

# Erfan Lotfi Khojasteh

## M.Sc. in Materials Selection and Characterization

### PROFILE

As an ambitious and driven M.Sc. student in Materials Selection and Characterization, I am passionate about exploring the properties and behaviors of different materials, especially thin films, to understand their potential applications in various fields better. Through my studies, I have developed a strong foundation in material selection, characterization, testing techniques and an ability to analyze data and interpret results. Our studies focus on developing novel ceramic and nano-structured thin film coatings deposited by PVD technique such as High-entropy coatings. Whether it be in research and development, materials testing, or quality control, I am confident in my ability to contribute to a dynamic and innovative team.

### MY CONTACT

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 [erfanlotfi](https://www.linkedin.com/in/erfanlotfi)  
 Hamedan | Iran

### RESEARCH INTERESTS

- Thin films
- High-entropy materials
- PVD coatings
- Amorphous alloys
- Surface treatments

### ACHIEVEMENTS & AWARDS

- Top-ranked in terms of GPA in the Master's study-research program

### SOFTWARE SKILLS

- HighScore Plus
- Origin Pro
- Mendeley
- MATLAB
- Python
- ZView
- Nova
- Microsoft Office (Word, PowerPoint, Excel)

### LANGUAGES

- **Persian** (Mother Tongue)
- **English** (Relevant exam will be taken on Dec 2023)

### EDUCATIONAL BACKGROUNDS

#### Master of Science in Materials Selection and Characterization

**Bu-Ali Sina University**  
**Oct 2021 - Present**

**Thesis Title:** Applying high-entropy AlCrSiTiZr-based coatings and investigating their tribological and electrochemical behaviors. (Under the Supervision of Dr. Hassan Elmkhah and Dr. Meisam Nouri)

**GPA:** 19.25 Out of 20.0

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#### Bachelor of Science in Materials Science and Engineering

**Bu-Ali Sina University**  
**Oct 2016 - Feb 2021**

**Project Title:** Characterization of TiN/CrN nano-layer coating deposited on carburized-H13 hot-work steel by Arc-PVD technique. (Under the Supervision of Dr. Hassan Elmkhah)

**GPA:** 17.02 Out of 20.0

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### ACADEMIC EXPERIENCES

#### Researcher

**Bu-Ali Sina University**  
**Mar 2021 - Aug 2022**

- Researching and data collection, analyzing data and results, characterization of the coatings, and preparing reports on a project with title of "Development of Anti-fouling and Advanced Compressor Coatings (ACCs) for Gas Turbine Applications."

