Curriculum Vitae

Dr. Andreea Laura Scutaru *(previous name**: Chibac**)*
Current publication name: A.L. Chibac-Scutaru and *previous publication name*: A.L. Chibac
Scopus ID: 57225190542
ORCID: 0000-0003-3503-0237
Researcher ID: S-1740-2016
Date and Place of Birth: March 27th 1985 in Pascani, Iasi.
Researcher at the "Petru Poni" Institute of Macromolecular Chemistry of Romanian Academy, Iasi, Polyaddition and Photochemistry Department
E-mail: andreea.chibac@icmpp.ro

Education

Postdoctoral Fellow (June 2014 – December 2015): "Al. I. Cuza" University Iasi, Romania, "*Hybrid materials based on polymers and nanoparticles for applications in catalysis and optics*".
Ph.D. diploma (February 2013) "Petru Poni" Institute of Macromolecular Chemistry, Thesis title: "*New acrylic polymers and block copolymers for photo(bio)applications*".
Master degree (February 2011) in Applied Coordination Chemistry, Chemistry Faculty, "Al. I. Cuza" University, Iasi.
Bachelor degree (July 2008), Technological Biochemistry specialty, Chemistry Faculty, "Al. I. Cuza" University, Iasi.

Professional experience

Employed from November 2012 at the Petru Poni Institute of Macromolecular Chemistry Iasi, Polyaddition and Photochemistry Department:

- **September 2018 - to date**: Scientific researcher III (CSIII),
- **February 2014 to august 2018**: Scientific Researcher (CS),
- **November 2012 - January 2014**: Scientific Research Assistant (AC)

Supervision of graduate students and postdoctoral

2018 – to date: four postdoctoral fellows/ four PhD students/ three master students (Petru Poni Institute of Macromolecular Chemistry, Polyaddition and Photochemistry Department).
June – August 2024: supervision of PhD and master students and seminars lectures at College of Bioresources Chemical and Materials Engineering, Shaanxi University of Science & Technology(SUST), Xi'an, China

***Research expertise*:**

- development of hybrid composite materials for photocatalytic applications with facile recyclability and reusability for multiple runs without major loss of photocatalytic efficiency: immobilization of noble metal NPs (Ag, Au), conventional semiconductor NPs (TiO_2, ZnO) or CeO_2 NPs in various polymeric matrices (photocured polyacrylates, polyurethanes, cellulose derivatives);
- significant progress in the use of cellulose derivatives as support matrices for the development of materials for photocatalysis and UV shielding applications;

- important contribution in the field of fluorescence sensors (organic molecules, polymers and composites) by the synthesis of new organic fluorophores (dansyl, pyrazoline derivatives), by covalent inclusion of photoactive structures (dansyl, triazene, boronic acid, pyrazoline) in various copolyacrylates or by their grafting on polysilanes chains;
- important contribution to the development of cellulose-based films incorporating various nitrogen-containing heterocyclics as solid proton conducting platforms in fuel cell technology;
- development of photopolymerized nanocomposites with improved mechanical/optical features through the inclusion of inorganic fillers (magnetite, TiO_2, ZnO) or *in situ* photogeneration of nanoparticles (Au, Ag, Pt);
- synthesis of photocurable (meth)acrylic monomers/oligomers, photopolymerization studies concerning the formation, structure and properties of crosslinked networks;
- implementation of modern polymerization techniques (ATRP, RAFT) in the synthesis of photoactive block copolymers.

