

PERSONAL

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RESEARCH INTERESTS

Material science, polymer based material synthesis (flexible, high temperature and radiation resistant), nanomaterials, biomaterials, material characterization, radiation transmission techniques, X-ray radiography (non-destructive testing), radiation protection and shielding, solid state physics, semiconductor physics, synthesis of semiconductor nanocrystals, semiconductor thin films and deposition, semiconductor nanocrystal growth, X-ray spectroscopies, surface analysis techniques (SEM, AFM), X-ray diffraction and crystallography technique, spectrum modeling and simulation of nanocrystal structures.

EDUCATION

Doctor of Philosophy

ENERGY SCIENCE AND TECHNOLOGY PROGRAMME, Istanbul Technical University

Synthesis of Poly(imide siloxane) Block Copolymer, Structural Characterization and Comparison of Irradiation Effect in Radiation Shielding Properties for Flexible Sheet and Pelletized Form (CGPA: 3.25/4.00)



Master of Science

PHYSICS, Yildiz Technical University

Production of Group II-VI Semiconductor CdS Thin Film Deposition by Solution Growth Technique; structural and optical properties (CGPA: 3.48/4.00)



Bachelor of Science

PHYSICS (English), Marmara University (CGPA: 3.43/4.00)



RESEARCH AND JOB EXPERIENCE

- 2021 – Present | **Istanbul Technical University**
Physicist
- SEM (Scanning Electron Microscope) Analysis
 - EDS (Energy -Dispersive X-rays Spectroscopy) Analysis
 - AFM (Atomic Force Microscope) Analysis
 - XRD (X-Ray Diffraction) Analysis
 - X-ray radiography (non-destructive testing)
- 2013 – 2019 | **Istanbul Technical University Project Research**
Investigation of Changes in Structural Characteristics of Flexible Substrates Exposed to Ionizing Radiation (Supported by Istanbul Technical University Scientific Research Projects Foundation, project no: 37805).
- 2010 – 2021 | **Professional Teaching in State Colleges**
Senior Expert Lecturer position in State Colleges of Turkish Republic Ministry of National Education

GRANTS

1. **CRDF Global, Global Affairs Canada (GAC), Government of Canada's foreign ministry:**
Women in Science Grant, 2021
2. **Travel, Accommodation and Registration Fee Grant for Conference Oral Presentation from The Scientific and Technological Research Council of Turkey (TUBITAK):**
Production of Poly(imide siloxane) Block Copolymers for Non-Smooth Surfaces, DSL 2019, 15th International Conference on Diffusion in Solids and Liquids, 24-28 June 2019, Athens, Greece.
3. **Travel Grant for Conference Presentation from German Chemical Society:**
The Jung Chemiker Forum (Young Chemists Committee; JCF) of the Gesellschaft Deutscher Chemiker 19th JCF-Frühjahrssymposium, March 29-April 1, 2017, Johannes Gutenberg University, Mainz, Germany.
4. **Travel Grant for Conference Presentation from German Chemical Society:**
The Jung Chemiker Forum (JCF) of the Gesellschaft Deutscher Chemiker 18th JCF-Frühjahrssymposium, March 16-19, 2016, University of Kiel, Hamburg, Germany.

PROGRAMMING AND COMPUTER SKILLS

ADVANCED: MATLAB & Simulink, LATEX, MS Office tools

NOVICE : Python

LANGUAGES

ENGLISH: Advanced • GERMAN: Elementary • FRENCH: Elementary

PATENT

Turkan DOGAN, Nilgun KIZILCAN, Nilgun BAYDOGAN, "A Material to Be Used in Radiation Shielding and the Production Method of This Material", Turkish Patent Institute (*TURKPATENT*), Patent No: TR2019/07219 (May 2019).

CONFERENCE & SEMINAR ORGANISATION

1. Member of the Executive Committee of Fourteen Seminar Series with the Project Title as Utilization of Nuclear Technology in Sustainable Development, November 10-27, 2021, via zoom online platform, Istanbul, Turkey.
These seminar series were supported through the project which was made possible with a grant issued by CRDF Global through the generous support provided by Global Affairs Canada.
2. Member of the Executive Committee of International Conference on Nuclear Technology, Radiation Safety and Advanced Technological Researches (ICNRA 2021), 10-11 December 2021, via zoom online platform, Istanbul, Turkey.
This international conference was supported through the project which was made possible with a grant issued by CRDF Global through the generous support provided by Global Affairs Canada.

