

Curriculum Vitae

Dr. Daniela Ailincăi



▪ Personal information

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Nationality Romanian
Date of birth 25.08.1987

- **Desired employment / Occupational field** Chemistry
- **Researcher ID:** A-3327-2017
- **Researcher ID Profile at:** <http://www.researcherid.com/rid/A-3327-2017>

▪ Education

2013-2016 **PhD student**, “Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania. The abstract of the PhD thesis can be read at: <http://www.icmpp.ro/doctorate/anunturi/1/rezumat%20engleza%20final.pdf>
The PhD thesis was entitled “Complex supramolecular structures with biomedical applications” and was coordinated on three different directions of supramolecular chemistry, as follows: dynamic supramolecular structures based on chitosan, hydrophobic-hydrophilic nonviral vectors and PDLC composites (polymer dispersed liquid crystals), all of these constituting current and interesting topics in the field of biomaterials science.

7 September 2015 – 17 September 2015 Mobility at Institute of Nuclear Chemistry and Technology, Warsaw, Poland in the framework of Erasmus +, *“Joint innovative training and teaching/learning program in enhancing development and transfer knowledge of application of ionizing radiation in materials processing”*

28 September 2015 – 2 October 2015 Mobility at University of Palermo, Italy in the framework of Erasmus +, *“Joint innovative training and teaching/learning program in enhancing development and transfer knowledge of application of ionizing radiation in materials processing”*

2011-2013 **Master of Science** at the Natural and Synthetic Polymers

Department, Faculty of Chemical Engineering and Environmental Protection, “Gheorghe Asachi” Technical University Iasi, Romania
(Average: 10/10)

Master of Science Thesis: “*Chemical modifications of some oligosaccharides with the final purpose to use them as click reactions precursors*” **(Mark: 10/10)**

February 2013 –
May 2013

Erasmus Internship at Heinrich Heine University, Duesseldorf, Germany – recommendation letter attached

In this period, the PL worked on the functionalization with alkyne or azide groups of chitooligosaccharides, in order to use them as precursors in click chemistry under the supervision of Prof. Helmut Ritter. Also, the PL worked on click reactions between β -cyclodextrin and poly(ϵ -caprolactone), assisted or not by microwaves, in order to obtain amphiphilic which further were demonstrated to self-organize in nanoparticles (see 2 in B3). This period was an opportunity for the PL to use and learn about other characterization methods, such as transmission electron microscopy (TEM), dynamic light scattering (DLS), ¹³C-NMR, and 2D-NMR (Roesy-NMR).

March 2012 – July
2012

Erasmus Internship at École Supérieure de Chimie Physique Électronique de Lyon, France – recommendation letter attached

During this period, the PL worked under the supervision of prof. Stephane Trombotto and prof. Thierry Hamaide, in a project related to the synthesis of chitooligosaccharides, gaining knowledge and competence in the field of chemistry of sugars, working with different characterization techniques, such as: ¹H-NMR, GPC or Maldi-Toff.

2007-2011

Bachelor at Faculty of Chemical Engineering and Environmental Protection, “Gheorghe Asachi” Technical University Iasi, Romania
(Average: 9.98/10)

Bachelor of Science diploma title: “*Polymeric hydrogels – an increasing factor of the stability of liposomes bearing active principles*” **(Mark: 10/10)**

▪ **Professional experience**

August 2017 – Present – **Scientific Researcher** in the Department of Polycondensation and Thermostable Polymers, “Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania

November 2013 – August 2017 – **Research Assistant** in the Department of Polycondensation and Thermostable Polymers, “Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania

▪ **Fields of interests**

- Supramolecular hydrogels based on chitosan with potential bioapplications
- Dynamic imino-chitosan films with antifungal and antimicrobial properties
- Supramolecular architectures, based on the principles of dynamic chemistry for gene therapy
- Oligosaccharides obtained by chitosans’ depolymerization in the presence of nitrous acid
- Supramolecular structures based on β – cyclodextrin
- Biocompatible PDLC systems (polymers dispersed liquid crystals) – as innovative materials for bioapplications

