, Spain.
2. **“Fundamentals and Applications of Morphology Related Techniques to Polymers”,** Repsol YPF, Petroleum Company (Madrid, Spain) και Consejo Superior de Investigaciones Científicas (CSIC, Madrid, Spain), September 2001, Madrid, Spain.
3. **“Anionic and Living Free Radical Synthesis Procedures of Polymers”,** MIT, Institute of Soldier Nanotechnologies, July 2003, Boston, MA, USA.

4. ***“Anionic Synthesis of Novel Well-Defined Block Co- and Terpolymers”***, MIT, Institute of Soldier Nanotechnologies, July 2004, Boston, MA, USA.
5. ***“Synthesis and Morphological Characterization via TEM of Novel Block and Terpolymers”***, Mid-Term Meeting in CASSIUS-CLAYS (EEC Funded Program), October 2004, Corfu, Greece.
6. ***“Morphological Characterization of Polymer Materials and Applications”***, Department of Chemistry, National University of Athens, Seminar Lectures of the Chemistry Department 2004-2005, November 2004, Athens, Greece.
7. ***“New Polymers and Hybrid Materials”***, in the framework of the Seminar: “New Materials for Viability Development”, University of Ioannina, December 2004, Ioannina, Greece.
8. ***“Anionic Synthesis of Polymers and Potential Applications”***, MIT, Institute of Soldier Nanotechnologies, July 2005, Boston, MA, USA.
9. ***“Potential Applications of Block Copolymers”***, Department of Chemistry, University of Tennessee at Knoxville, July 2005, Knoxville, TN, USA.
10. ***“Synthesis and Morphological Characterization via TEM and SAXS of “Novel” Block Co- and Terpolymers”***, Center for Nanophase Materials Science, Oakridge National Laboratory, July 2005, Oakridge, TN, USA.
11. ***“Anionic Synthesis and Characterization of High Molecular Weight Linear Diblock and Triblock Copolymers”***, Dow Corning Corporation, July 2006, Midland, MI, USA.
12. ***“Synthesis and Characterization (Molecular-Morphological) of Various Types of Block Copolymers via Anionic Polymerization”***, IPF Dresden, February 2008, Dresden, Germany.
13. ***“Structural Characterization via Transmission Electron Microscopy and Other Techniques of Well-Defined Polymers”***, Center for Nanophase Materials Science, Oakridge National Laboratory, February 2008, Oakridge, TN, USA.
14. ***“Conductive Polymers and Structure-Properties Relation in Self-Organized Block Copolymer/Nanoparticle Composite Materials”***, Department of Chemistry, University of Tennessee at Knoxville, February 2008, Knoxville, TN, USA.
15. ***“Synthesis and Morphological Characterization of Well-Defined Polymers. Potential Applications”***, Department of Chemical Engineering, Yale University, April 2009, New Haven, CT, USA.
16. ***“Anionic Polymerization: Valuable Tool for the Synthesis of Well-Defined Polymers with Potential Applications”***, Department of Materials Science & Engineering, Carnegie-Mellon University, CPS Seminar Series, April 2009, Pittsburgh, PA, USA.
17. ***“Well-Defined Linear and Non-Linear Polymers. Synthesis, Characterization and Potential Applications”***, Mitsubishi Chemical – Center for Advanced Materials (MC-CAM), Materials Research Laboratory (MRL), University of California at Santa Barbara, March 2010, Santa Barbara, CA, USA.
18. ***“Transmission Electron Microscopy. Materials Study and Applications”***, Department of Materials Science Engineering, University of Ioannina, Seminar Lectures of DMSE-UOI 2009-2010, May 2010, Ioannina, Greece.
19. ***“Synthesis and Morphological Characterization of “Novel” Copolymers and Terpolymers. Potential Applications”***, National Hellenic Research Foundation, Seminar Lectures 2009-2010, July 2010, Athens, Greece.

20. ***“Synthesis, Molecular and Morphological Characterization of Well-Defined Polymers. Potential Applications”***, College of Polymer Science & Polymer Engineering, Goodyear Polymer Center, The University of Akron, August 2010, Akron, OH, USA.
21. ***“Well-Defined Linear and Non-Linear Polymers. Synthesis, Characterization and Potential Applications”***, Department of Chemistry, University of Crete, Seminar Lectures of the Chemistry Department 2010-2011, January 2011, Heraklion, Crete, Greece.
22. ***“Transmission Electron Microscopy. Materials Study and Applications”***, Department of Materials Science Engineering, University of Ioannina, May 2011, DMSE-UOI Seminar Lectures Program 2010-2011, Ioannina, Greece.
23. ***“Well-Defined Linear and Non-Linear Polymers. Synthesis, Characterization and Potential Applications”***, Department of Chemical Engineering, National Tsing-Hua University, May 2011, Hsinchu, Taiwan.
24. ***“Well-Defined Linear and Non-Linear Polymers. Synthesis, Characterization and Potential Applications”***, Department of Macromolecular Science & Engineering, Case Western University, December 2011, Cleveland, OH, USA.
25. ***“Directed Self-Assembly of Block Copolymers for Nanopatterning Applications”***, Institut Català de Nanotecnologia (ICN), Phononic and Photonic Nanostructures Group, June 2013, Barcelona, Spain.
26. ***“Well-Defined Linear and Non-Linear Polymers. Morphological Characterization and Potential Applications”***, Department of Physics, Aristotle University of Thessaloniki, December 2013, Thessaloniki, Greece. (Invited Talk for the 50th Anniversary of the Electron Microscopy Laboratory, Department of Physics, Aristotle University of Thessaloniki)
27. ***“Well-Defined Linear and Non-Linear Polymers. Morphological Characterization and Potential Applications”***, Department of Chemistry, University of Tennessee at Knoxville, February 2014, Knoxville, TN, USA.
28. ***“Directed Self-Assembly of Block Copolymers for Nanopatterning Applications”***, George R. Brown School of Engineering, Rice University, February 2014, Houston, TX, USA.
29. ***“Directed Self-Assembly for Nanostructuring”***, Israel-Greece Joint Meeting on Nanotechnology and Bionanoscience, Weizmann Institute of Science, October 2014, Rehovot, Israel.
30. ***“Well-Defined Linear and Non-Linear Polymers. Synthesis, Characterization and Potential Applications”***, King Abdullah University of Science & Technology (KAUST), Division of Physical Sciences & Engineering, February 2015, Thuwal, Kingdom of Saudi Arabia.
31. ***Directed Self-Assembly of Block Copolymers for Nanopatterning Applications”***, Department of Chemical Engineering, National Tsing-Hua University, November 2018, Hsinchu, Taiwan.
32. ***“Are Block Copolymers Good Candidates for Nanopatterning Applications via Directed Self-Assembly?”***, Department of Chemical Engineering, National Chung Cheng University, November 2018, Chiayi, Taiwan.
33. ***“Macromolecular Engineering of Block Copolymer Nanocomposites with Applications as Phononic – Photonic Band Gap Materials with High Conductivity Efficiency”***, Department of Materials Science & Engineering, (Lomonosov) Moscow State University, December 2019, Moscow, Russian Federation.
34. ***“Synthesis and Self-Assembly for Linear and Non-Linear Copolymers and Terpolymers for Nanotechnology Applications”***, Department of Materials Science & Engineering, MIT, February 2023, Cambridge-Boston, MA, USA.

PUBLISHED SCIENTIFIC WORK

Chapters in Books-Book Editing

- a. “*Multiarm Star Polymers*”, [Avgeropoulos A.](#), Novel Polymers and Nanoscience, Transworld Research Network 2008: ISBN: 978-81-7895-392-2, pages 129-153.
- b. “*Composition and Functionality/Well Defined Block Copolymers*”, Kahveci M. U., Yagci Y., [Avgeropoulos A.](#), Tsitsilianis C., Chapter 6.13, Polymer Science: A Comprehensive Reference, 2012, pages 455-509.
- c. “*Miktoarm Star (μ -Star) Polymers: A Successful Story*”, Iatrou H., [Avgeropoulos A.](#), Sakellariou G., Pitsikalis M., Hadjichristidis N., Chapter 1, Miktoarm Star Polymers: From Basics of Branched Architecture to Synthesis, Self-assembly and Applications, RSC Polymer Chemistry Series, 2017: ISBN: 978-1-78262-575-9, pages 1-30.

