

## Dr. Carmen-Mihaela Popescu

Senior researcher II

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### ***Educational background:***

1. **03.2011-02.2013, PostDoc:** Faculty of Chemical Engineering and environment protection, Gh. Asachi Technical University of Iasi, (PERFORM-ERA, ID-57649). Title: *Macromolecular materials used for conservation and restoration of the wooden cultural heritage objects*, supervisor: Acad. Bogdan C. Simionescu
2. **11.2005-05.2010, Doctor in Chemistry degree:** Petru Poni Institute of Macromolecular Chemistry of the Romanian Academy, Iasi, Romania.
3. **2002-2004, M.Sc. degree:** Faculty of Physics, Al. I. Cuza University, Iasi, Romania. Specialty: Optics, Spectroscopy and Physics of polymers.
4. **2005-2008, B.Sc. degree:** Faculty of Chemistry, Al. I. Cuza University, Iasi, Romania. Specialty: Chemistry.
5. **1998-2002, B.Sc. degree:** Al. I. Cuza University, Iasi, Romania. Specialty: Preservation and conservation of wooden artworks

### ***Work experience:***

**01.02.2019 – present, scientific researcher II (eqv: associate professor),** Petru Poni Institute of Macromolecular Chemistry of the Romanian Academy

**01.05.2018 – 28.02.2019 – invited professor,** JSPS Invitational fellowship FY2018, University of Tsukuba, Tsukuba, Japan

**29.07.2015 – present, associate researcher,** Centre for Wood Science and Technology, Edinburgh Napier University, Edinburgh, UK

**01.04.2015 – 31.01.2019, scientific researcher III (eqv: assistant professor),** Petru Poni Institute of Macromolecular Chemistry of the Romanian Academy

**01.08.2011 – 31.03.2015, scientific researcher,** Petru Poni Institute of Macromolecular Chemistry of the Romanian Academy

**01.11.2005 – 31.07.2011, research assistant,** Petru Poni Institute of Macromolecular Chemistry of the Romanian Academy

### ***Main scientific interest and experience in analysis and experimental techniques:***

- wood natural ageing and evaluation of the degradation mechanisms involved in the process of degradation,
- biodegradation and weathering of wood and wood-based products,
- thermal and chemical modification of wood and wood-based products,
- hydrophobic and superhydrophobic coating formulations for wood and wood-based products,
- bio-based (nano)composite formulations for wood and other organic substrate,
- Pickering emulsion polymerization,
- mid (FT-IR) and near infrared (NIR) spectroscopy and chemometric techniques, two dimensional correlation spectroscopy (2D-COS), X-ray diffraction, solid state  $^{13}\text{C}$  CP/MAS NMR spectroscopy,

optical and electronic microscopy; thermal analysis methods (TG-DTG, DSC), dynamic water vapour sorption (DVS), non-destructive ultrasonic time-of-flight measurements

### ***Specialization:***

1. **15.08–17.12.2004:** *special research student*, JASSO Short-term student exchange promotion program (Inbound) scholarship, research with *Prof. Yusaku Sakata*, Department of Applied Chemistry, Faculty of Engineering, Okayama University, Okayama, Japan.
2. **31.05–19.06.2005:** *visiting research student*, STSM COST E41, research with *Dr. Galina Telysheva*, Latvian State Institute of Wood Chemistry, Riga, Latvia.
3. **08–22.03.2009:** *visiting research student*, STSM COST E54, research with *Dr. Tomas Larsson*, Innventia AB, Stockholm, Sweden.
4. **01–15.05.2011:** *visiting researcher*, STSM COST FP0904, research with *Prof. Parviz Navi*, Bern University of Applied Sciences, Biel/Bienne, Switzerland.
5. **05.10–16.12.2011:** *visiting researcher*, PERFORM-ERA (ID-57649), collaboration with *Prof. Callum Hill*, Centre of Wood Science and Technology, Edinburgh Napier University, UK
6. **04.07–02.08.2012:** *visiting researcher*, The Royal Society of Edinburgh (RSE) International Exchange Programme, collaboration with *Prof. Callum Hill* and *Dr. Daniel Ridley-Ellis*, Centre of Wood Science and Technology, Edinburgh Napier University, UK
7. **22.09–22.11.2012:** *visiting researcher*, PERFORM-ERA (ID-57649), collaboration with *Prof. Martin Moeller*, DWI at RWTH Aachen University, Germany
8. **07.01–08.02.2014:** *visiting researcher*, STSM COST FP1006, research with *Dr. Graham Ormondroyd* and *Prof. Callum Hill*, The BioComposites Centre, Bangor University, UK.
9. **23-28.03.2014:** *visiting researcher*, STSM COST FP0904, research with *Prof. Parviz Navi* Laboratory, Bern University of Applied Sciences, Biel/Bienne, Switzerland.
10. **30.03–05.04.2014:** *visiting researcher*, collaboration with *Dr. Erik Larnoy*, Norsk Institutt for Skog og Landskap, Ås, Norway
11. **07.04–03.05.2014:** *visiting researcher*, STSM COST FP1205, research with *Prof. Wim Thielemans* at the KU Leuven, Campus Kortrijk in Kortrijk, Belgium.
12. **28.04–11.05.2015:** *visiting researcher*, STSM COST FP1105, research with *Dr. Erik Larnøy* at the Norwegian Forest and Landscape Institute, Ås, Norway.
13. **04.10 – 20.12.2015:** *visiting researcher*, STSM COST FP1205, research with *Dr. Mats Westin* and *Dr. Dennis Jones* at the SP Technical Research Institute of Sweden, Borås and Stockholm, Sweden.
14. **04.07– 15.08. 2016:** *visiting researcher*, STSM COST FP1404, research with *Prof. Holger Militz* at the Georg-August-University of Göttingen, Göttingen, Germany.

