

Academic CV
Saeed Takaloo

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Googls scholar: <https://scholar.google.com/citations?user=6Gj9IMYAAAAJ&hl=en>

Education

- **Ph.D. (second)** in Mechanical and Mechatronics Engineering 2025-Now
University of Waterloo, Waterloo, Canada
- **Ph.D.** in Mechanical Engineering 2017-2023
University of Tehran, Tehran, Iran
GPA: 18.17 / 20
- **M. Sc.** in Mechatronics Engineering 2014-2017
Sharif University of Technology, Tehran, Iran
GPA: 17.17 / 20
- **B. Sc.** in Mechanical Engineering 2010 - 2014
Amirkabir University of Technology, Tehran, Iran
GPA: 18.15 / 20

Research interests

Biosensors, Bio-MEMS, Microfabrication, Wearable Electronics, Nanomaterials, Flexible Sensors, Bioelectronics.

Publication

1. Xu, A. H., Zaidan, L., **Takaloo, S.**, Belyakov, I., Irannejad, M., Medvedeva, X., ... & Yavuz, M. (2025). Reduced graphene oxide/gold composite synthesis via laser irradiation for surface enhanced Raman spectroscopy biosensors. *Journal of Materials Science: Materials in Electronics*, 36(4), 1-15. <https://doi.org/10.1007/s10854-025-14310-3>
2. **Takaloo, S.**, Xu, A. H., Zaidan, L., Irannejad, M., & Yavuz, M. (2024). Towards Point-of-Care Single Biomolecule Detection Using Next Generation Portable Nanoplasmonic Biosensors: A Review. *Biosensors*, 14(12), 593.
3. Zaidan, L.; Novodchuk, I.; H.Xu, A.; Nica, A.; **Takaloo, S.**; Lloyd, C.; Karimi, R.; Sanderson, J.; Bajcsy, M.; Yavuz, M. (2024). Rapid, Selective, and Ultra-Sensitive Field Effect Transistor-Based Detection of Escherichia coli. *Materials*, 17, 3648. <https://doi.org/10.3390/ma17153648>
4. **Takaloo, S.**, Moghimi Zand, M., Kalantar, M., & Rezayan, A. H. (2023). Detection of C-Reactive Protein Using a Flexible Biosensor with Improved Bending Life. *Journal of The Electrochemical Society*. [DOI 10.1149/1945-7111/acd1bc](https://doi.org/10.1149/1945-7111/acd1bc)
5. **Takaloo, S.**, & Zand, M. M. (2023). Design and theoretical error analysis of wireless electrochemical reader to be integrated in smart mask for breath monitoring. *Measurement*, 220, 113338. <https://doi.org/10.1016/j.measurement.2023.113338>

6. **Takaloo, S.,** & Zand, M. M. (2021). Wearable electrochemical flexible biosensors: With the focus on affinity biosensors. *Sensing and Bio-Sensing Research*, 32, 100403. <https://doi.org/10.1016/j.sbsr.2021.100403>

Conferences

1. **Takaloo, S.,** Xu, A., Ryabchikov, Y., Yavuz, M. (2025, May). Physico-Chemical Characterization of Si-AuAg Nanocomposite Synthesized Using Pulsed Laser Ablation. In the 36th Canadian Materials Science Conference (CMSC).
2. Yavuz, M., Belyakov, I., Xu, A., Zaidan, L., Irannejad, M., **Takaloo, S.,** Medvedeva, X., Klinkova, A., Bastug Azer, B., Gulsaran, A., Ozyigit, D., Pennings, J., Karimi, R. and Sanderson, J. (2024, June). Transition Metal-Dichalcogenide/Au Nanoparticle (AuNP) Composite Synthesis via Laser Irradiation for Surface Enhanced Raman Spectroscopy (SERS) Biosensors. In 10th International Conference on Optical, Optoelectronic and Photonic Materials and Applications (ICOOPMA 2024). <https://www.icoopma.com/s/Book-of-abstract-ICOOPMA2024.pdf>
3. **Takaloo, S.,** & Vossoughi, G. (2017, October). Robustness Enhancement of optical flow sensors accuracy to surface texture variations using point tracking algorithm. In 2017 5th RSI International Conference on Robotics and Mechatronics (ICRoM) (pp. 406-410). IEEE. DOI: [10.1109/ICRoM.2017.8466142](https://doi.org/10.1109/ICRoM.2017.8466142)
4. Ebrahimi, Ali & **Takaloo, Saeed** & Sadeghnejad, Soroush & Vossoughi, G.R.. (2016). A Robust Controller for a Tele-Operated System with Time Delay and Operator Hand Parameter Uncertainties Based on Miu Synthesis. ISME 2016 (in persian language). <https://civilica.com/doc/943327/>

Honors and Awards

- Ranked **33rd in the** national university entrance exam for PhD. degree in Mechanical engineering among 2000 Participants, 2017.
- Ranked **56th** in the national university entrance exam for M.Sc. degree in Mechanical engineering among 9600 Participants, 2014.
- Ranked **5th** student with the best GPA among 120 B. sC. students of Amirkabir University of Technology, 2014.
- **Silver medal** in the national mathematics Olympiad among 21000 Participants, 2009.

Experiences

Journal Reviewer, Materials Horizons (RSC), May 2025

Journal Reviewer, Chemical Communications (RSC), April 2025

Journal Reviewer, International journal of nanomedicine (Dove Medical Press), February 2025

Journal Reviewer, Measurement Science and Technology (IOP Publishing), August 2024

Journal Reviewer, Materials Advances (RSC), November 2024

Advanced Vibrations Teacher Assistant, University of Tehran, Spring 2019 and Spring 2023

Dynamics and Vibrations Lab Teacher Assistant, University of Tehran, Spring 2019 and Fall 2018

Applied Electronics Teacher Assistant, Sharif University of Technology, the Fall 2016

Skills

Device Design: Solidworks, Altium Designer

Electrochemistry: Cyclic Voltammetry, Electrochemical Impedance Spectroscopy.

Characterization: UV-Vis, Raman spectroscopy, XPS, SEM, TEM, AFM.

Simulation: Comsol, Matlab.