Patents

1. “*Periodic Porous and Relief Nanostructured Articles*”, Vanessa Z. Chan, Edwin L. Thomas, Robert D. Miller, Victor L. Lee, [Apostolos Avgeropoulos](#) and Nikos Hadjichristidis, **US Patent #7799416**.
2. “*Amphiphilic Triblock Copolymer*”, Michelle Man-Shau Mok, Timothy Martin Gillard, Carl Andrew Laskowski, Lucas David McIntosh, [Apostolos Avgeropoulos](#), Dimitrios Moschovas, **EU Patent #3738988**.
3. “*Amphiphilic Triblock Copolymer*”, [Apostolos Avgeropoulos](#), Dimitrios Moschovas, Michelle Man-Shau Mok, Timothy Martin Gillard, Carl Andrew Laskowski, Lucas David McIntosh, **US Patent App. 17/595,359**

Publications in Peer-Reviewed Journals

Out of 235 articles appearing already in peer-reviewed journals (1 submitted):

Total citations: 5416, *h-index* = 39 (Source: Publons/Web of Science, January 13th, 2024), Researcher ID: I-5772-2012

Total citations: 5829, *h-index* = 40 (Source: Scopus, January 13th, 2024)

Total citations: 7172, *h-index* = 44 (Source: Google Scholar Citations, January 13th, 2024)

Average Journal Impact Factor of Published Research: 6.377 (2022 Impact Factors)

Total Impact Factor (2022 Impact Factors): 1498.658

Corresponding Author: 60 manuscripts

Search names: [Avgeropoulos A.](#) and [Avgeropoylos A.](#) [only one (1) manuscript in 1996]

1. “*Synthesis of Model Super-H Shaped Block Copolymers*”
Iatrou H., [Avgeropoulos A.](#) and Hadjichristidis N.
Macromolecules, 1994, 27, 6232-6233.
2. “*Synthesis of Model 16-Miktoarm (Vergina) Star Copolymers of the A_8B_8 Type*”
[Avgeropoulos A.](#), Poulos Y., Hadjichristidis N. and Roovers J.
Macromolecules, 1996, 29, 6076-6078.
3. “*Model Nonlinear Block Copolymers: Synthesis, Characterization, Morphology*”
Hadjichristidis N., Tselikas Y., Iatrou H., Efstratiadis V. and [Avgeropoylos A.](#)
J. of Macromol. Sci.-Pure Appl. Chem., 1996, A 33(10), 1447-1457.
4. “*Synthesis of Model Nonlinear Block Copolymers of $A(BA)_2$, $A(BA)_3$ and $(AB)_3A(BA)_3$ type*”
[Avgeropoulos A.](#) and Hadjichristidis N.
Journal of Polymer Science, Part A: Polymer Chemistry, 1997, 35, 813-816.
5. “*Morphology of Vergina Star 16-Arm Block Copolymers and Scaling Behavior of Interfacial Area with Graft Point Functionality*”
Beyer F. L., Gido S. P., Poulos Y., [Avgeropoulos A.](#) and Hadjichristidis N.
Macromolecules, 1997, 30, 2373-2376.

6. "Junction Point Fluctuations in Microphase Separated Polystyrene-Polyisoprene-Polystyrene Triblock Copolymer Melts. A Dielectric and Rheological Investigation"
Alig I., Floudas G., Avgeropoulos A. and Hadjichristidis N.
Macromolecules, **1997**, 30, 5004-5011.
7. "Tricontinuous Double Gyroid Cubic Phase in Triblock Copolymers of the ABA Type"
Avgeropoulos A., Dair B. J., Hadjichristidis N. and Thomas E. L.
Macromolecules, **1997**, 30, 5634-5642.
8. "3D Mesoscopic Order in Block Copolymers"
Thomas E. L., Radzilowski L. H. and Avgeropoulos A.
Acta Microscopica, **1997**, 6(A), 52-55.
9. "Model Block Copolymers with Complex Architecture"
Hadjichristidis N., Poulos Y. and Avgeropoulos A.
Macromolecular Symposia, **1998**, 132, 207-220.
10. "Synthesis and Morphological Behavior of Silicon Containing Triblock Copolymers for Nanostructure Applications"
Avgeropoulos A., Chan V. Z-H., Lee V. Y., Ngo D., Miller R. D., Hadjichristidis N. and Thomas E. L.
Chem. Mater., **1998**, 10(8), 2109-2115.
11. "Dynamic Probe of the Interface in Lamellar Forming Non-linear Block Copolymers of the (BA)₃B and (BA)₃B(AB)₃ type. A Dielectric Spectroscopy Study"
Floudas G., Alig I., Avgeropoulos A. and Hadjichristidis N.
Journal of Non-Crystalline Solids, **1998**, 235-237, 485-490.
12. "Microphase Separation in Super-H-Shaped Block Copolymer Colloids"
Floudas G., Hadjichristidis N., Iatrou H., Avgeropoulos A. and Pakula T.
Macromolecules, **1998**, 31, 6943-6950.
13. "Hydrodynamic Properties of A₈B₈ Miktoarm (Vergina) Stars"
Pispas S., Avgeropoulos A., Hadjichristidis N. and Roovers J.
Journal of Polymer Science, Part B: Polymer Physics, **1999**, 37, 1329-1335.
14. "Mechanical Properties and Deformation Behavior of the Double Gyroid Phase in Unoriented Thermoplastic Elastomers"
Dair B. J., Honeker C. C., Alward D. B., Avgeropoulos A., Hadjichristidis N., Fetters L. J., Capel M. and Thomas E. L.
Macromolecules, **1999**, 32, 8145-8152.
15. "Ordered Bicontinuous Nanoporous and Nanorelief Ceramic Films from Self Assembling Polymer Precursors"
Chan V. Z-H, Hoffman J., Lee V. Y., Iatrou H., Avgeropoulos A., Hadjichristidis N., Miller R. D. and Thomas E. L.
Science, **1999**, 286, 1716-1719.
16. "Well-Defined, Model Long Chain Branched Polyethylene. I. Synthesis and Characterization"
Hadjichristidis N., Xenidou M., Iatrou H., Pitsikalis M., Poulos Y., Avgeropoulos A., Sioula S., Paraskeva S., Velis G., Lohse D. J., Schulz D. N., Fetters L. J., Wright P. J., Mendelson R. A., Garcia-Franco C. A., Sun T. and Ruff C. J.
Macromolecules, **2000**, 33, 2424-2436.
17. "Oriented Double Gyroid Films via Roll Casting"
Dair B. J., Avgeropoulos A., Hadjichristidis N., Capel M. and Thomas E. L.
Polymer, **2000**, 41, 6231-6236.
18. "Mechanical Properties of the Double Gyroid Phase in Oriented Thermoplastic Elastomers"
Dair B. J., Avgeropoulos A., Hadjichristidis N. and Thomas E. L.
Journal of Materials Science, **2000**, 35, 5207-5213.
19. "Low temperature synthesis of α -SiO₂ thin films by UV-assisted ozonolysis of a polymer precursor"
Brinkmann M., Chan V. Z-H., Thomas E. L., Lee V. Y., Miller R. D., Hadjichristidis N. and Avgeropoulos A.
Chem. Mater., **2001**, 13(3), 967-972.
20. "Synthesis and Microphase Separation of Linear Triblock Terpolymers of Polystyrene, High 1,4-Polybutadiene and High 3,4-Polyisoprene"
Avgeropoulos A., Paraskeva S., Hadjichristidis N. and Thomas E. L.
Macromolecules, **2002**, 35, 4030-4035.
21. "Swelling Behavior of Ordered Miktoarm Star Block Copolymer-Homopolymer Blends"
Avgeropoulos A., Dair B. J., Thomas E. L., and Hadjichristidis N.

- Polymer*, **2002**, 43, 3257-3266.
22. “Model Linear Block Co-, Ter- and Quaterpolymers of 1,3-Cyclohexadiene with Styrene, Isoprene and Butadiene”
Tsoukatos T., Avgeropoulos A., Hadjichristidis N., Hong K. and Mays J. W.
Macromolecules, **2002**, 35, 7928-7935.

After Appointment as Assistant Professor (4/2003 – 2/2007): 8 manuscripts

23. “Synthesis and Morphological Behavior of Model Linear, 3- Miktoarm and 4-Miktoarm Star Block Copolymers of 2-Methyl-1,3-Pentadiene (2MP) and Styrene (S)”
Mavroudis A., Avgeropoulos A., Hadjichristidis N., Thomas E. L. and Lohse D. J.
Chem. Mater., **2003**, 15, 1976-1983.
24. “Characterization of a 4-miktoarm star copolymer of the (PS-*b*-PI)₃PS type by temperature gradient interaction chromatography”
Cho D., Park S., Chang T., Avgeropoulos A. and Hadjichristidis N.
European Polymer Journal, **2003**, 39, 2155-2160.
25. “Linear and Non-linear Multiblock Terpolymers. Synthesis, Self-Assembly in Selective Solvents and in Bulk”
Hadjichristidis N., Iatrou H., Pitsikalis M., Pispas S. and Avgeropoulos A.
Progress in Polymer Science, **2005**, 30, 725-782.
26. “Synthesis and Morphological Behavior of Model 6-Miktoarm Star Copolymers, PS(P2MP)₅, of Styrene (S) and 2-Methyl-1,3-Pentadiene (P2MP)”
Mavroudis A., Avgeropoulos A., Hadjichristidis N., Thomas E. L. and Lohse D. J.
Chem. Mater., **2006**, 18, 2164-2168.
27. “Nanocomposites of Polystyrene-*b*-Polyisoprene Copolymer with Layered Silicates and Carbon Nanotubes”
K. Litina, A. Miriouni, D. Gournis*, M. A. Karakassides, N. Georgiou, E. Klontzas, E. Ntoukas and A. Avgeropoulos*⁶
European Polymer Journal, **2006**, 42, 2098-2107.
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M.-T. Popescu, G. Lontos, A. Avgeropoulos and C. Tsitsilianis.
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182. “*Plumber’s Nightmare and Corresponding Order-Order Transitions from Self-Assembly of Block Copolymers*”
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183. “*Synthesis of a novel Chitosan/Basil oil blend and development of novel Low Density PolyEthylene/Chitosan/Basil oil active packaging films following a melt-extrusion process for enhancing chicken breast fillets self-life*”
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206. "Nanocomposite films development based on chitosan/poly-vinyl-alcohol using ZnO@montmorillonite and ZnO@Halloysite hybrid nanostructures for active food packaging applications"
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214. “Kiwi fruits preservation using novel edible active coatings based on rich in thymol@halloysite nanostructure and chitosan/polyvinyl alcohol”
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218. “Enhanced antioxidant activity of novel Thymol@Natural Zeolite / Low-Density-Polyethylene active packaging film used for pork-fillets preservation”
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N. Politakos and A. Avgeropoulos (*Editorial for Special Issue*)
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225. “Controlled Orientation of Plasma-Treated Diblock Copolymer Films from Responsive Functionalized Substrate Through Solvent Annealing”
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230. “Synthesis and Structural Insight into Poly(dimethylsiloxane)-b-poly(2-vinylpyridine) Copolymers”
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M. Baikousi, A. Gantzoudi, C. Gioti, D. Moschovas, A.E. Giannakas, A. Avgeropoulos, C. E. Salmas and M. A. Karakassides
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233. “Carvacrol Microemulsion vs Nanoemulsion as Novel Pork Minced Meat Active Coatings”
K. Zaharioudakis, E. Kollia, A. A. Leontiou, D. Moschovas, A. Karydis-Messinis, A. Avgeropoulos, N. E. Zafeiropoulos, E. Ragkava, G. Kehayias, C. Proestos, C. E. Salmas and A. E. Giannakas.
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234. “Topological Effect on Mechanical Properties of Self-Assembled Block Copolymer”
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Giant, **2024**, 17, 100205 (9 pages).
235. “Structural and Optical Properties of Hybrid Materials Derived from Gold Nanoparticles in Different Polystyrene (PS)-b-Poly(4-vinylpyridine) (P4VP) Matrices”
I. Moutsios, G.-M. Manesi, D. Tselekidou, A. V. Maryasevskaya, M. Rosenthal, M. Gioti, D. A. Ivanov and A. Avgeropoulos*.
European Polymer Journal, **2024**, 203, 112668 (9 pages).
236. “2D-Germanane reinforced poly(lactic acid): nanocomposites with enhanced antioxidant and antibacterial activity”
T. Giousis, Z. Terzopoulou; M.-E. Grigora, D. Moschovas, A. Giannakopoulou; H. Stamatis, A.