***Training:*** 19 participations to different courses and training schools on molecular spectroscopy, polymer spectroscopy, wood extractives, biotechnology for bioethanol production, polymeric biomaterials, project management, thermo-hydro-mechanical treatments of wood, chemometrics, ultrasonic measurement, FT-IR micro-spectrometer, RAMAN spectrometer and mid-*infrared quantum-cascade laser*, advances in biomaterials, wood surface modification, confocal RAMAN spectroscopy and time resolved spectroscopy, finishing of the surface of thermally modified wood with UV lacquer products, X-ray tomography and service life prediction, etc.

### ***Organizational experience:***

1. **28-29.06.2010** – *Eco-Sustainable Food Packaging Based on Polymer Nanomaterials*, COST Action FA0904 Conference and WGs Meeting, Iasi, Romania (Organizing Committee Member)

2. **03-05.05.2012** – *IV<sup>th</sup> European Symposium on Religious Art, Restoration and Conservation*, Iasi, Romania (Organizing Committee Member)
3. **09-11.04.2013** – *Evaluation, processing and predicting of THM treated wood behaviour by experimental and numerical methods, COST Action FP0904 Conference*, Iasi, Romania (Scientific Advisory Committee and Organizing Committee Member)
4. **27-28.01.2014** – *WoodMusICK Opening Conference*, Paris, France (Scientific Advisory Committee)
5. **30.09-01.10.2014** – *Multidisciplinary Approach to Wooden Musical Instruments Identification, WoodMusICK Conference*, Cremona, Italy (Scientific Advisory Committee)
6. **10-11.03.2015** – *Advances in cellulose processing and applications –research goes to industry. Joint Working Groups & Management Committee meetings of COST Action FP1205*, Iasi, Romania (Scientific Advisory Committee and Organizing Committee Member)
7. **09-10.09.2015** – *Effects on playing on early and modern musical instruments, WoodMusICK Conference*, London, UK (Scientific Advisory Committee)
8. **13-14.10.2016** – *2<sup>nd</sup> International EPNOE Junior Scientists Meeting, Future Perspectives in Polysaccharide Research*, Sophia Antipolis, France (Organizing Committee)
9. **14-15.05.2018** – *3<sup>rd</sup> International EPNOE Junior Scientists Meeting, Advances in fundamental and applied polysaccharide research*, Maribor, Slovenia (Organizing Committee)

#### ***Mentoring experience:***

1. **07-14.05.2011**: STSM-FP0904-7927, Tobias Turner from the Institute of Vocational Sciences in the Building Trade (IBW), Hanover, Germany, Research theme: *Correlation of HEMI-method and degree of crystallization*
2. **06-20.05.2012**: STSM-FP0904-060512-017500, Maria Ines Placencia Pena from the Bern University of Applied Sciences, Laboratory of Wood Technology, Biel/Bienne, Switzerland. Research theme: *Thermal and analytical characterization of welded wood*
3. **2019**: MSc Advanced Materials Engineering Masters Dissertation, Edinburgh Napier University, A. M. Konstantinou. MSc thesis: *Manufacturing a hydrophobic coating for timber material*

#### ***PHD theses referent:***

1. **17.11.2016**: *Non-Destructive Surface characterization of Wood Façade Materials and Wood Fungi by Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy*, B.S. Gupta PhD student, Norwegian University of Science and Technology (NTNU), Faculty of Engineering Science and Technology, Trondheim, Norway
2. **30.06.2017**: *Obtention and Functionalization of Cellulose Nanofibers from agave tequilana Weber var. azul*, Eduardo Robles Barrios PhD Student, University of the Basque Country, San Sebastian, Spain

#### ***Editorial member of journals:***

Wood Material Science and Engineering

#### ***Scientific Society Member:***

2016 – present : EPNOE Junior

2016 – present: ASRO/ CT 118

2018 – present: SWST (International Society of Wood Science and Technology)

2018 – present: MoDeSt Society (Modification, Degradation and Stabilisation of Polymers)

***Scientific results:***

**Published works:** 53 in journals (44 ISI journal, 10 other journals); **chapters in books:** 8; **proceedings:** 26; **keynotes/conferences/lectures/invited lecturer:** 13; **communications:** oral 69; posters 68; **scientific research projects – member:** 9; **COST Actions – member:** 16;

**ResearcherID:** [B-7350-2011](https://orcid.org/0000-0002-5740-524X)

**ORCID:** [16231227400](https://orcid.org/0000-0002-5740-524X); **Citations:** 1188, **Index h** = 17 (source Scopus)

**Scopus ID:** <http://orcid.org/0000-0002-5740-524X>

**ResearchGate:** [https://www.researchgate.net/profile/Carmen-Mihaela\\_Popescu](https://www.researchgate.net/profile/Carmen-Mihaela_Popescu)

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