# ANDRA MIHAELA ONAS

## SUMMARY

Ph. D. candidate, combining over five years of experience in R&D and Chemical Engineering, and multiple years in cross-sectorial leadership. I have had progressive experience over seven national and EU-funded projects. I have strong scientific background in engineering and a track record of quick learning and adapting in new and complex situations.

## EXPERIENCE

### Director General [12/2024 – Present]

Romanian Union of Cosmetics and Detergents Manufacturers – RUCODEM

### Board of Directs Member [02/2025 – Present]

Detergents Europe.

### Project Manager [12/2024 – 10/2025]

Collaborator for WOW Lab

### R&D Research Assistant / Team Member [01/2021 – 12/2025]

National and European Research Projects (BioMimAntiCx 6BMBE/2025, Metalsens TE90/2022, Graptadiazonics PCE130/2021, Nanovec PCE27/2021)

### Project Secretary/ Consulting student [01/2021 – 12/2025]

EU and nationally-funded projects (A-Succes MySMIS code 125125, ROSE )

### Chemical Engineer [10/2019 – 12/2024]

National University of Science and Technology POLITEHNICA Bucharest

### Project technician [07/2018 – 11/2018]

Nationally funded R&D project – INNOVABENZOX PCE 9/2017

## EDUCATION

### Ph.D. – Advanced biosensing technologies [10/2021 – Present]

Doctoral School of Chemical Engineering and Biotechnologies – POLITEHNICA Bucharest

### Traineeship – Organic Synthesis and MassSpec [03/2023 – 07/2023]

Université de Mons

### M.Sc. – Smart Polymers and Biopolymers [10/2019 – 07/2021]

National University of Science and Technology POLITEHNICA Bucharest

### B.Sc. – Chemical Engineering [10/2015 – 07/2019]

National University of Science and Technology POLITEHNICA Bucharest

## LANGUAGES

| Romanian | English |
|---|---|
| Native | Bilingual |

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## PUBLICATIONS

1. Andra Mihaela Onaș, Elena Olaret, Andreea Madalina Pandele, Matei Raicopol, Luisa Pilan, Horia Iovu, A Comparative Study On The Preparation Of Glassy Carbon Electrodes Modified With Electrochemically Reduced Graphene Oxide, U.P.B. Sci. Bull., Series B, Vol. 86, Iss. 1, 2024 (IF – 0.3)
2. Andra Mihaela Onaş, Andreea Mădălina Pandele, Anamaria Hanganu, Ciprian Victor Florea, George Marton, Horia Iovu, Matei D. Raicopol, Luisa Pilan, Controlled Surface Functionalization using Aryldiazonium Salts with Bulky Protecting Groups for the Development of DNA-Based Sensing Platforms, Surfaces and Interfaces, Volume 46, 2024, 103855, https://doi.org/10.1016/j.surfin.2024.103855 (IF - 6.6)