Participation in National and International Conferences

1. **6th International Symposium on Polymer Analysis and Characterization** (Aghia Pelaghia, Crete, Greece, July 11-14, 1993)
2. **4th Mediterranean School on Science and Technology of Advanced Polymer-Based Materials** (Fodele, Crete, Greece, June 5-9, 1995)
Title: "Synthesis and Characterization of a 16-miktoarm star copolymers of the A_8B_8 type. Vergina Star Polymer", Avgeropoulos A., Poulos Y. and Hadjichristidis N. (poster)
3. **15th Panhellenic Chemistry Conference** (Department of Chemistry, University of Athens, Athens, Greece, December 5-9, 1995)
Title: "Vergina Star Polymers", Avgeropoulos A., Poulos Y. and Hadjichristidis N. (poster)
4. **6th European Polymer Federation Symposium on Polymeric Materials** (Aghia Pelaghia, Crete, Greece, October 7-11, 1996)
Titles (3):
 - "Synthesis, Characterization and Morphology of Model Linear Triblock Copolymers of the ABA Type and Non-Linear Block Copolymers of the $A(BA)_2$, $A(BA)_3$ and $(AB)_3A(BA)_3$ Type", Avgeropoulos A. and Hadjichristidis N. (poster)
 - "Synthesis and Morphology of Model 3-Miktoarm Star Terpolymer of Styrene, Isoprene and Methyl Methacrylate", Sioula S., Avgeropoulos A. and Hadjichristidis N. (poster)
 - "Microphase Separation in Model Non-Linear Block Copolymers. Statics, Kinetics and Dynamics", Floudas G., Hadjichristidis N., Iatrou H., Pispas S., Pitsikalis M., Tselikas Y., Avgeropoulos A. and Pakula T. (poster)
5. **1997 March Meeting of the American Physical Society**, (Kansas City, Missouri, USA, March 17-21, 1997)
Title: "Morphological Characterization of 16-Miktoarm Vergina Star Block Copolymers", Beyer F. L., Gido S. P., Avgeropoulos A., Poulos Y., Hadjichristidis N. and Roovers J. (talk by Beyer F. L.)
6. **XVI Meeting of the Brazilian Society for Electron Microscopy**, (Rio De Janeiro, Brazil, September, 1997)
Title: "3D Mesoscopic Order in Block Copolymers", Thomas E. L., Radzilowski L. H. and Avgeropoulos A. (invited talk by Thomas E. L.)
7. **Annual Review and Poster Symposium**, (University of Massachusetts at Amherst, Material Engineering and Research Center, Amherst, Massachusetts, USA, October 22-26, 1997)
Title: "Morphology of Vergina 16-Arm Block Copolymers", Beyer F. L., Gido S. P., Poulos Y., Avgeropoulos A. and Hadjichristidis N. (poster)
8. **1998 March Meeting of the American Physical Society**, (Los Angeles, California, USA, March 16-20, 1998)
Titles (2):
 - "Microphase Morphology of Lamellar ABC Triblock Copolymer Containing Two Diene Blocks", Avgeropoulos A., Sioula S., Hadjichristidis N. and Thomas E. L.
 - "Surface Morphology and Orientation Development of Thin Polyolefin Crystallizable Block Copolymer Films", Park C., Avgeropoulos A., Fetters L. J. and Thomas E. L. (talk by Park C.)
9. **Polymer Physics Gordon Conference**, (Newport, Rhode Island, USA, August, 1998)
Title: "Oxidation of Silicon Containing Polymers", Chan V. Z-H., Avgeropoulos A., Hadjichristidis N., Lee V. Y., Miller R. D. and Thomas E. L. (talk by Chan V. Z-H.)
10. **216th American Chemical Society (ACS) National Meeting**, (Boston, Massachusetts, USA, August 23-27, 1998)
Titles (2):
 - "Nanoporous Ceramic Coated Structures from Polymers", Chan V. Z-H., Avgeropoulos A., Hadjichristidis N., Lee V. Y., Miller R. D. and Thomas E. L. (poster)

- “*Anisotropic Deformation Behavior of the Cubic Double Gyroid Phase in ABA Elastomeric Triblock Copolymers*”, Dair B. J., Thomas E. L., Avgeropoulos A., Hadjichristidis N. and Capel M. (poster)
11. **2000 March Meeting of the American Physical Society**, (Minneapolis, Minnesota, USA, March 20–24, 2000).
Title: “*New Synthetic Route for Nanoporous Ceramic Films Based on Silicon Containing Block Copolymers*”, Brinkmann M., Chan V. Z-H., Thomas E. L., Avgeropoulos A., Hadjichristidis N., Lee V. and Miller R. D. (talk by Brinkmann M.)
 12. **219th American Chemical Society (ACS) National Meeting**, (San Francisco, California, USA, March 26-30, 2000)
Title:
“*Use of Well-Defined Models of Polyethylene to Determine the Effects of Long Chain-Branching on Rheology*”, Lohse D. J., Xenidou M., Schulz D. N., Milner S. T., Fetters L. J., Wright P. J., Hadjichristidis N., Iatrou H., Pitsikalis M., Poulos Y., Avgeropoulos A., Sioula S., Paraskeva S., Velis G., Mendelson R. A., Garcia-Franco C. A., Lyon M. K., Sun T. and Ruff C. J. (invited talk by Hadjichristidis N.) (invited talk by Hadjichristidis N.)
 13. **6th IUPAC International Symposium on Ionic Polymerization** (Hersonnisos, Crete, Greece, October 22-26, 2001)
Titles (4):
 - “*Synthesis and Microphase Separation of Linear Triblock Terpolymers of Polystyrene, High 1,4-Polybutadiene and High 3,4-Polyisoprene*”, Avgeropoulos A., Hadjichristidis N. and Thomas E. L. (poster)
 - “*Model Linear and Star-Shaped Homo and Block Copolymers of 2-Methyl-1,3-Pentadiene with Styrene or Butadiene. Synthesis – Characterization - Morphology*”, Mavroudis A., Avgeropoulos A., Hadjichristidis N. and Thomas E. L. (poster)
 - “*Morphological Behavior of Miktoarm Star Block Copolymers and Their Ordered Blends with Homopolymer*”, Avgeropoulos A., Hadjichristidis N. and Thomas E. L. (poster)
 - “*New Cubic Structure in ABC Miktoarm Terpolymer with a Styrenic and Two Dienic Components*”, Avgeropoulos A., Hadjichristidis N. and Thomas E. L. (poster)
 14. **XIX Panhellenic Conference of Solid State Physics and Materials Science** (Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece, September 21-24, 2003)
Title:
“*New Cubic Structure in ABC Miktoarm Terpolymer with a Styrenic and Two Dienic Components*”, Avgeropoulos A., Hadjichristidis N. and Thomas E. L. (poster)
 15. **XX Panhellenic Conference of Solid State Physics and Materials Science** (Department of Physics, University of Ioannina, Ioannina, Greece, September 26-29, 2004)
Titles (4):
 - “*Morphological Characterization of Miktoarm Star Terpolymers Consisting of PS, PI and PB*”, Rangou S., Avgeropoulos A., Dounavi R. and Hadjichristidis N. (poster)
 - “*Synthesis of High Molecular Weight Diblock Copolymers of the PS-b-PI Type*”, Ntoukas E. and Avgeropoulos A. (poster)
 - “*Synthesis of Linear Diblock Copolymers of the PS-b-PEO Type*”, Klontzas E. and Avgeropoulos A. (poster)
 - “*Morphological Characterization of Miktoarm Star Copolymers and Their Binary Blends with Corresponding Homopolymers*”, Kanellaki A. and Avgeropoulos A. (poster)
 16. **XIV International Materials Research Congress** (Cancun, Mexico, 21-25 August 2005)
Title:
“*Synthesis and Molecular Characterization of Dendritic Homo- and Co-polymers Consisting of Poly(butadiene) and Poly(isoprene) with Different Microstructures*”, Rangou S. and Avgeropoulos A. (talk by Avgeropoulos A.)