▪ **Scientific contribution**

- 17 scientific papers published in ISI journals with a **summed impact factor >54**
 - 1 plenary conference
 - 16 oral communications
 - 6 posters
 - 4 book chapters
 - 1 book
 - **Member in the team of 9 research grants:**
1. **Horizon 2020 WIDESPREAD 2-2014: ERA Chairs, no: 667387** Suprachem Lab - laboratory of supramolecular chemistry for adaptive delivery systems era chair initiative
 2. **PN-II-ID-PCCE-2011-2-0028** Biologically inspired systems for engineered structural and functional entities
 3. **Materials suitable for CO₂ capture and sequestration, through chemical reaction, based on azomethine derivatives**
 4. **PN-III-P3-3.1-PM-RO-CN-2018-0098** Chemosenzori luminescenti pe baza de hidrogeluri de chitosan pentru detectia si indepartarea metalelor grele
 5. **PN-II-PT-PCCA-2013-4-1861** Diode electroluminiscente organice flexibile cu emisie in alb pentru iluminare
 6. **PN-II-RU-TE-2014-4-2314** Multifunctional dynamic hydrogels with tuned morphology for biomedical applications
 7. **PN-II-RU-TE-2014-4-2976** New approaches in designing polymer surfaces with controllable pattern for applications in biomedicine and high technologies
 8. **PN-III-P1-1.2-PCCDI-2017-0917** Platformă hibridă de comunicații prin lumină vizibilă și realitate pentru dezvoltarea de sisteme inteligente de asistență și siguranță activă a autovehiculelor
 9. **PN-III-P1-1.2-PCCDI-2017-0569** Inchiderea lanțurilor de valoare din bioeconomie prin obținerea de bioproduse inovative cerute de piață

▪ **Scientific visibility**

H-index: 8 (according to ISI Web of Science, June 2019)

Citations: 123 (according to ISI Web of Science, June 2019)

▪ **Mother tongue(s)**

Romanian

▪ **Other language(s)**

		Listening	Reading	Spoken interaction	Spoken production
Language	English	C1	B2	B2	C1
Language	Spanish	B2	B2	A2	A2
Language	German	A2	A1	A1	A1

▪ LIST OF PUBLICATIONS

1. Luminita Marin, **Daniela Ailincăi**, Elena Paslaru, Monodisperse PDLC composites generated by use of polyvinylalcohol boric acid as matrix, *RSC Advances*, **2014**, 4, 38397-38404.
2. **Daniela Ailincăi**, Helmut Ritter, Cyclodextrin-poly(ϵ -caprolactone) based nanoparticles able to complex phenolphthalein and adamantyl carboxylate, *Beilstein Journal of Nanotechnology*, **2014**, 5, 651–657.
3. **Daniela Ailincăi**, Andrei Bejan, Irina Titorencu, Mioara Dobrota, Bogdan C. Simionescu, Imino-chitosan derivatives. Synthetic pathway and properties, *Revue Roumaine de Chimie*, **2014**, 59, 385-392.
4. Luminita Marin, **Daniela Ailincăi**, Mihai Mares, Elena Paslaru, Mariana Cristea, Valentin Nica, Bogdan C. Simionescu, Imino-chitosan biopolymeric films. Obtaining, self-assembling, surface and antimicrobial properties, *Carbohydrate Polymers*, **2015**, 117, 762-770.
5. **Daniela Ailincăi**, Luminita Marin, Sergiu Shova, Cristina Tuchilus, Benzoate liquid crystal with direct isotropic-smectic transition and antipathogenic activity, *Comptes Rendus Chimie*, **2016**, 19, 556-565.
6. **Daniela Ailincăi**, Cosmin Farcau, Elena Paslaru & Luminita Marin, PDLC composites based on polyvinyl boric acid matrix – a promising pathway towards biomedical engineering, *Liquid Crystals*, **2016**, 43, 1973-1985.
7. **Daniela Ailincăi**, Luminita Marin, Simona Morariu, Mihai Mares, Andra-Cristina Bostanaru, Mariana Pinteala, Bogdan C. Simionescu, Mihai Barboiu, Dual crosslinked iminoboronate-chitosan hydrogels with strong antifungal activity against Candida planktonic yeasts and biofilms, *Carbohydrate Polymers*, **2016**, 152, 306–316.
8. Luminita Marin, **Daniela Ailincăi**, Manuela Calin, Daniela Stan, Cristina Constantinescu, Laura Ursu, Florica Doroftei, Mariana Pinteala, Bogdan C. Simionescu, Mihai Barboiu, Dynameric Frameworks for DNA Transfection, *ACS Biomaterials Science & Engineering*, **2016**, 2, 104-111.
9. Andrei Bejan, Luminita Marin, Bogdan Chiricuta, **Daniela Ailincăi**, Bogdan C. Simionescu, A new phenothiazine blue light emitter. Synthesis, structure and photophysical properties, *Revue Roumaine de Chimie*, **2016**, 61, 291-297.
10. Luminita Marin, **Daniela Ailincăi**, Simona Morariu, Liliana Mititelu Tartau, Development of biocompatible glycodynameric hydrogels joining two natural motifs by dynamic constitutional chemistry, *Carbohydrate Polymers*, **2017**, 170, 60-71.
11. **Daniela Ailincăi***, Daniela Pamfil, Luminita Marin*, Multiple bio-responsive polymer dispersed liquid crystal composites for sensing applications, *Journal of Molecular Liquids*, **2018**, 272, 572-582.
12. Geta David, Ioana Turin-Moleavin, Elena Laura Ursu, Dragos Peptanariu, **Daniela Ailincăi**, Multilayer biopolymer/poly(epsilon-caprolactone)/polycation nanoparticles, *Iranian Polymer Journal*, **2018**, 27, 517-526.
13. Andrei Bejan, **Daniela Ailincăi**, Bogdan C. Simionescu, Luminita Marin, Chitosan hydrogelation with a phenothiazine based aldehyde: a synthetic approach toward highly luminescent biomaterials, *Polymer Chemistry*, **2018**, 18, 2359-2369.