3. Andra Mihaela Onaş, Andreea Mădălina Pandele, Anamaria Hanganu, Ciprian Victor Florea, Horia Iovu, Matei D. Raicopol, Luisa Pilan, Facile preparation of bifunctional monolayers through diazonium grafting and “click” postfunctionalization: A first step towards efficient aptasensing interfaces, Bioelectrochemistry, Volume 163, 2025, 108904, https://doi.org/10.1016/j.bioelechem.2025.108904 (IF - 4.5)
4. Andra Mihaela Onaş, Louis Groignet, Sorin Marius Avramescu, Horia Iovu, Julien De Winter, Rational Design of Helical Peptoids for Tetracycline Conjugation: Insights into Molecular Complexation Mechanisms, Bioconjugate Chemistry, Volume 37, 2026, 779 – 789, https://doi.org/10.1021/acs.bioconjchem.6c00033 (IF - 3.9)
5. Andra Mihaela Onaş, Ciprian Victor Florea, Matei D. Raicopol, Andreea Madalina Pandele, Chapter 13 - Carbon nanotube fibres and yarns – synthesis, structure, and applications, Technical Organic and Inorganic Fibres from Natural Resources, Elsevier Science Ltd (ISBN 9780443154591), 2025, 379-402, https://doi.org/10.1016/B978-0-443-15459-1.00007-3.
6. Ciprian V. Florea, George O. Buică, Mădălina A. Pandele, Andra M. Onaş, Manuela-Elena Voicu, Anamaria Hanganu, Victoriţa Tecuceanu, Gabriela-Geanina Vasile, Cristian Devan, Raluca Stan, Matei D. Raicopol, Dual-function sensing platform for Hg(II) based on a redox-active thiosemicarbazone receptor, Journal of Electroanalytical Chemistry, Volume 961, 2024, 118251, https://doi.org/10.1016/j.jelechem.2024.118251.
7. Elena Olaret, Brindusa Balanuca, Andra Mihaela Onaş, Andrada Serafim, Screening of carboxylated nanodiamonds interactions with porcine gastric mucin and its methacryloyl derivative, Materials Letters, Volume 337, 2023, 134012, https://doi.org/10.1016/j.matlet.2023.134012.
8. Andra Mihaela Onaş, Constanţa Dascălu, Matei D. Raicopol, and Luisa Pilan, Critical Design Factors for Electrochemical Aptasensors Based on Target-Induced Conformational Changes: The Case of Small-Molecule Targets, Biosensors, Volume 12, 2022, 816. https://doi.org/10.3390/bios12100816
9. Onaș, A.M.; Bîru, I.E.; Gârea, S.A.; Iovu, H. Novel Bovine Serum Albumin Protein Backbone Reassembly Study: Strongly Twisted β-Sheet Structure Promotion upon Interaction with GO-PAMAM. Polymers (Basel).2020, 12
10. Onas, A.M., Biru, I.E., Petca, A. & Petca, R.C. (2021). The Aging Behavior of Polyurethane-based Ureteral Catheters. Materiale Plastice, 58(4), 65-72. https://doi.org/10.37358/MP.21.4.5532
11. Olaret, E.; Balanuca, B.; Onas, A.M.; Ghitman, J.; Iovu, H.; Stancu, I.-C.; Serafim, A. Double-Cross-Linked Networks Based on Methacryloyl Mucin. Polymers (Basel). 2021, 13, doi:10.3390/polym13111706.
12. Cojocaru, E.; Onas, A.M.; Iovu, H. CARBOXYLATED GRAPHENE OXIDE INTEGRATED CHITOSAN COMPOSITE SCAFFOLDS AS ENCOURAGING MATERIALS FOR TISSUE ENGINEERING. Univ. Politeh. BUCHAREST Sci. Bull. Ser. B-CHEMISTRY Mater. Sci. 2020, 82, 15–28.