17. **XXI Panhellenic Conference of Solid State Physics and Materials Science** (Department of Physics, Nicosia, Cyprus, August 27-30, 2005)

Titles (3):

- “*Synthesis and Molecular Characterization of Dendritic Homopolymers of Butadiene and Isoprene*”, Rangou S., [Avgeropoulos A.](#), Grana E., Kosmas M. and Vlahos C. (poster)
- “*Synthesis, molecular and Morphological Characterization of Diblock Copolymers of the PS-b-PDMS Type*”, Ntoukas E., [Avgeropoulos A.](#), Hill R. and Katsoulis D. (poster)
- “*Synthesis, molecular and Morphological Characterization of Diblock Copolymers of the PS-b-PDMS Type*”, Ntoukas E. and [Avgeropoulos A.](#) (talk by Avgeropoulos A.)

18. **IUPAC Microsymposium: “Structure and Dynamics of Self-Organized Macromolecular Systems”** (Prague, Czech Republic, 9-13 July 2006)

Title:

“*Synthesis and Morphological Behavior of Model 6-Miktoarm Star Copolymers PS(P2MP)₅, of Styrene (S) and 2-Methyl-1,3-Pentadiene (P2MP)*”, Mavroudis A., [Avgeropoulos A.](#), Hadjichristidis N., Pitsikalis M., Thomas E. L., Lohse D. J. (poster)

19. **XXII Panhellenic Conference of Solid State Physics and Materials Science** (Departments of Physics and DMSE, University of Patras, Patras, Greece, September 24-27, 2006).

Titles (4):

- “*Synthesis and Characterization of Silicon Containing Styrenic Polymers*”, Misichronis K., Rangou S. And [Avgeropoulos A.](#) (poster)
- “*Synthesis and Molecular Characterization of Dendritic Copolymers Consisting from Butadiene and Isoprene*”, Rangou S. and [Avgeropoulos A.](#) (poster)
- “*Synthesis of High Molecular Weight Linear Diblock Copolymers of the PS-b-PMMA Type*”, Georgiou N. and [Avgeropoulos A.](#) (poster)
- “*Effect of the Chain Architecture in the Blending of Linear/Linear and Star/Star Symmetric Polymer Blends*”, Theodorakis P. E., [Avgeropoulos A.](#), Freire J. J., Kosmas M. and Vlahos C. (talk by Theodorakis P. E.)

20. **3rd International Symposium on “Nanostructured and Functional Polymer-Based Materials and Nanocomposites” (Nanofun-Poly 2007, Corfu, Greece, May 13-15, 2007)**

Title:

“*Synthesis, Molecular and Morphological Characterization of High Molecular Weight Linear Diblock Copolymers of Polystyrene (PS) and Poly(Dimethylsiloxane)*”, Ntoukas E., Politakos N., [Avgeropoulos A.](#), Krikorian V., Pate B. D., Thomas E. L., Hill R. M. (talk by Avgeropoulos A.)

21. **46th Microsymposium in Nanostructured Polymers and Polymer Nanocomposites (IUPAC)** (Prague, Czech Republic, 8-12 July 2007)

Special Lecture:

“*Synthesis, Molecular and Morphological Characterization of 2nd Generation Dendritic Homopolymers and Copolymers of Butadiene and Isoprene with Different Microstructures*”, [Avgeropoulos A.](#), Rangou S., Krikorian V., Thomas E. L. (invited talk by Avgeropoulos A.)

22. **2007 March Meeting of the American Physical Society**, (Denver, Colorado, USA, March 5 – 9, 2007)

Title:

“*Block Copolymer Templates for Structured Nanocomposites*”, Mickiewicz R. A., [Avgeropoulos A.](#) and Thomas E. L. (poster)

23. **234th American Chemical Society (ACS) National Meeting**, (Boston, Massachusetts, USA, August 19-23, 2007).

Titles (2):

- “*Synthesis, Molecular and Morphological Characterization of 2nd Generation Dendritic Copolymers of Butadiene and Isoprene With Different Microstructures*”, Rangou S., [Avgeropoulos A.](#), Krikorian V. and Thomas E. L. (poster)

- “*Synthesis of Silylated Styrenic Monomers And Copolymerization With 1,3-Cyclohexadiene. Nanoporous and Nanorelief Composite Materials*”, Misichronis K., Rangou S. and Avgeropoulos A. (poster)
24. **20th International Symposium in Polymer Analysis and Characterization, (ISPAC-2007**, Agios Nikolaos, Crete, Greece, September 30 – October 3, 2007)
- Titles (7):
- “*Synthesis of Photonic Amphiphilic Linear Block Copolymers Consisting of Poly(ethylene oxide) and Polystyrene or Poly(isoprene)*”, Douli E., Misichronis K., Avgeropoulos A., Walsh J., Thomas E. L. (poster)
 - “*Well Defined Diblock Copolymers of Polystyrene (PS) and Poly(dimethylsiloxane) (PDMS)*”, Georgopoulos P., Avgeropoulos A., Chao C. C., Ho R. M. (poster)
 - “*Thiophene Conductive Copolymers*”, Grana E., Katsigiannopoulos D. and Avgeropoulos A. (poster)
 - “*Synthesis and Characterization of Nanocomposites Consisting of Single Wall Nanotubes (SWNTs) and Copolymers*”, Kassapis E., Avgeropoulos A., Zapsas G., Tsoufis T. and Gournis D. (poster)
 - “*Synthesis Of Silylated Styrenic Monomers And Copolymerization With 1,3-Cyclohexadiene. Nanoporous And Nanorelief Composite Materials*”, Misichronis K., Rangou S. and Avgeropoulos A. (poster)
 - “*Synthesis, Molecular and Morphological Characterization of High Molecular Weight Linear Diblock Copolymers of Polystyrene (PS) and Poly(Dimethylsiloxane)*”, Politakos N., Ntoukas E., Avgeropoulos A., Krikorian V., Pate B. D. and Thomas E. L. (poster)
 - “*Synthesis and Self-Assembly of 2nd Generation Dendritic Copolymers of Butadiene and Isoprene with Different Microstructures*”, Rangou S., Avgeropoulos A., Krikorian V. and Thomas E. L. (poster)
25. **42nd World Polymer Conference (MACRO-2008)** (Taipei, June 29-July 4, 2008)
- Title:
- “*Synthesis and Molecular Characterization of Novel Linear and Cyclic Poly(amino acids) from o-Benzyl-L-Tyrosine*”, A. Avgeropoulos, N. Politakos, J. M. Messman, D. Pickel and J. W. Mays (talk by Avgeropoulos A.)
26. **4th IUPAC-Sponsored International Symposium on Macro- and Supramolecular Architectures and Materials (MAM-08**, Dusseldorf, Germany September 7-11, 2008)
- Title:
- “*Synthesis and Characterization of 2nd Generation Dendritic Terpolymers*”, A. Avgeropoulos, S. Rangou and E. L. Thomas (talk by Avgeropoulos A.)
27. **5th International Conference on Nanosciences and Nanotechnologies (NN08**, Thessaloniki, Greece, July 14-16, 2008)
- Titles (2):
- “*New Hybrids of Magnetic γ -Iron Oxide Nanoparticles Dispersed on PI_{3,4}-b-PB_{1,4} Polymeric Matrix*”, A. Tomou, A. Enotiadis, M. Kitsas, A. P. Douvalis, A. Avgeropoulos, D. Gournis and T. Bakas (poster)
 - “*Thiophene Conductive Copolymers*”, Grana E., Goulas V., Katsoulidis A., Makris T., Katsigiannopoulos D., Skouras E., Pomonis P. and Avgeropoulos A. (poster)
28. **2nd International Conference On Polymer Blends, Composites, Membranes, Poly Electrolytes, And Gels, Macro To Nano Scales (ICBC-2008**, Kottayam, Kerala, India, September 22 – 24, 2008)
- Plenary Lecture:
- “*Synthesis and Characterization (Molecular-Morphological) of Various Types of Block Copolymers via Anionic Polymerization*”, Avgeropoulos A. (invited talk-plenary lecture by Avgeropoulos A.)
29. **7th Panhellenic Polymers Conference** (Ioannina, Greece, September 28–October 1, 2008)
- Titles (11):
- “*Synthesis and characterization of 2nd generation dendritic copolymers*”, S. Rangou, E.L. Thomas, A. Avgeropoulos (poster)