14. **Daniela Ailincăi***, Liliana Mititelu Tartau, Luminita Marin, Drug delivery systems based on biocompatible imino-chitosan hydrogels for local anticancer therapy, *Drug Delivery*, **2018**, 25, 1080-1090.
15. Luminita Marin, Andrei Bejan, **Daniela Ailincăi**, Dalila Belei, Poly(azomethine-phenothiazine)s with efficient emission in solid state, *European Polymer Journal*, **2018**, 95, 127-137.
16. **Daniela Ailincăi***, Dragos Peptanariu, Mariana Pinteala, Luminita Marin, Dynamic constitutional chemistry towards efficient nonviral vectors, *Materials Science & Engineering C- Materials for biological applications*, **2019**, 94, 635-646.
17. **Daniela Ailincăi***, Andrei Bejan, Anda Mihaela Olaru, Manuela-Maria Iftime, Elena Perju, Comparative study of PDLC composites based on nematic and smectic liquid crystals, *Revue Roumain de Chimie*, **2018**, 63, 649-656.

▪ **BOOKS/ CHAPTERS:**

Books

1. **D. Ailincăi**, Structuri supramoleculare complexe cu aplicatii biomedicale, ed. Tehnopress, Iasi, **2017**.

Books chapters

1. I. Negulescu, **D. Ailincăi**, C. Uglea, "Biological Activity of Natural polysaccharides", Medical Applications of Polymers, American Scientific Publishers, **2012**.
2. **D. Ailincăi**, M. Popa, *Polymersomes-Preparation, Characterization and Medical Applications*, Polymeric Nanomedicine, Bentham Science Publishers Ltd., **2012**.
3. **D. Ailincăi**, M. M. Iftime, L. Marin, Obținere de hidrogeluri pe baza de chitosan, Hidrogeluri dinamice multifunctionale cu morfologie controlata pentru aplicatii biomedicale; ed. Tehnopress, Iasi, **2017**, 23-56.
4. **D. Ailincăi**, L. Marin, *Hidrogeluri pe baza de chitosan si acid 2-formil-fenil-boronic*, Hidrogeluri dinamice multifunctionale cu morfologie controlata pentru aplicatii biomedicale; ed. Tehnopress, Iasi, **2017**, 57-78.
5. **D. Ailincăi**, L. Marin, *Hidrogeluri pe baza de chitosan si citral*, Hidrogeluri dinamice multifunctionale cu morfologie controlata pentru aplicatii biomedicale; ed. Tehnopress, Iasi, **2017**, 125-156.

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