



# Neda aliabbaszadeh

Sharif University of Technology, PhD Candidate in Nanotechnology  
Email: [nedaaliabbaszadeh@gmail.com](mailto:nedaaliabbaszadeh@gmail.com)  
| LinkedIn: [@nedaaliabbaszadeh](#) | Telegram: [@nedaaliabbaszadeh](#) |

## PROFILE

---

*PhD candidate in Nanotechnology with an interest in biomedical engineering. Gaining experience in developing non-invasive diagnostic methods and working with MATLAB and Python to explore applications in healthcare.*

## ACADEMIC PROJECTS

---

### **Synthesis of MgO, 58S Bioactive Glass, and N-Carboxymethyl Chitosan Coatings on SS316L ; Urmia University (2020)**

*Synthesized bioactive coatings to enhance SS316L, a material used in orthopedic implants. Applied sol-gel synthesis and dip-coating techniques, with characterization through XRD and SEM. Focused on improving corrosion resistance and bioactivity for better implant performance.*

### **Simulation of Blood Pressure Measurement from Cardiac Signals ; Islamic Azad University (2022)**

*Developed a MATLAB-based model using neural networks for non-invasive blood pressure measurement from ECG signals. Applied signal processing and machine learning techniques to predict systolic and diastolic blood pressure, contributing to the advancement of non-invasive diagnostic tools in healthcare.*

## EDUCATION

---

### **Sharif University of Technology : PhD Candidate in Nanotechnology (2022 – Present)**

*Currently studying Python and artificial intelligence with a focus on neuroscience and the brain's capabilities. Research includes developing AI-driven solutions in nanotechnology to advance medical diagnostics and healthcare applications.*

### **Urmia University : Master of Science in Nanomaterials (2020 – 2022)**

*Supervisors: Dr. R. Jafari and Dr. H. Mohammadzadeh*

*Thesis: Synthesizing MgO, 58S bioactive glass, and N-carboxymethyl chitosan for coating on SS316L, enhancing corrosion resistance and biocompatibility of biomedical implants. Gained expertise in implant materials, laboratory techniques for biomaterial synthesis, and material characterization.*

*Developed skills in using ZView software for electrochemical analysis and conducted studies on amorphous alloys.*

**Islamic Azad University, Urmia Branch: Bachelor's Degree in Biomedical Engineering (Bioelectric) (2017 – 2020)**

*Supervisor: Dr. Kalami, Collaborator: Sina Ayoubi*

*Project: Simulation of blood pressure measurement from cardiac signals using MATLAB, contributing to non-invasive diagnostic tools for healthcare. Developed proficiency in MATLAB, Origin, and ICDL (International Computer Driving License) software. Gained hands-on experience in the repair and maintenance of medical devices, alongside theoretical knowledge in biomedical engineering.*

***PUBLICATIONS***

---

**Application of Nanotechnology in Biology and Medicine (2022)**

*Focused on the integration of nanotechnology in medicine, particularly for diagnostics, monitoring, and treatment. Investigated medical nanorobots, including glucose monitoring devices for diabetics, artificial phagocytes, and tissue bioengineering materials. Highlighted the potential of nanotechnology to revolutionize healthcare by enabling targeted drug delivery, regenerative medicine, and advanced diagnostics.*

**Synthesis and Characterization of MgO, 58S Bioactive Glass, and N-Carboxymethyl Chitosan Coatings on SS316L (2023)**

*Developed a composite coating using magnesium nanooxide, 58S bioactive glass, and N-carboxymethyl chitosan on SS316L stainless steel to improve corrosion resistance for bone implants. Characterization through SEM, FTIR, and DLS confirmed enhanced durability and bioactivity. The results suggest the composite coating as a viable solution for improving bone implant durability.*

***WORK EXPERIENCE***

---

**Biomedical engineer** ; Urmia, West Azerbaijan, Iran (2019 – 2020)

***LANGUAGES***

---

*Turkey, Persian, English*

***SKILLS***

---

*Simulation of Biological Systems*

*OriginLab*

*AVR*

*Proteus*

*ZView (Impedance Spectroscopy)*

*COMSOL Multiphysics*

*Microsoft Office Suite*

*Nanoparticle Synthesis*

*Coating Techniques*

*Surface Characterization (SEM, TEM, XPS, XRD, FTIR)*

*Materials Testing (Mechanical, Corrosion Resistance)*