- “*Synthesis of poly(α -methylstyrene-*b*-4-hydroxystyrene) diblock copolymers via anionic polymerization*”, G. Evangelou, C. Ntaras, S. Rangou, A. Avgeropoulos (poster)
 - “*Synthesis of graft copolymers with divinyl - terminated poly(dimethylsiloxane) and polystyrene (“grafting to” approach)*”, C. Ntaras, G. Evangelou, S. Rangou, A. Avgeropoulos, R.M. Hill (poster)
 - “*Synthesis of block copolymers with poly(methyl methacrylate) and 2-(trimethylsilyloxy) ethyl methacrylate [PMMA-*b*-(PTMS-HEMA)]*”, M. Constantinou, P. Georgopoulos, A. Avgeropoulos (poster)
 - “*Synthesis, molecular and morphological characterization of modified diblock copolymers with organic acid chloride derivatives*”, N. Politakos, C.J. Weinman, C.K. Ober, A. Avgeropoulos (poster)
 - “*Synthesis, molecular and morphological characterization of linear triblock terpolymers where one of the blocks is poly(cyclohexadiene)*”, K. Misichronis, S. Rangou, E. Aschroft, J. W. Mays, A. Avgeropoulos (poster)
 - “*Synthesis and characterization of high molecular weight linear triblock terpolymer consisting of polystyrene, polybutadiene, polyisoprene with different isomerisms*”, G. Zapsas, S. Rangou, A. Avgeropoulos, E. L. Thomas (poster)
 - “*Nanostructures from well-defined diblock copolymers of polystyrene (PS) and poly(dimethylsiloxane) (PDMS)*”, P. Georgopoulos, C. C. Chao, R. M. Ho, A. Avgeropoulos (poster)
 - “*Thiophene conducting copolymers*”, E. Grana, V. Goulas, A. Katsoulidis, T. Makris, D. Katsigiannopoulos, E. Skouras, P. Pomonis, A. Avgeropoulos (poster)
 - “*Incorporation of magnetic nanoparticles in a PI_{3,4}-*b*-PB_{1,4} polymeric matrix*”, A. Tomou, A. Enotiadis, S. Rangou, M. Kitsas, A. P. Douvalis, A. Avgeropoulos, I. Panagiotopoulos, D. Gournis, T. Bakas (poster)
 - “*Intercalation of an amphiphilic diblock copolymer in layered materials*”, Enotiadis A., Sotiriou I., Douli E., Georgopoulos P., Avgeropoulos A., Gournis D. (poster)
30. **235th American Chemical Society (ACS) National Meeting**, (New Orleans, Louisiana, USA, April 6-10, 2008)
Title:
 “*Effect of Chain Architecture on Particle Miscibility in Block Copolymer-Nanoparticle Blends*”, Listak J., Ryu H. –J., Rangou S., Politakos N., Misichronis K., Avgeropoulos A. and Bockstaller M. R. (invited talk by Bockstaller M. R.)
31. **V International Conference on Science and Technology of Composite Materials (COMATCOMP-09)**, San Sebastian, Spain, October 6-9, 2009)
Title:
 “*Compatibility of Block Copolymer/Nanoparticle Blends Depending on Block Copolymer Architecture*”, Avgeropoulos A., Bockstaller M. R., Listak J., Hakem I. F., Ryu H. –J., Rangou S., Politakos N., Misichronis K., (talk by Avgeropoulos A.)
32. **6th International Conference on Nanosciences and Nanotechnologies (NN09)**, Thessaloniki, Greece, July 13-15, 2009)
Title:
 “*Nanocomposites of Triblock Copolymer Polystyrene-*b*-Polyisoprene-*b*-Polystyrene (PS-*b*-PI-*b*-PS) with Layered Silicates and Carbon Nanotubes*”, A. Enotiadis, K. Litina, S. Rangou, N. Politakos, K. Misichronis, P. Xidas, K. Triantafyllidis, A. Avgeropoulos, D. Gournis (talk by Enotiadis A.)
33. **239th American Chemical Society (ACS) National Meeting**, (San Fransisco, California, USA, March 21-25, 2010).
Title:
 “*Synthesis, Molecular and Morphological Characterization of 2nd Generation Dendritic Terpolymers of Styrene, Butadiene and Isoprene with Different Geometric Isomerisms*”, Rangou S., Avgeropoulos A. and Thomas E.L. (talk by Avgeropoulos A.)
34. **26th Panhellenic Conference of Solid State Physics and Materials Science** (Department of Physics, University of Ioannina, Ioannina, Greece, September 26-29, 2010)

Title:

“*Silicon Oxy Carbide Nanorings From Polystyrene-b-Polydimethylsiloxane Diblock Copolymer Thin Films*”, Avgeropoulos A., Georgopoulos P., Chao C. C., Ho R. M. and Thomas E. L. (invited talk by Avgeropoulos A.)

35. 4th National Conference of the Hellenic Society of Biomechanics (Ioannina, Greece, June 4-6, 2010)

Title:

“*Synthesis and Molecular Characterization of Novel Linear and Cyclic Poly(amino acids) from o-Benzyl-L-Tyrosine*”, Avgeropoulos A., Politakos N., Messman J. M., Pickel D. and Mays J. W. (invited talk by Avgeropoulos A.)

36. 8th Hellenic Polymers Conference (Hersonissos, Crete, Greece, October 24-29, 2010)

Titles (12):

- “*Synthesis of Graft Quaterpolymers with Dininyl-terminated Poly(dimethylsiloxane) and PS-b-PB-PI_{3,4} Triblock*”, C. Ntaras, S. Rangou, E. L. Thomas, C. Stewart-Sloan and A. Avgeropoulos (poster)
- “*Synthesis and Characterization of High Molecular Weight Triblock Terpolymers Consisting of Poly(styrene), Poly(butadiene) and Poly(isoprene) with Different Isomerisms*”, D. Moschovas, G. Zapsas, S. Rangou, N. E. Zafeiropoulos and A. Avgeropoulos (poster)
- “*Synthesis, Molecular and Morphological Characterization of Linear Triblock Terpolymers where one of the Blocks is Poly(cyclohexadiene)*”, K. Misichronis, S. Rangou, E. Ashroft, J.W. Mays, A. Avgeropoulos (poster)
- “*Core Shell Double Gyroid Morphology of a Triblock Terpolymer Consisting of: Poly(styrene) Poly(butadiene) and Poly(isoprene)*”, G. Zapsas, D. Moschovas, S. Rangou, N.E. Zafeiropoulos and A. Avgeropoulos (poster)
- “*Chemical Modification of Magnetic Nanoparticles By Covalently Bonding Middle Functionalized Diblock Copolymer*”, S. Rangou, D. Serrano-Ruiz, A. Avgeropoulos, N.E. Zafeiropoulos, E. Lopez Cabarcos, J. Rubio-Retama (poster)
- “*Complex Architecture Polymers of PS and PDMS*”, P. Georgopoulos, A. Avgeropoulos and Ho R. M. (poster)
- “*Anionic Polymerization of 2-Vinylthiophene and its Grafted Form with Poly(thiophene)*”, Grana E. and Avgeropoulos A. (poster)
- “*Polymers Grafted on MWCNTs*”, Katsigiannopoulos D., Grana E., Thomas E. L., Zafeiropoulos N. E. and Avgeropoulos A. (poster)
- “*Synthesis, Molecular Characterization and Chemical Modification of Poly(Trimethylsilyloxymethyl Ether Methacrylate)-b-Poly(Methyl Methacrylate)*”, Ntetsikas K., Constantinou M. and Avgeropoulos A. (poster)
- “*Synthesis and Molecular Characterization of Linear and Cyclic Polypeptides of Protected Tyrosine*”, Politakos N., Pickel D. L., Lontos G., Messman J. M. and Avgeropoulos A. (poster)
- “*Synthesis, Molecular and Morphological Characterization of Modified Diblock Copolymers with Organic Acid Chloride Derivatives*”, Politakos N., Weinman C. J., Strati K., Paik M., Subramanian H. S., Ober C. K. and Avgeropoulos A. (poster)
- “*Synthesis and Characterization of Linear Diblock Copolymers of P2VP and PMMA*”, Polymeropoulos G., Georgopoulos P. and Avgeropoulos A. (poster)

37. 5th Panhellenic Symposium in Porous Materials (Department of Chemistry, University of Crete, Heraklion, Crete, Greece, June 30-July 1, 2011)

Title:

“*Nanoporous and Nanorelief Polymer Materials. Synthesis – Characterization – Applications*”, Avgeropoulos A. (invited talk by Avgeropoulos A.)

38. 8th International Conference on Nanosciences and Nanotechnologies (NNII), Thessaloniki, Greece, July 12-15, 2011)

Title:

“*Well-Defined Block Copolymers for Nanopatterning Applications*”, Avgeropoulos A. (invited talk by Avgeropoulos A.)