Research internships in foreign Laboratory

- ✓ **24 June – 22 August 2024**: College of Bioresources Chemical and Materials Engineering, Shaanxi University of Science & Technology (SUST), Xi'an, China (*visiting researcher - 8 ½ weeks*).
- ✓ **20 October – 10 November 2019:** Graz University of Technology, Graz, Austria (*visiting researcher – 3 weeks*).
- ✓ **September 2018:** East Paris Institute of Chemistry and Materials Science (ICMPE), Paris, France (*visiting researcher - 3 weeks*)).
- ✓ **16 January - 17 February 2012:** Université de Haute-Alsace, Institut de Scince des Materiaux de Mulhouse, Surfaces and Interfaces Complexes Department, France (*visiting research PhD student - 5 weeks*).
- ✓ **March 2010:** Université de Haute-Alsace, Institut de Scince des Materiaux de Mulhouse, Surfaces and Interfaces Complexes Department, France (*visiting research PhD student - 4 ½ weeks*).

Papers, publications and scientometrics indicators:

- ➢ publications: **52 articles ISI indexed**; for **33 papers** A. L. Chibac-Scutaru (Chibac) main author. From 52 ISI articles **34 (65.4%)** are published in **Q1 journals** and **11 (21.2%)** in **Q2 journals**. In Q1 and Q2 journals: more than 86% of PI publications
- ➢ **Hirsch index** is **16**;
- ➢ **proceedings** at international events: **2**;
- ➢ **patents** registered at OSIM: **2**;
- ➢ **presentations** in national and international conferences: **over 88** (over **47 invited or oral presentations**).

Projects activity

- **manager of project** PN-IV-P1-PCE-2023-1020 *Nanocellulosic hybrid Janus aerogels with high floatability for synchronous photocatalytic dyes mineralization and hydrogen production;*

- **manager of young teams project** PN-III-P1-1.1-TE-2019-1245 *New bio-based hybrid composites with CeO_2 NPs: a step towards more sustainable and competitive photocatalytic materials*;

- **partner manager of project** PN-III-P2-2.1-PED-2021-2724 *Innovative atmospheric pressure plasma*

method for obtaining a biopolymeric layer designed for heritage wood conservation;
- manager of 2 researcher mobility projects: PN-III-P1-1.1-MC-2018-0284 *New metal-free photocatalytic materials with applicability in organic synthesis performed under green chemistry principles* and PN-III-P1-1.1-MC-2019-0378 *Elucidation of reaction mechanisms in the presence of photocatalysts embedded in polymer supports and improvement of the photocatalysts efficiency*;
- member in 14 national projects.

Reviewing activities

- Reviewer for various journals (Elsevier, ACS, Springer, Wiley);
- Scientific Evaluator and Expert Evaluator for Executive government agency of National Science Centre Poland (Narodowe Centrum Nauki - NCN; http://www.ncn.gov.pl), Poland;
- Scientific Evaluator for Swiss National Scientific Foundation (SNSF), Switzerland.

Memberships of Scientific Societies

- Member of Research Network "European Polysaccharide Network of Excellence";
- Member of Chemical Society of Romania;
- Member of Interactions, Complex Phenomena and Advanced Materials Society, Romania.

Invited Lectures

1. A.L. Chibac-Scutaru. A journey from Romania beauty to the beauty of polymer-based materials used in photocatalytic applications or as fluorescent sensors, S*haanxi University of Science & Technology (SUST)*, Xi'an, China, July **2024**.
2. A.L. Chibac-Scutaru. ZnO based photocatalytic materials for dyes removal fromtextile industry wastewaters, *15th International Conference on Physics of Advanced Materials (ICPAM-15)*, Sharm El Sheikh, Egypt, November **2023**.
3. A.L. Chibac-Scutaru. Photocatalytic materials based on CeO_2 nanoparticles and photocrosslinked cellulosic matrices. Insights into the pollutant removal catalysis mechanism, *The 11th Global Conference on Materials Science and Engineering CMSE 2022*, Shenzhen, China / Online, September **2022**.
4. A.L. Chibac-Scutaru. CeO_2 nanoparticles embedded in different cellulosic substrates: photocatalytic materials for pollutant removal or organic reactions, *The 10th Global Conference on Materials Science and Engineering CMSE 2021* (ONLINE), August **2021**.
5. A. Chibac. Photocatalytic materials used for p-nitroaniline reduction: hybrid metal-polymer composites vs. metal-free materials, *Conference of Chemistry Faculty, IasiChem*, October **2018**.
6. A. Chibac. Hybrid photopolymerized nanocomposites used as photocatalysts for organic pollutant degradation, *East Paris Institute of Chemistry and Materials Science* (ICMPE) Paris, September **2018**.