Papers Published in Peer-Reviewed International Journals

1. Dogan T., Bel T., Dogan M., Koken N., Kizilcan N., Baydogan N. (2023). High Temperature Performance Adhesive Derived from Randomly Segmented Poly (imide siloxane) Copolymer. *Materials Science & Engineering B*, Elsevier. DOI: 10.1016/j.mseb.2022.116160
2. Dogan T., Baydogan N., Koken N. (2021). Comparative study of gamma-ray attenuation for poly (imide siloxane) block copolymer in biocompatible flexible sheet and pelletize forms. *Material Physics and Chemistry*, Elsevier. DOI: 10.1016/j.matchemphys.2021.125259
3. Dogan T., Baydogan N. (2019). Comparison of Beta and Neutron Attenuations of Poly(imide siloxane) Block Copolymers for Medical Applications. *International Journal of Polymeric Materials and Polymeric Biomaterials*. Taylor & Francis. DOI: 10.1080/00914037.2019.1616204
4. Dogan T., Koken N., Bulut O., Baydogan N. (2020). Flexible Poly(imide siloxane) Block Copolymers to Use at Biomedical Products. *Defect and Diffusion Forum*, Trans Tech Pub. DOI: 10.4028/www.scientific.net/DDF.400.152
5. Dogan T., Baydogan N. (2019). The Evaluation of Poly(imide siloxane) to Use in Biomedical and Radiotherapy Applications. *Academ J polym Sci*; 2(5): 555599. DOI: 10.19080/AJOP2019.02.555599
6. Dogan T., Baydogan N., Koken N. (2015). High Performance Randomly Segmented Poly(urethane siloxane) and Poly(imide siloxane) Copolymers. *Procedia-Social and Behavioral Sciences*. Elsevier. DOI:10.1016/j.sbspro.2015.06.305
7. Dogan T., Koken N., Baydogan N. (2023). Cumulative Dose Effect on Gamma Penetration of Flexible Poly(imide siloxane) Block Copolymer. *Nuclear Instruments & Methods in Physics Research- Section B*. Elsevier (Under review)

Book Editorship

1. Dogan T., Baydogan N. *International Conference on Nuclear Technology, Radiation Safety and Advanced Technological Researches (ICNRA 2021)*. Istanbul Technical University Library Press. Issue Date: 2021. ISBN: 978-975-561-530-1
2. Dogan T., Baydogan N. *Utilization of Nuclear Technology in Sustainable Development*. Istanbul Technical University Library Press. Issue Date: 2021 ISBN: 978-975-561-531-8

Book Chapters

1. Dogan T. (2021). Sustainable Development and Importance of Material In Nuclear Technology. *Utilization of Nuclear Technology in Sustainable Development*. *Istanbul Technical University Library Press*. Chapter: **1**, (p.1-10), ISBN: 978-975-561-531-8
2. Dogan T. (2021). Radiation Safety In Nuclear Technology and Radiation Shielding In Biomedical Applications. *Utilization of Nuclear Technology in Sustainable Development*. *Istanbul Technical University Library Press*. Chapter: **9**, (p. 96-107) ISBN: 978-975-561-531-8
3. Dogan T. (2021). Investigation with Radiation Transmission Technique of Polymeric Biomaterials Used In Medical Applications In Scope Of Radiation Safety. *Utilization of Nuclear Technology in Sustainable Development*. *Istanbul Technical University Library Press*. Chapter: **12**, (p. 121-128), ISBN: 978-975-561-531-8

4. Dogan T., Baydogan N., Koken N. (2016). Characterization of High Performance Randomly Segmented Poly(urethane siloxane) and Poly(imide siloxane) Block Copolymers. Edit: 9th International Physics Conference of the Balkan Physical Union (BPU-9) *AIP Conf. Proc.* 1722, 1, ISBN: 9780735413696, <https://doi.org/10.1063/1.4944119>
5. Dogan T., Baydogan N., Koken N. (2014). Production of Poly(imide siloxane) Block Copolymers. Energy Systems and Management (1st ed.). *Springer International Publishing*. Chapter: 20, (p. 13-18). DOI: 10.1007/978-3-319-16024-5_20