39. **European Research and Innovation Conference 2011 (ERIC-2011)**, Intel Ireland Ltd., Leixlip, October 12-14, 2011)
 Title:
 “Nanopatterning Applications From Well-Defined Block Copolymers Consisting of Polystyrene and Poly(dimethylsiloxane)”, Avgeropoulos A. (invited talk by Avgeropoulos A.)
40. **2012 March Meeting of the American Physical Society** (Boston, Massachusetts, USA, February 27-March 2, 2012)
 Title:
 “Exploring the role of long-chain branching in large deformation of entangled melts”
 G.-X. Liu, K. Ntetsikas, A. Avgeropoulos, S.-Q. Wang (oral presentation by G.-X. Liu)
41. **5th Panhellenic Conference of Thermal Analysis & Calorimetry (THERMA-2012)**, Thessaloniki, Greece, May 26-27, 2012)
 Title:
 “Thermal Properties of Polymers and Polymer Nanocomposites”, Avgeropoulos A. (plenary lecture – invited talk by Avgeropoulos A.)
42. **European Materials Research Society, E-MRS 2012, Spring Meeting** (Strasbourg, France, May 14-18, 2012)
 Titles (2):
- “Hybrid Materials Based on Functionalized Iron Oxide Nanoparticles and Triblock Copolymers”
 G. Zapsas, P. N. Trikalitis, J. Rubio-Retama, A. Avgeropoulos and N. E. Zafeiropoulos (poster)
 - “Evaluation of the sp^2/sp^3 Ratio of Carbon Materials from X-Ray Emission Spectra”
 D. F. Anagnostopoulos, L. E. Koutsokeras, D. Katsigiannopoulos, K. Ntetsikas, A. Avgeropoulos, and P. Patsalas (talk by L. E. Koutsokeras)
43. **Ireland Autumn Workshop for Nanotechnology 2012**, (Intel - Ireland, Leixlip, Co Kildare, Ireland, October 1-2, 2012)
 Title:
 “Synthesis and Characterization of Well-Defined Polymers for Nanopatterning Applications”
Avgeropoulos A. (plenary lecture by Avgeropoulos A.)
44. **The Society of Rheology 85th Annual Meeting** (Montreal, Quebec, Canada, October 13-17, 2013)
 Title:
 “A rheo-optical study of monodisperse H-polyisoprenes to delineate the nature ‘strain hardening’ in uniaxial extension”
 G.-X. Liu, K. Ntetsikas, A. Avgeropoulos, S.-Q. Wang (poster)
45. **9th Panhellenic Polymer Conference**, (Thessaloniki, Greece, November 30-December 2, 2012)
 Titles (9):
- “Synthesis of Graft Copolymers with Divinyl-Terminated Poly(dimethylsiloxane) and PS, PB and PI Block Homopolymers”
 C. Ntaras and A. Avgeropoulos (poster)
 - “Synthesis and Characterization of Amphiphilic Block Copolymers Consisting of Poly(2-vinylpyridine) and Poly(ethylene oxide)”
 V. Chalkia and A. Avgeropoulos (poster)
 - “Polymers Grafted on Multi-Wall Carbon Nanotubes”
 D. Katsigiannopoulos, E. Grana, E. L. Thomas and A. Avgeropoulos (poster)
 - “Synthesis and Molecular Characterization of Homo and Co-polypeptides of Protected Tyrosine, Alanine and Glycine with the use of Hexylamine and Reduced Oxide as Initiators”
 G. Lontos, T. Orfanidou, N. Politakos and A. Avgeropoulos (poster)
 - “Synthesis and Characterization of Poly(2-vinylpyridine)-b-Poly(dimethylsiloxane) Diblock Copolymers”
 G. Polymeropoulos and A. Avgeropoulos (poster)
 - “Plasmonic Behavior of Noble Metal Nanoparticles Segregated in Typical Block Copolymer Thin Films”

- G. Zapsas, E. Mouzourakis, D. Gournis, A. Avgeropoulos and N. E. Zafeiropoulos (poster)
- “*Size-Tailored Synthesis of Smart Nanogels for Biomedical Applications*”
A. Karanastassis, A. Avgeropoulos and N. E. Zafeiropoulos (poster)
 - “*Nanoimprint Lithography on Diblock Copolymer Thin Films*”
K. Ntetsikas, D. Moschovas, C. Delgado-Simao, N. Kechagias, S. Sotomayor-Torres and A. Avgeropoulos (talk by K. Ntetsikas)
 - “*Direct Self-Assembly of Block Copolymers for Nanopatterning Applications*”
Avgeropoulos A. (invited talk by Avgeropoulos A.)
- 46. 2013 MRS Fall Meeting** (Boston, Massachusetts, USA, December 1-6, 2013)
Title:
“*Thin Film Morphology of a Bulk-Gyroid Block Copolymer*”
W. Bai, A. Hannon, K. Gotrik, K. Aissou, H. K. Choi, G. Lontos, K. Ntetsikas, A. Avgeropoulos,
A. A. Katz, C. A. Ross (poster)
- 47. 50th Anniversary of the Electron Microscopy Laboratory, Department of Physics, Aristotle University of Thessaloniki** (Thessaloniki, Greece, December 13, 2013)
Title:
“*Well-Defined Linear and Non-Linear Polymers. Morphological Characterization and Potential Applications*”, Avgeropoulos A. (invited talk by Avgeropoulos A.)
- 48. Industrial Technologies 2014: “Smart Growth Through Research & Innovation”** (Athens, Greece, April 9-11, 2014)
Workshop (WS12, April 11th 2014) organized by Avgeropoulos A. entitled: “Directed Self-Assembly for Nanostructuring”, Co-organizer Intel at Leixlip, Ireland
Speakers: Avgeropoulos Apostolos, Shaw Mathew, Hargreaves Ben, Simao Claudia, Morris A. Michael, Hadziioannou George, Kehagias Nikolaos
- 49. 30th Panhellenic Conference of Solid State Physics and Materials Science** (University of Crete, Heraklion, Greece, September 21-24, 2014)
Title:
“*High band gap indacenodithiophene and indacenodithienothiophene copolymers as electron donors in organic photovoltaics*”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (poster)
- 50. 4th Panhellenic Conference on Green Chemistry & Sustainable Development** (University of Ioannina, Ioannina, Greece, October 30-November 1, 2014)
Title:
“*High band gap indacenodithiophene and indacenodithienothiophene copolymers as electron donors in organic photovoltaics*”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (poster): **3rd Poster Award**
- 51. Israel - Greece Joint Meeting on “Nanotechnology and BioNanoscience”** (Weizmann Institute of Science, Rehovot, Israel, October 19-23, 2014)
Title:
“*Directed Self-Assembly for Nanostructuring*”, Avgeropoulos A. (invited talk by Avgeropoulos A.)
- 52. 10th Panhellenic Polymer Conference**, (Patras, Greece, December 4-6, 2014)
Titles (5):
- “*Synthesis, molecular and morphological characterization of (PS-b-P2VP)₃ 3-arm star diblock copolymers*”
George Polymeropoulos, A. Avgeropoulos (poster)
 - “*Crystallinity and chain conformation in PEO/Na⁺-MMT nanohybrids: Effect of polymer architecture*”
Stavros Bollas, K. Chrissopoulou, K. S. Andrikopoulos, G. A. Voyiatzis, A. Avgeropoulos, S. H. Anastasiadis (poster)

- “*Functionalization of single-walled carbon nanotubes with end-capped polystyrene via a single-step diels-alder cycloaddition*”
M. M. Stathouraki, G. V. Theodosopoulos, A. Avgeropoulos, Georgios Sakellariou (poster)
 - “*High band gap indacenodithiophene and indacenodithienothiophene copolymers as electron donors in organic photovoltaics*”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (poster)
 - “*Complex Architecture Copolymers via Anionic Polymerization and ATRP: Synthesis, Characterization and Self-Assembly*”
C. Ntaras, G. Polymeropoulos, A. Avgeropoulos (invited talk by A. Avgeropoulos)
- 53. 2015 EMN Meeting on Polymers (EMN: Energy, Materials and Nanotechnology)**, (Orlando, Florida, USA, January 7-10, 2015)
Title:
“*Directed Self-Assembly of Block Copolymers for Nanopatterning Applications*”, Avgeropoulos A. (invited talk by Avgeropoulos A.)
- 54. 249th American Chemical Society (ACS) National Meeting**, (Denver, Colorado, USA, March 22-26, 2015).
Title:
“*Directed Self-Assembly of Block Copolymers*”, Avgeropoulos A. (invited talk by Avgeropoulos A. given at the ACS Award in Polymer Chemistry: Symposium in Honor of Nikos Hadjichristidis, March 24-25, 2015)
- 55. 7th Panhellenic Symposium in Porous Materials** (University of Ioannina, Ioannina, Crete, Greece, June 2-4, 2016)
Title:
“*Nanoporous and Nanorelief Polymer Materials: Characterization – Applications*”
Avgeropoulos A. (invited talk by Avgeropoulos A.)
- 56. 16th International Conference on Polymers and Organic Chemistry (POC-16)** (Hersonissos, Crete, Greece, June 13-16, 2016)
Title:
“*Complex Architecture Asymmetric Copolymers via Anionic Polymerization: Synthesis, Characterization and Self-Assembly*”
A. Avgeropoulos, C. Ntaras, W. Shi, A. L. Hamilton, K. T. Delaney, N. A. Lynd, E. J. Kramer, G. H. Fredrickson, Q. Demassieux, C. Creton
- 57. 31th Panhellenic Conference of Solid State Physics and Materials Science** (University of Ioannina, Ioannina, Greece, September 18-21, 2016)
Title:
“*Chemical structure optimization in high performance electron donor conjugated polymers based on indacenodithiophene and indacenodithienothiophene for organic photovoltaic applications*”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (poster)
- 58. Symposium on Current Trends and Perspectives in Organic Materials and Processes for High Performance Organic Electronic Applications**, National Hellenic Research Foundation (NHRF) (Athens, Greece, May 11, 2016)
Title:
“*Directed Self-Assembly of Block Copolymers for Nanopatterning Applications*”, Avgeropoulos A. (invited talk by Avgeropoulos A.)
- 59. 11th Panhellenic Polymer Conference** (Heraklion, Crete, Greece, November 3-5, 2016)
Titles (7):
- “*Linear and Non-Linear Architectures of Immiscible PolydieneBlocks. Synthesis, Molecular and Morphological Characterization*”
K. Ntetsikas, A. Avgeropoulos (talk given by A. Avgeropoulos due to absence of K. Ntetsikas for post-doctoral studies abroad)

