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Current position

2026/03 – now Researcher, Department of Molecular Sciences, Swedish University of Agricultural Sciences (SLU), Sweden.

Education and degrees

2017/11 – 2021/12 Ph.D. degree in Materials Science, Luleå University of Technology (LTU), Sweden. Supervisor: Prof. Farid Akhtar

2014/09 – 2016/06 M.Sc. degree in Erasmus Mundus Nanoscience and Nanotechnology (EM-Nano), KU Leuven & CTH, Belgium & Sweden. Supervisor: Prof. Jie Sun

2010/09 – 2014/06 B.Sc. degree in Materials Science and Engineering, Southwest Jiaotong University, China. Supervisor: Prof. Song Chen

Previous position

2022/01 – 2025/12 Postdoc, Wallenberg Initiative Materials Science for Sustainability (WISE), Department of Life Sciences, Chalmers University of Technology (CTH), Sweden. Advisor: Prof. Ivan Mijakovic

2016/09 – 2017/09 IC package engineer, Huawei Technologies Co., Ltd., China

Pedagogical experiences

2021/02 – present Pedagogical education (15.5 ECTS)

- Introductory course for teachers, LTU. 2.0 ECTS
- Qualifying course for university teachers, LTU. 5.5 ECTS
- Supervising research students, CTH. 3.0 ECTS
- Tandems for teaching in the glocal classroom, KI, 3.0 ECTS
- Diversity and inclusion for learning in higher education, CTH, 2 ECTS

2017/11 – present Teaching activities

- T0004T: Material Science and Engineering I, LTU. B.Sc. level, Duty: lessons, lab, seminars, reports.
- T0021T: Material and Manufacturing, LTU. B.Sc. level, Duty: lab.
- T7003T, Advanced Materials Characterization Techniques, LTU. M.Sc. level, Duty: lab.
- T7009T, Project Course in Materials Science, LTU. M.Sc. level, Duty: supervision.
- UCM010, Introductory Cell and Molecular Biology, CTH. B.Sc. level, Duty: guest lecture.
- Nanotechnology, European University of Valencia, B.Sc. level, Duty: guest lecture.

2018/08 – present Supervision

- Project students (M.Sc. level)
 - Kyllian Demenus, 2020; Pauline Leonard, 2018; Nicolas Grimaldos Osorio, 2018; Lucas Sarramonne, 2023; Wengeng Gao, 2024
- Master's thesis students
 - Nihal Basavaraj Kottan, 2023; Rafael Acosta Laisequilla, 2019; Nicolas Grimaldos Osorio, 2019
- Ph.D. student (co-supervising)
 - Kristian Nakić, 2025

2021/06 Workshop on virtual lab and gamification, pedagogical conference, LTU

2023/04 Public lecture (popular science) in Vetenskapsfestivalen 2023, Göteborg

Organizational experiences

2025/03	Grant review panel committee for the National Science Center, Poland
2024/11	Moderator for the department Career Day for Young Researchers
2024/03	Member of the Student Council of the WISE program
2023/09	Invited “observer” for Nobel Symposium NS193, Karlskoga, Sweden
2022/02	Member of Core Value Team (CVT) at Sysbio, CTH
2021/12 – present	Local Organizing Committee, LTU & CTH <ul style="list-style-type: none"> – MOF pre-symposium 2023, CTH, Sweden – PEST-BIN summer school 2022, CTH, Sweden – Yeast Lipid Conference 2022, CTH, Sweden – 1st CCU-Net Symposium 2021, LTU, Sweden
2017/11 – present	Lab equipment management at LTU & CTH <ul style="list-style-type: none"> – DSC & TGA (SDT650, TA instrument) LTU – Sorption analyzer (IsoSORP, TA instrument), LTU – Surface analyzer (Gemini VII, Micromeritics), LTU – Gas responsibility (Training from Linde) at Sysbio, CTH
2022/03 – present	Paper review contributions (>20), including Mater. Horiz., ACS Sustain. Chem. Eng.; ChemComm, Chem. Eur. J., New J Chem., J. Energy Storage.
2025/11 – present	Guest editor for <i>Sustainability</i> , special issue

Publications

Peer-reviewed papers	22 peer-reviewed publications, with h-index of 10 and 389 citations in the past 5 years (Data from Google Scholar 2026/03)
Conferences	10 international conferences with oral presentations/posters
Invited talks	7 times: (1) Global seminar (Omar Yaghi’s lab, UC Berkeley), 2025; (2) guest seminar at University of Split; (3) career day for the department of Life Sciences at CTH; (4) guest lecture for Nanotechnology course, 2025; (5) Nobel pre-symposium 2023; (6) guest lecture for UCM010, 2022; and (7) invited seminar at CUMT, 2021

Award and fundings

- VR starting grant, 2025 – 4.8 MSEK
- AoA Health – seed grant, 2025 – 300k SEK
- Åforsk travel grant, 2024 – 30k SEK
- Nils Philblads stipendiefond travel grant, 2023 – 22k SEK
- AoA Nano – high-impact, high-risk project, 2023 – 750k SEK
- Stimulation grants for Vetenskapsfestivalen, 2023 – 25k SEK
- WISE postdoc funding - co-applicant, 2022 – 2 MSEK
- Best poster award of Science and Technology Day, 2022 – 15k SEK
- Knut & Alice Wallenberg Foundation travel grant, 2021 – 30k SEK

Total amount: 7.97 MSEK (797 k€)

Language

- Chinese: Native
- English: Professional working proficiency
- Swedish: SFI C & D level certificate, Svenska som andraspråk nivå 1 certificate

Selected publications ([Full list](#))

- [1] **Cao, Z.**^{*}, Kottan, N., Pandit, S., Zhang, J., Faresjö, M., Noa, F. M. A., Öhrström, L., Mijakovic, I. (2026) *ACS Sustainable Chemistry & Engineering*, 5c10534 [^{*} *Corresponding Authors*]
- [2] **Cao, Z.**^{*}, Pandit, S., Noa, F. M. A., Zhang, J., Gao, W., Rahimi, S., Öhrström, L.^{*}, Mijakovic, I.^{*} (2025) *Advanced Science*, e05976. [^{*} *Corresponding Authors, cover paper*]
- [3] **Cao, Z.**^{*}, Fu, X., Li, H., Pandit, S., A. Noa, F. M., Öhrström, L., Zeleznik, A., & Mijakovic, I.^{*} (2023). *ACS Sustainable Chemistry & Engineering*, 3c05222 [^{*} *Corresponding Authors*]
- [4] **Cao, Z.** & Akhtar, F. (2021). *Advanced Functional Materials*, 31(30), 2008505. [*Cover paper*]
- [5] Shezad, N., D'Agostini, M., Ezzine, A., Franchin, G., Colombo, P., **Cao, Z.**^{*}, & Akhtar, F.^{*} (2025). *International Journal of Hydrogen Energy*, 134, 1-9. [^{*} *Corresponding Authors*]