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## CONFERENCES

- • Andra Mihaela Onas, Andreea Madalina Pandele, Cristian Devan, Ciprian Victor Florea, Matei Raicopol, Luisa Pilan, Improved Aptasensing Platform for Tetracycline Detection through Aryl Diazonium Electrochemistry, Regional Meeting of the International Society of Electrochemistry, 15-19 August 2022 (Prague, CZECH REPUBLIC)
- • Andra Mihaela Onas, Andreea Madalina Pandele, Cristian Devan, Ciprian Victor Florea, Matei Raicopol, Luisa Pilan, Designing Functional Surfaces with Controllable Properties by Electrografting of Protected Aryldiazonium Salts, Regional Meeting of the International Society of Electrochemistry, 15-19 August 2022 (Prague, CZECH REPUBLIC)
- • Andra Mihaela Onaș, Andreea Madalina Pandele, Horia Iovu, Ciprian Victor Florea, Matei Raicopol, Luisa Pilan, Electrografting of Protected Aryldiazonium Salts for the Controllable Design of Functional Surfaces, 22nd Romanian International Conference on Chemistry and Chemical Engineering, September 7 – 9, 2022 (Sinaia, ROMANIA)
- • Ciprian Victor Florea, Andra Mihaela Onaș Andreea Madalina Pandele, Matei Raicopol, Luisa Pilan, The Use of Aryl Diazonium Electrochemistry for The Development of Tetracycline Aptasensing Devices, 22nd Romanian International Conference on Chemistry and Chemical Engineering, September 7 – 9, 2022 (Sinaia, ROMANIA)
- • Andra Mihaela Onaș, Andreea Madalina Pandele, Horia Iovu, Ciprian Victor Florea, Matei Raicopol and Luisa Pilan, Electrografting Protected Aryldiazonium Salts:
- Strategy for Controllable Design of Aptasensing Platforms, SRC Young Chemists' Day, May 22nd, 2023 (Mons, BELGIUM)
- • Andra Mihaela Onaş, Andreea Madalina Pandele, Ciprian Victor Florea, Matei Raicopol, Luisa Pilan, Development of Aptasensing Platforms by Controlled Grafting of Aryldiazonium Salts, 17th International Conference of Physical Chemistry – ROMPHYSCHEM, September 25-27, 2023 (Bucharest, ROMANIA)
- • Andra Mihaela ONAŞ, Julien De Winter, Horia Iovu, Rational design of peptoid molecules with antibiotic complexation properties, Transnational Multiplier Event – October 18-19, 2023 – (Bucharest, ROMANIA)
- • Luisa Pilan, Matei Raicopol, Andra Mihaela Onas, Madalina Pandele, Ciprian Florea, Optimized low-fouling aptasensing surfaces by electrografting of aryldiazonium salts, Biosensors 2023, 33rd Anniversary World Congress on Biosensors, 5-8 June 2023 (Busan, SOUTH KOREA)
- • Ciprian Victor Florea, Andra Mihaela Onas, Andreea Madalina Pandele, Matei Raicopol, Luisa Pilan, Controlled Surface Functionalization Using Aryldiazonium Salts for the Development of Aptasensing Platforms, 244th ECS Meeting, October 8-12, 2023 (Gothenburg, SWEDEN)
- • Andra Mihaela Onas, Andreea Madalina Pandele, Ciprian Victor Florea, Matei Raicopol, Luisa Pilan, Controlled Design of Aptasensing Platforms for Food Contaminants Detection through Aryl Diazonium Electrochemistry, Sensors Technologies International conference - Sensors 2023, October 25-27, 2023 (Albufeira, PORTUGAL)
- • Andra Mihaela Onas, Julien De Winter, Horia Iovu, Design and synthesis of peptoid molecules with antibiotic complexation properties for biotechnological applications, 23rd Romanian International Conference on Chemistry and Chemical Engineering, September 4 – 7, 2024 (Constanța - Mamaia, ROMANIA)
- • Andra Mihaela Onas, Ciprian Victor Florea, Matei D. Raicopol, Horia Iovu, Luisa Pilan, ssDNA-based electrochemical biosensors for aminoglycoside antibiotics detection, 23rd Romanian International Conference on Chemistry and Chemical Engineering, September 4 – 7, 2024 (Constanța - Mamaia, ROMANIA)
- • Andra Mihaela Onas, Sorin Marius Avramescu, Julien De Winter, and Horia Iovu, Peptoid molecules with antibiotic complexation properties: rational design, purification and structural characterization, 4th International Conference on Bioengineering and Polymer Science - June 2-5, 2025 (Brasov, ROMANIA)
- • Andra Mihaela ONAȘ, Oana Mihaela CIOACĂ, Dragoș CONDURACHE, Matei RAICOPOL, Luisa PILAN, Aminoglycoside Antibiotic Detection Using a Diazonium-Electrografted Aptasensing Platform, 14th Scientific Conference of Doctoral Schools SCDC-UDJG, Workshop NOMARES, June 2026 (ROMANIA)

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## HONORS AND AWARDS

- Professor Sorin Rosca Award, 23rd Romanian International Conference on Chemistry and Chemical Engineering, September 4 – 7, 2024 (Constanța - Mamaia, ROMANIA)
- Research Results Awards: PN-III-P1-1.1-PRECISI-2021-54555, PN-III-P1-1.1-PRECISI-2021-55035 (2021, Executive Unit for Higher Education Financing, Research, Development and Inovation UEFISCDI)
- Student Scientific Fairs (Faculty of Chemical Engineering and Biotechnologies, University Politehnica of Bucharest)
  - ✓ 2020: Thermal degradation study of Bovine Serum Albumin through Circular Dichroism (Special Mention)
  - ✓ 2019: Synthesis of compex protein-graphene oxide structures for biomedical applications (1st Prize)
  - ✓ 2018: Nanocomposite hydrogels based on synthetic polimers and LDH type modified clays
  - ✓ 2017: Experimental study of liquid-liquid equilibrium of water-methyl acetate-isobutanol and water-methyl acetate-n-butanol ternary systems; Controlled delivery systems based on natural polymers for targeted therapies; YBa2Cu3O7-x-high temperature supraconductor (Special Mention)
- "PETRU SPACU" Analytical and Coordinative Chemistry Student Competition (Faculty of Chemical Engineering and Biotechnologies, University Politehnica of Bucharest)
  - ✓ 2017: Mention