- “Structure-Optoelectronic Properties-Organic Photovoltaic Performance Correlation in New D-A₁-D-A₂ Low Band Gap Conjugated Polymers”
C. L. Chochos, S. Drakopoulou, E. Tatsi, A. Katsouras, B. M. Squeo, C. Sprau, A. Colsmann, V. G. Gregoriou, A.-P. Cando, S. Allard, U. Scherf, N. Gasparini, T. Ameri, C. J. Brabec, A. Avgeropoulos (talk given by C. L. Chochos)
 - “Chemical structure optimization in high performance electron donor conjugated polymers based on indacenodithiophene and indacenodithienothiophene for organic photovoltaic applications”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (poster)
 - “Synthesis and Molecular Characterization of Linear Diblock Copolymers with High Flory-Huggins Interaction Parameter (χ) for Applications in Nanotechnology”
G. Manesi, A. Getona, A. Avgeropoulos (poster)
 - “Synthesis and Molecular Characterization of Low and High Molecular Weight Linear Diblock Copolymers of the PS-b-PDMS Type”
M. Michail, A. Avgeropoulos (poster)
 - “Determination of Catalyst’s Metal Content in Diketopyrrolopyrrole –Based Low Band-gap Conjugated Polymers and Its Impact on the Molecular Characteristics and Optoelectronic Properties”
C. Miskaki, C. L. Chochos, A. Avgeropoulos (poster)
 - “Characterization of Industrial Fluorinated Polymers”
M. Theodosaki, C. Pronoitis, A. Avgeropoulos (poster)
- 60. 5th Conference of the Chemistry Department, University of Ioannina «40 Years Department of Chemistry at the University of Ioannina»** (University of Ioannina, Ioannina, September 29-30, 2017)
Title:
“Synthesis and Characterization of Complex Architecture Copolymers and Terpolymers”
A. Avgeropoulos (invited lecture in the section dedicated in memory of late Professor M. Kosmas)
- 61. Milan Polymer Days (MIPOL2017)** (University of Milan, Milan, Italy, February 15-16, 2017)
Title:
“Complex Architecture Copolymers and Terpolymers: Synthesis, Characterization and Self-Assembly”
Avgeropoulos A. (invited talk by Avgeropoulos A.)
- 62. 12th Panhellenic Polymer Conference** (Ioannina, Greece, September 30–October 3, 2018)
Titles (7):
- “Selective Surface Segregation of Maghemite Nanoparticles in Symmetric Diblock Copolymer and Triblock Terpolymer”
D. Moschovas, G. Zapsas, K. Ntetsikas, A. Avgeropoulos, N. E. Zafeiropoulos (poster)
 - “Synthesis and Characterization of Polymer Ionic Liquids Prepared from Diblock Copolymer Precursors”
G. Papadopoulos, C. Pronoitis, D. Moschovas, A. Avgeropoulos (poster)
 - “Design and Development of New Conjugated Polymers for Application in Organic Photovoltaic Devices”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (poster)
 - “Synthesis, Molecular and Morphological Characterization of Linear Diblock Copolymers of PDMS-b-P2VP Type”
G. Manesi, I. Moutsios, A. Avgeropoulos (poster)
 - “Synthesis, Molecular and Morphological Characterization of Linear and Non-Linear Block Copolymers Containing PS and PDMS Segments”
G. Manesi, D. Moschovas, A. Avgeropoulos (poster)
 - “Synthesis of New Triblock Terpolymers for Applications in Nanotechnology”
C. Miskaki, A. Avgeropoulos (poster)
 - “Surface Modification on Silicon Substrates and Magnetic Nanoparticles of PS/P2VP V-Shaped Polymer Brushes Through the “Grafting to” Method”
D. Moschovas, G. Zapsas, A. Siozios, P. Patsalas, A. Avgeropoulos, N. E. Zafeiropoulos (poster)
- 63. European Polymer Congress 2019, EPF2019** (Hersonissos, Crete, Greece, June 9–14, 2019)
Titles (5):

- “*Topological Effects on Self-Assembly of Linear and Non Linear Block Copolymers Containing PS and PDMS Segments*”
G. Manesi, C. – Y. Chang, R. – M. Ho, A. Avgeropoulos (poster)
 - “*Surface Modification on Silicon Substrates and Magnetic Nanoparticles of PS/P2VP V-Shaped Polymer Brushes Through the “Grafting to” Method*”
D. Moschovas, G. Zapsas, A. Siozios, S. Kassavetis, Ch. Gravalidis, P. Patsalas, A. Avgeropoulos, N. E. Zafeiropoulos (poster)
 - “*New Conjugated Polymers for Applications in Organic Photovoltaic Devices*”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (poster)
 - “*Synthesis and Characterization of Random Copolymers of the PMMA-r-PMAA for Biosensor Applications*”
I. Moutsios, D. Moschovas, Tzianni E., Trachioti M., Lazanas A., Karampela M., Florou A., Prodromidis M., A. Avgeropoulos (poster)
 - “*Synthesis, Characterization and Self-Assembly of Linear and Complex Architecture Copolymers and Terpolymers*”
A. Avgeropoulos (oral talk)
- 64. Youth International Scientific Conference "Modern Trends in Functional Materials Development"** (Sirius University, Sochi, Russian Federation, November 11-13, 2021)
Title (virtual attendance):
- “*Novel Polymer Materials for Advanced Applications*”
A. Avgeropoulos (*invited plenary e-talk by Avgeropoulos A.*)
- 65. IV International Scientific Conference: “Science of the Future – Science of the Youth”** (Moscow, Russian Federation, November 17-20, 2021)
Title:
- “*Synthesis and Self-Assembly of Linear and Non-Linear Block Copolymers for Nanopatterning Applications*”
A. Avgeropoulos (*invited talk by Avgeropoulos A.*)
- 66. 13th Panhellenic Polymer Conference** (Athens, Greece, December 12-16, 2021)
Titles (6):
- “*Exploring “Soft-Nature” Diene-Siloxane Elastomers*”
I. Moutsios, G.-M. Manesi, K. Tsitoni, C.-Y. Chang, R.-M. Ho, A. Avgeropoulos (e-poster)
 - “*Synthesis and Characterization of Amphiphilic ANA Triblock Copolymers for the Development of Novel Hydrogen Peroxide Responsive Membrane Based-Biosensors Coupled with Smartphones*”
G. Papadopoulos, I. Moutsios, D. Moschovas, M. Karabela, E. Tzianni, M. Trachioti, A. Lazanas, M. Prodromidis, A. Avgeropoulos (e-poster)
 - “*Design and Development of New Conjugated Polymers for Application in Organic Photovoltaic Devices*”
A. Katsouras, C. L. Chochos, A. Avgeropoulos (e-poster)
 - “*Self Assembly of Low Molecular Weight Asymmetric Linear Triblock Terpolymers: How Low Can We Go?*”
Ch. Miskaki, I. Moutsios, G.-M. Manesi, K. Artopoiadis, C.-Y. Chang, E. A. Bersenev, D. Moschovas, M. Karabela, N. E. Zafeiropoulos, D. A. Ivanov, R.-M. Ho, A. Avgeropoulos (e-poster)
 - “*Synthesis and Self-Assembly Behavior of Linear and Non-Linear Star Block Copolymers*”
G.-M. Manesi, I. Moutsios, C.-Y. Chang, R.-M. Ho, A. Avgeropoulos (e-poster)
 - “*Synthesis, Molecular Characterization and Phase Behaviour of Miktoarm Star Copolymers of the AB_n and A_nB ($n= 2$ or 3) Sequences where A is Polystyrene and B is Poly(dimethylsiloxane)*”
G. Lontos, G.-M. Manesi, I. Moutsios, D. Moschovas, A. A. Piryazev, E. A. Bersenev, D. A. Ivanov, A. Avgeropoulos (*invited e-talk by A. Avgeropoulos*)
- 67. Utilization and Management of Lakes: Two words Many Meanings and Interpretations** (Ioannina, Greece, October 30-31, 2021)
Title:

- Participation after invitation in Thematic Unit I: “Covenant of Mayors global initiative for climate and energy” with a related talk entitled: “*Climate Change - Alternative Forms of Energy*” *speaker: A. Avgeropoulos*)
- 68. Industry 4.0 and Smart Manufacturing-Virtual Event**, (Smart2M Materials & Manufacturing, July 4-8, 2022).
Title (virtual attendance):
“*Manufacturing Based on Smart Materials*”
A. Avgeropoulos (*invited e-talk by Avgeropoulos A.*)
 - 69. 264th American Chemical Society (ACS) National Meeting**, (Chicago, Illinois, USA, August 21-25, 2022).
Title:
“*Polymer Brushes Formed onto Surfaces From Linear Triblock Terpolymers*”
K. Artopoiadis, Ch. Miskaki, D. Moschovas, N. Politakos, M. Karabela, N. E. Zafeiropoulos, R.-M. Ho, D. A. Ivanov, A. Avgeropoulos (*oral talk by Avgeropoulos A.*)
 - 70. Advanced Materials World Congress 2022** (Stockholm, Sweden, October 11-14, 2022)
Title (virtual attendance):
“*Linear triblock terpolymers as Templates for Polymer Brushes*”
K. Artopoiadis, Ch. Miskaki, D. Moschovas, M. Karabela, N. E. Zafeiropoulos, R.-M. Ho, A. Avgeropoulos (*invited e-talk by Avgeropoulos A.*)
 - 71. Innovation and Smart Manufacturing School**, (Smart2M Materials & Manufacturing, May 8-12, 2023).
Title (virtual attendance):
“*Manufacturing Based on Smart Materials*”
A. Avgeropoulos (*invited e-talk by Avgeropoulos A.*)
 - 72. International Conference on Materials Science & Engineering** (Paris, France, March 27-28, 2023).
Title (virtual attendance):
“*Design and Development of Binary Blends Consisted of New Conjugated and Diblock Copolymers for Applications in Active Packaging*”
A. Katsouras, A. Karydis-Messinis, G.-M. Manesi, D. Moschovas and A. Avgeropoulos (*oral e-talk by A. Katsouras*)
 - 73. V International Scientific Conference: “Science of the Future – Science of the Youth”** (Oryol, Russian Federation, September 20-23, 2023)
Title:
“*Complex Architecture Silicon Containing Copolymers for Advanced Nanopatterning Applications*”
A. Avgeropoulos, G.-M. Manesi, I. Moutsios, G. Lontos, A. A. Piryazev and D. A. Ivanov (*invited talk by Avgeropoulos A.*)
 - 74. 3rd KAUST Research Conference: Polymeric Materials** (Thuwal, Kingdom of Saudi Arabia, November 4-8, 2023)
Title:
“*Complex Architecture Silicon Containing Copolymers as Potential Candidates for Advanced Nanopatterning Applications*”
A. Avgeropoulos (*invited talk by Avgeropoulos A.*)
 - 75. Modern Trends in the Development of Functional Materials** (urban village Sirius, Park of Science and Art, Sirius University of Science & Technology, Russian Federation, November 7-9, 2023)
Title:
“*Novel Linear and Non-Linear Copolymers and Terpolymers in the Nanoscale: Synthesis, Characterization and Self-Assembly*”
A. Avgeropoulos (*invited talk by Avgeropoulos A.*)
 - 76. 14th Panhellenic Polymer Conference** (Thessaloniki, Greece, November 22-25, 2023)