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#### Teacher Assistant

**Bu-Ali Sina University**

**Sep 2020 - Jan 2021 | Sep 2021 - Jan 2022**

- Teaching Crystallography and Physical Metallurgy courses

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## PUBLICATIONS

- **Lotfi-Khojasteh, Erfan**, Hassan Elmkhah, Meisam Nouri, Omid Imantalab, and Arash Fattah-alhosseini. "The Study of the Electrochemical and Tribological Behaviors of CrN/AlCrN Coating Deposited by the Arc-PVD Technique." Iranian Journal of Materials Science and Engineering 19, no. 4 (2022): 1-12. doi: [10.22068/IJMSE.2581](https://doi.org/10.22068/IJMSE.2581). (*Published Paper*)
- **Lotfi-Khojasteh, Erfan**, Mohammad Sahebazamani, Hassan Elmkhah, Meisam Nouri, Omid Imantalab, and Arash Fattah-Alhosseini. "A study of the electrochemical and tribological properties of TiN/CrN nano-layer coating deposited on carburized-H13 hot-work steel by Arc-PVD technique." Journal of Asian Ceramic Societies 9, no. 1 (2021): 270-282. doi: [10.1080/21870764.2020.1863577](https://doi.org/10.1080/21870764.2020.1863577). (*Published Paper*)
- **Erfan Lotfi-Khojasteh**, Hassan Elmkhah, Meisam Nouri, Omid Imantalab, Arash Fattah-Alhosseini. "The Post-annealing Effect on Tribological and Corrosion Behaviors of CrN/AlCrN Multi-layered Coating Applied by CAE-PVD." International Journal of Applied Ceramic Technology. (*Accepted Paper*)
- **Erfan Lotfi-Khojasteh**, Hassan Elmkhah, Meisam Nouri, Masoud Atapour. "The comparison of corrosion behavior of AlCrSiTiZr-based high-entropy metallic glass and multi-layer nitride coatings deposited by CAE-PVD technique." 23rd national conference of surface engineering. (*Conference Paper*)
- **Erfan Lotfi-Khojasteh**, Hassan Elmkhah, Meisam Nouri, Mohammadreza Jafari, Mohammad Sahebazamani, Ehsan Farahani. (2021). "Investigation of the tribological properties of CrN/AlCrN nanolayer coating deposited by Arc-PVD for die casting molds application." 21st national conference of surface engineering. (*Conference Paper*)
- **Erfan Lotfi-Khojasteh**, Mohammad Sahebazamani, Hassan Elmkhah, Meisam Nouri, Omid Imantalab, and Arash Fattah-alhosseini. (2021). "Investigation of the electrochemical behavior of TiN/CrN nano-layer coating deposited on carburized-H13 hot-work steel." 19th national congress of corrosion. (*Conference Paper*)
- **Erfan Lotfi-Khojasteh**, Hassan Elmkhah, Meisam Nouri. "Exploring of High-entropy PVD coatings based on atomic radius mismatch: Review." Advanced Materials Journal. (*Under Submission Paper*)
- **Erfan Lotfi-Khojasteh**, Hassan Elmkhah, Meisam Nouri, Masoud Atapour. "Corrosion and Tribological behaviors of AlCrSiTiZr-Based High-entropy coatings deposited by CAE-PVD." (*Under Preparation Paper*)
- **Erfan Lotfi-Khojasteh**, Hassan Elmkhah, Meisam Nouri. "Fouling and its effects on Gas Turbine's efficiency." (*Under Preparation Book*)

## CERTIFICATES

- "MATLAB course" organized by Coursera. (*in Progression*)
- "Microscopic Analysis (SEM, TEM, AFM, STM, ECSTM) course" organized by Nano Education Portal. (*in Progression*)
- "X-Ray Diffraction Analysis (Crystallography, XRD, X'pert, GIXRD, SAXS, OriginPro) course" organized by Nano Education Portal. (*Oct 2022*)
- "Programming for everybody (getting started with Python) course" organized by Coursera. (*Sep 2022*)
- "Nano Coatings course" organized by Nano Education Portal. (*Oct 2021*)
- "Amorphous Alloys: Fabrication, Properties, Applications course" organized by Nano Education Portal. (*Oct 2021*)
- "Welder, Structural Steel (SMAW) course" organized by Iran Technical & Vocational Training. (*Dec 2020*)
- "Ultrasonic Testing course" organized by Iran Technical & Vocational Training. (*Sep 2020*)
- "Visual Testing (TVTO VT LEVEL II) course" organized by Iran Technical & Vocational Training. (*Feb 2020*)
- "Liquid Penetrant Testing course" organized by Iran Technical & Vocational Training. (*Aug 2019*)

## REFERENCES

- **Hassan Elmkhah** (*Associate Professor*)  
Bu-Ali Sina University  
**Email:** [elmkhah@gmail.com](mailto:elmkhah@gmail.com)
- **Meisam Nouri** (*Assistant Professor*)  
Bu-Ali Sina University  
**Email:** [m.nouri@basu.ac.ir](mailto:m.nouri@basu.ac.ir)
- **Masoud Atapour** (*Associate Professor*)  
Isfahan University of Technology  
**Email:** [m.atapour@cc.iut.ac.ir](mailto:m.atapour@cc.iut.ac.ir)

## PERSONAL SKILLS

- Teamwork and collaboration
- Highly-motivated and diligent
- Analytical thinking
- Detail-oriented
- Effective communication
- Willingness to learn

## SELECTED COURSES

- "Advanced Surface Engineering": (20.0 Out of 20.0)
- "Tribology": (20.0 Out of 20.0)
- "Ultrafine-grained and Nanostructured Materials": (20.0 Out of 20.0)
- "Advanced Characterization of Materials": (18.27 Out of 20.0)