Selected Scientific Publications

1. A.L. Chibac-Scutaru*, V.-E. Podasca, V. Melinte, Symbiotic coupling of ZnO nanoparticles and coumarin photosensitizer in soft polyurethane matrices for boosting visible-light photocatalytic performance, **Journal of Environmental Chemical Engineering**, 12, 112312 (**2024**), **Q1** (IF_{2022} = 7.7).
2. V. Melinte, M.E. Culica, A.L. Chibac-Scutaru*, Cellulose acetate/polyurethane blend as support

matrix with high optical transparency and improved mechanical properties for photocatalyst CeO_2 nanoparticles immobilization, **International Journal of Biological Macromolecules**, 251, 126210 (**2023**), **Q1** (IF_{2022} = 8.2).

3. M. Asandulesa, A.L. Chibac-Scutaru*, M.E. Culica, V. Melinte, S. Coseri, Cellulose-based films with enhanced load of nitrogen containing heterocycles: The impact on the surface morphology and proton conductivity, **Applied Surface Science**, 607, 155077 (**2023**), **Q1** (IF_{2022} = 6.7).

4. L. Sacarescu, A.L. Chibac-Scutaru*, G. Roman, G. Sacarescu, M. Simionescu, Selective detection of metal ions, sulfites and glutathione with fluorescent pyrazolines: a review, **Environmental Chemistry Letters**, 21, 561–596 (**2023**), **Q1** (IF_{2022} = 15.7).

5. V. Melinte, S.I. Trifan, A.L. Chibac-Scutaru*, V. Podasca, S. Coseri, Reusable catalysts based on CeO2/cellulose derivative with visible light photocatalytic activity tuned by noble metal nanoparticles inclusion, **International Journal of Biological Macromolecules**, 222, 736–749 (**2022**), **Q1** (IF_{2022} = 8.2)

6. V. Melinte , A.L. Chibac-Scutaru*, M.E. Culica, S. Coseri, Mineralization versus photoreduction of 4-nitrophenol under the influence of surface functionalized CeO_2 nanoparticles, hosted by versatile cellulose supports, **Applied Surface Science**, 565, 150494 (**2021**), **Q1** (IF_{2022} = 6.7)

7. M.E. Culica, A.L. Chibac-Scutaru, T. Mohan, S. Coseri, Cellulose-based biogenic supports, remarkably friendly biomaterials for proteins and biomolecules, **Biosensors and Bioelectronics**, 182, 113170 (**2021**), **Q1** (IF_{2022} = 12.6).

8. V. Melinte, L. Stroea, T. Buruiana, A.L. Chibac*, Photocrosslinked hybrid composites with Ag, Au or Au-Ag NPs as visible light triggered photocatalysts for degradation/reduction of aromatic nitroderivatives, **European Polymer Journal**, 121, 109289 (**2019**), **Q1** (IF_{2022} = 6.0)

9. A. L. Chibac*, V. Melinte, T. Buruiana, E.C. Buruiana, Fluorescent polymeric sensors containing boronic acid derivatives for sugars and dopamine detection. Sensing characteristics enhancement by Au NPs, **Sensors and Actuators B**, 253, 987–998 (**2017**), **Q1** (IF_{2022} = 8.4).

10. A. Chibac, V. Melinte, T. Buruiana, L. Balan, E.C. Buruiana, One-pot synthesis of photocrosslinked sol–gel hybrid composites containing silver nanoparticles in urethane-acrylic matrixes, **Chemical Engineering Journal**, 200-202, 577–588 (**2012**), **Q1** (IF_{2022} = 15.1).