Titles (12):

- *“Introducing Structural Discrepancies via Architecture”*
G.-M. Manesi, I. Moutsios, C.-Y. Chang, R.-M. Ho and A. Avgeropoulos (*oral talk by G.-M. Manesi*)
- *“Cellulose Nanocrystals Isolation Using the Steam Explosion Method”*
E. Triantafyllou, A. Karydis-Messinis, D. Moschovas, C. E Salmas, A. Avgeropoulos and N. E Zafeiropoulos (poster)
- *“Synthesis and Characterization of Polyanionic Liquids {prepared from Novel Polymer Precursors of the A-b-B-b-C and C-b-B-b-A-b-B-b-C Types”*
G. Papadopoulos and A. Avgeropoulos (poster)
- *“Structural and Optical Properties of Hybrid Materials with Copolymer Matrices and Gold Nanoparticles”*
I. Moutsios, G.-M. Manesi, D. Tselekidou, M. Rosenthal, M. Gioti, D. A. Ivanov and A. Avgeropoulos (poster)
- *“Preparation and Characterization of Nanocomposites Comprising of Polystyrene-b-Polydimethylsiloxane and Carbon Nanotube Fillers,”*
I. Kartalis, G.-M. Manesi, G. Papadopoulos, K. Artopoiades, S. Tsirkas, A. Giannoutsos and A. Avgeropoulos (poster)
- *“Novel Immiscible Linear Triblock Copolymers with Poly(styrene) Core and Poly(dimethylsiloxane) Side Chains”*
S. Tsirkas, G.-M. Manesi, K. Artopoiades, I. Kartalis, A. Giannoutsos and A. Avgeropoulos (poster)
- *“Synthesis of Functionalized Thiophene-Based Materials Towards Cationic Conjugated Polyelectrolytes”*
A. Giannoutsos, G.-M. Manesi, K. Artopoiadis and A. Avgeropoulos (poster)
- *“Formation of Polymer Brushes Derived from Anionically Synthesized Triblock Terpolymer Systems”*
K. Artopoiadis, G.-M. Manesi, I. Moutsios and A. Avgeropoulos (poster)
- *“Synthesis, characterization and in vitro evaluation of chitosan-fish gelatin-glycerol hydrogel membranes for biomedical applications.”*
- A. Karydis-Messinis, D. Moschovas, C. E. Salmas, A. E. Giannakas, A. Avgeropoulos and N. E. Zafeiropoulos (poster)
- *“Development and Characterization of Edible Packaging Materials From Expired Dairy Products”*
C. Kyriakaki, A. Karydis-Messinis, D. Moschovas and A. Avgeropoulos (poster)
- *“Novel triblock terpolymers: Bulk State and Thin Film approximation studies in nanoscale dimensions; a comparative study”*
Ch. Miskaki, K. Artopoiadis, M. Ma, G.-M. Manesi, I. Moutsios, D. Moschovas, C. Ross and A. Avgeropoulos (poster)
- *“Linear and Complex Architecture Copolymers for Advanced Nanopatterning Applications”*
G.-M. Manesi, I. Moutsios, K. Ntetsikas and A. Avgeropoulos (*invited talk by Avgeropoulos A.*)

In general:

Participation in Conferences Physical Presence Virtual Presence	Number of presentations	Poster Presentations	Plenary/Oral Talks/Invited Talks (by Avgeropoulos A.) Oral/Invited Talks (by Collaborators)
76	172	101	4/12/34 (total: 50)
52			21
6			

Major Contributions in Polymer Science & Engineering by Professor A. Avgeropoulos

1. Identified the double gyroid cubic structure in ABA triblock copolymers in both majority and minority volume fractions leading to reconstruction of the phase diagram for SIS BCPs.
2. Used silylated PS segments together with PI as media to create silicon oxycarbide ceramic membranes stable up to 500°C by applying cheap techniques such as UV exposure, ozonolysis and/or Reactive Ion Etching.
3. Identified the best mechanical properties for samples exhibiting the DG cubic structure compared to others with alternating lamellae and hexagonally closed packed cylinders.
4. Expertise in making binary blends of complex architecture block copolymers and terpolymers with corresponding homopolymers and verified for the first time that architecture really matters during blending with homopolymer as well as how the corresponding segment is attributed in the complex architecture (end block, or middle block). Managed to keep the alternating lamellae structure from the initial 0.50 volume fraction down to 0.20 by blending with homopolymer but increased the area per junction point.
5. Identified that the double gyroid cubic structure is stable in high molecular weight diblock copolymers even for χN values up to 200, whereas the theoreticians demonstrated that the DG is not equilibrium morphology for χN above 50-60.
6. Ability to synthesize a wide range of diblock copolymers by combining various techniques. Synthesized PS-Si(Cl)₂-P2VP and managed to incorporate magnetic nanoparticles through modification of the -Cl groups to -OH groups and demonstrated the magnetic properties by applying magnetic field on the system.
7. Ability to synthesize block copolymers with various types of styrene and protected (meth)acrylates or 2-vinyl pyridine/4-vinyl pyridine and being able to modify them selectively in preparing amphiphilic block copolymers from the initial hydrophobic BCPs (under preparation).
8. Managed to synthesize cyclic polypeptides for the first time by applying a simple method from the initial linear polypeptide. Worked selectively with poly(L-tyrosine) due to the -OH groups which enhance the hydrophilicity and make the product more convenient for drug delivery.
9. Working with PS-*b*-PDMS we were able to make freestanding silicon oxy carbide thin films with hexagonally packed nanochannels were directly fabricated and used as masks for pattern transfer to underlying polymeric materials by oxygen reaction ion etching (RIE) to generate topographic nanopatterns. By taking advantage of robust property and high etching selectivity of the SiOC thin films under oxygen RIE, this nanoporous thin film can be used as an etch-resistant and reusable mask for pattern transfer to various polymeric materials. This approach demonstrates a simple, convenient, and cost-effective nanofabrication technique to create the topographic nanopatterns of polymeric materials.
10. In order to create silicon oxy carbide nanorings the BCPs were treated to create a thin film from 0.5 wt % dilute solution of the PS-*b*-PDMS in chloroform. Then the thin film, after solvent annealing, was immersed in dodecane to prepare nanoporous thin films through surface reconstruction. By reactive ion etching and oxygen plasma etching, the polystyrene block was removed leaving only the polydimethylsiloxane block forming the nanorings.
11. Large series of PS-*b*-PDMS were used for directed self-assembly of block copolymers for nanopatterning and nanostructuring applications. Miktoarm stars of the PS(PDMS)_{2,3} and PDMS(PS)_{2,3} were also synthesized for the same purposes and comparison will be made for concluding in best materials for polymer nanotechnology.
12. Synthesized nanocomposite materials with various forms of carbon such as: single-wall carbon nanotubes (SWCNTs), multi-wall carbon nanotubes (MWCNTs), graphite oxide (GO) and various polymer matrices (homopolymers or copolymers).
13. Prepared polymer ionic liquids from initial novel and well-defined block copolymers containing P2VP or P4VP by using simple modification reactions (quaternization) for the initial pyridine block.

14. Chemical modification reactions (hydrolysis and fluorination) of initial diblock copolymers of the PS-*b*-PB_{1,2}, where PB_{1,2} is exclusively poly(butadiene) of 100% -1,2 microstructure and observation of the alternation of hydrophobic properties when the modified BCPs are mixed with commercial polymers.
15. Verified theoretical predictions with experimental data for asymmetric complex architecture block copolymers and found a new thermodynamically stable, aperiodic “**bricks and mortar**” (B&M) cellular mesophase structure is reported in PS-*b*-(PI-*b*-PS')₃ miktoarm copolymer and PS homopolymer blends.
16. Highly asymmetric lamellar structures were found with a well-designed miktoarm star block copolymer of the S(IS')₃ type, with tunable domain spacing from 37 nm to over 300 nm when the miktoarm star block copolymer was blended with suitable molecular weight polystyrene homopolymers. Extremely asymmetric lamellar structures were obtained with up to 97 wt% PS, remarkably leaving the PI layers intact at only 3 wt%!
17. Synthesis and characterization of star block copolymers of (PS-*b*-P2VP)_{3,4} via ATRP in bulk and verified synthesis through morphological characterization (first time ever for ATRP synthesized materials).
18. Design, synthesis and optoelectronic (absorption and electrochemical properties) characterization of a new family of indacenodithiophene and indacenodithienothiophene based copolymers. Performance of these copolymers in organic photovoltaic devices has been initiated and demonstrated in high impact factor recent publications.