Papers Published in International Conference Abstract Books

1. Dogan T., Baydogan N., “Synthesis of Poly(Imide siloxane) Block Copolymers”, International Conference on Nuclear Technology, Radiation Safety and Advanced Technological Researches (ICNRA 2021), 10-11 December 2021, Istanbul, Turkey.
2. Dogan T., Koken N., Baydogan N., “Production of Poly(imide siloxane) Block Copolymers for Non-Smooth Surfaces”, DSL 2019, 15th International Conference on Diffusion in Solids and Liquids, 24-28 June 2019, Athens Greece.
3. Dogan T., Baydogan N., Koken N., “Synthesis of Flexible Poly(imide siloxane) Block Copolymers”, Polymer & Nanocomposites Symposium, Multi-Scale Self-Healing Nanocomposite Shielding Material, February 21-22, 2018, Istanbul, Turkey.
4. Dogan T., Baydogan N., Koken N., “Synthesis of High Temperature Resistant Block Copolymers”, The Jung Chemiker Forum (Young Chemists Committee; JCF) of the Gesellschaft Deutscher Chemiker (German Chemical Society; GDCh) 19th JCF-Frühjahrssymposium, March 29-April 1, 2017, Johannes Gutenberg University, Mainz, Germany.
5. Dogan T., Baydogan N., Koken N., “Synthesis of Randomly Segmented Poly(amide siloxane) and Poly(imide siloxane) Block Copolymers”, The Jung Chemiker Forum (Young Chemists Committee; JCF) of the Gesellschaft Deutscher Chemiker (German Chemical Society; GDCh) 18th JCF-Frühjahrssymposium, March 16-19, 2016, University of Kiel, Hamburg, Germany.
6. Dogan T., Baydogan N., Koken N., “Characterization of High Performance Randomly Segmented Poly(urethane siloxane) and Poly(imide siloxane) Block Copolymers”, 9th International Physics Conference of The Balkan Physical Union (BPU-9), Volume 1722, 24–27 August 2015, Istanbul, Turkey.
7. Dogan T., Baydogan N., Koken N., “High Performance Randomly Segmented Poly(urethane siloxane) and Poly(imide siloxane) Copolymers”, WOCTINE 2015, World Conference on Technology, Innovation and Entrepreneurship for Technology and Innovation-Based Sustainable Development, 28-30 May, 2015, Istanbul, Turkey.
8. Dogan T., Baydogan N., Koken N., “Production of Poly(imide siloxane) Block Copolymers”, ICEM 2014, International Conference on Energy and Management, 5-7 June 2014, Istanbul, Turkey.

Peer-Reviewed National Conference Publications

1. Dogan T., Baydogan N., Koken N., Cimenoglu H., “Physical Properties of Poly(imide siloxane) Block Copolymers”, HITEK 2014, 3rd (Third) Advanced Technologies at National Aeronautic Conference, 18-19 June 2014, Air Forces Academy, Istanbul, Turkey.

Seminars & Workshops

1. Dogan T., “Use of Nuclear Science and Technology in Biomedical Research”, Fourth Seminar of The Seminar Series with the Project Title as Utilization of Nuclear Technology in Sustainable Development, November 27th, 2021, via zoom online platform, Istanbul, Turkey. These seminar series were supported through the project which was made possible with a grant issued by CRDF Global through the generous support provided by Global Affairs Canada.

2. Dogan T., "Radiation Safety of Polymeric Biomaterials Used in Medical Applications Investigation with Radiation Transmission Technique in the Scope", November 23rd, 2021, via zoom online platform, Istanbul, Turkey. These seminar series were supported through the project which was made possible with a grant issued by CRDF Global through the generous support provided by Global Affairs Canada.
3. Dogan T., "Radiation Safety in Nuclear Technology and Biomedical Materials", November 15th, 2021, via zoom online platform, Istanbul, Turkey. These seminar series were supported through the project which was made possible with a grant issued by CRDF Global through the generous support provided by Global Affairs.
4. Dogan T., "The Importance of Materials in Nuclear Technology for Sustainable Development", November 10th, 2021, via zoom online platform, Istanbul, Turkey. These seminar series were supported through the project which was made possible with a grant issued by CRDF Global through the generous support provided by Global Affairs Canada.
5. Dogan T., Baydoğan, N., "Synthesis of Flexible Polymers For Using In Solar Cells", Workshop on Doctoral Thesis Studies, September 13th, 2018, Istanbul Technical University, Energy Institute.
6. Dogan T., Baydoğan, N., Kizilcan, N., "Poly(imide siloxane) Block Copolymers with Different Block Lengths and Their Structural Properties", HETECH 2014, The 23rd European Workshop on Heterostructure Technology, 12-15 October 2014, Justus-Liebig-University Giessen (co-organized by Philipp University of Marburg), Frankfurt, Germany.