


# IULIA IOANA LUNGU



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 Scopus Author ID: 57189045641 ∴ *h*-index: 8 ∴ Total citations: 293

 [https://www.researchgate.net/profile/Iulia\\_Lungu](https://www.researchgate.net/profile/Iulia_Lungu)

 ResearcherID: S-9879-2018 ∴ <http://www.researcherid.com/rid/S-9879-2018>

 <https://orcid.org/0000-0001-5319-1312>

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## Education and training

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10/2018 – Present

**PhD Applied Chemistry and Materials Science**

Politehnica University of Bucharest, Bucharest (Romania)  
Faculty of Medical Engineering

PhD Thesis: Iron oxide-based nanostructures with applications in oncology

09/2021 – 06/2023

**MSc Biomaterials and Tissue Engineering**

Politehnica University of Bucharest, Bucharest (Romania)  
Faculty of Engineering in Foreign Languages

Dissertation: Laser pyrolysis synthesized iron oxide nanoparticles for biomedical applications

09/2016 – 09/2017

**MSc Biomaterials and Regenerative medicine**

University of Sheffield, Sheffield (United Kingdom)

Dissertation: Comparative study of hydroxyapatite and carbonate-substituted hydroxyapatite prepared from different synthesis methods

09/2012 – 09/2016

**Bachelor degree in Biomedical Engineering**

Politehnica University of Bucharest, Bucharest (Romania)

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	Degree project: Bioactive nanostructured materials based on magnetite and phytocomponents with applications in antimicrobial therapy
11/2011 – 11/2011	<b>ECDL Core Complete</b> Using the Computer and Managing Files, Word Processing, Spreadsheets, using Database, Presentation, Information and Communication
08/2011 – 08/2011	<b>Cambridge ESOL Level 2 Certificate in ESOL International</b>
03/2016 – 03/2016	<b>International English Language Test System, IELTS, CEFR Level B2</b>

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————— Work experience —————

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10/2018 – Present	<b>Scientific Research Assistant</b> The National Institute for Laser, Plasma & Radiation Physics (INFLPR) Magurele city, Ilfov county (Romania)
05/2018 – 07/2018	<b>Research assistant in Material Science</b> MEDGreen Constanta (Romania)
05/2015 – 08/2015	<b>Internship at Matei Bals Institute</b> Bucharest (Romania) Observed the detection of HIV P24 antigen and antibodies to HIV-1 and HIV-2 in human serum/plasma by enzyme immunoassay, and the use of a confirmation kit for anti-HIV-1 antibodies detection by immunoblotting. Gained experience in Virusology and Hepatic Marker Laboratory
07/2010 – 07/2013	<b>Volunteering at Youth for Youth Constanta</b> Constanta (Romania) Participation diploma for attending the Education and family life course – project EVRICA (Education for life and individual responsibility through programs of active citizen); Merit diploma from “Individual Responsibility: Preventing HIV/AIDS” project. Skills gained throughout: teamwork, communication and feedback skills, speaking in public, interactive teaching methods

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## Digital Competences

Microsoft Office Package, Python, GraphPad Prism, Origin, EndNote, ImageJ, DIFFRACT.SUIT EVA

## Publications

Criveanu, A., Dumitrache, F., Fleaca, C., Gavrilă-Florescu, L., **Lungu, I.**, Morjan, I.P., Socoliuc, V., Prodan G., (2023) Chitosan-coated iron oxide nanoparticles obtained by laser pyrolysis. In *Applied Surface Science Advances*, Vol. 15, pp. 100405, DOI: <https://doi.org/10.1016/j.apsadv.2023.100405>

Teleanu D.M., Niculescu A.G., **Lungu I.I.**, Radu C.I., Vladacenco O., Roza E., Constachescu B., Grumezescu A.M., Teleanu R.I., (2022) An overview of oxidative stress, neuroinflammation and neurodegenerative diseases. In *Molecular Sciences*, Vol. 23, Issue 11, pp. 5938, DOI: <https://doi.org/10.3390/ijms23115938>

Nistorescu S., Udrea A.M, Badea M.A., **Lungu I.**, Boni M., Tozar T., Dumitrache F., Maraloiu V.A., Popescu R.G., Fleaca C., Andronescu E., Dinischiotu A., Staicu A., Balas M., (2021) Low blue dose photodynamic therapy with porphyrin-iron oxide nanoparticles complexes: *In vitro* study on human melanoma cells. In *Pharmaceutics*, Vol. 13, pp. 2130, DOI: <https://doi.org/10.3390/pharmaceutics13122130>

**Lungu I.I.**, Grumezescu A.M., Fleaca C.T.. (2021) Unexpected ferromagnetism – A review. In *Applied Sciences*, Vol. 11, Issue 15, pp. 6707, DOI: <https://doi.org/10.3390/app11156707>

Badila E., **Lungu I.I.**, Grumezescu A.M., Udrisite A.S.. (2021) Diagnosis of cardiac abnormalities in muscular dystrophies. In *Medicina*, Vol. 57, Issue 5, pp. 488, DOI: <https://doi.org/10.3390/medicina57050488>

**Lungu I. I.**, Nistorescu S., Badea M. A., Petre A. M., Udrea A. M., Banici A. M., Fleaca C., Andronescu E., Dinischiotu A., Dumitrache F., Staicu A., Balasa M. (2020) Doxorubicin-conjugated iron oxide nanoparticles synthesized by laser pyrolysis. *In vitro* study on human breast cancer cells. In *Polymers* Vol. 12, Issue 12, pp. 2799, DOI: <https://doi.org/10.3390/polym12122799>

Greuleasa S. G., Palade P., Schinteie G., Leca A., Dumitrache F., **Lungu I.**, Prodan G., Kuncser A., Kuncser V. (2020) Tuning structural and magnetic properties of Fe oxide nanoparticles by specific hydrogenation treatments. In *Scientific Reports* Vol. 10, Issue 1, DOI: <https://doi.org/10.1038/s41598-020-74188-5>

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Baciu D.D., **Lungu I.I.**, Dumitrascu A.M., Prodan G., Salageanu A., Dumitrache F. (2019) Cytotoxicity evaluation of fe-based powders and stabilized suspensions for biomedical applications. In *Romanian Archives of Microbiology and Immunology* Vol. 78, Issue 3, pp. 168-176

**Lungu I. I.**, Grumezescu A. M. (2019) Microfluidics – Organ-on-chip. *Biomedical Engineering International*, Vol. 1, Issue 1, pp. 0002-0008, DOI: <https://doi.org/10.33263/BioMed11.002008>

**Lungu I. I.**, Grumezescu A.M., Volceanov A., Andronescu, E. (2019) Nanobiomaterials used in cancer therapy: An up-to-date overview. In *Molecules* Vol. 24, Issue 19, pp. 3547, DOI: <https://doi.org/10.3390/molecules24193547>

Boarca B., **Lungu I. I.**, & Holban A. M. (2019). Chapter 7 – Core-shell nanomaterials for infection and cancer therapy. In *Materials for Biomedical Engineering: Bioactive materials for antimicrobial, anticancer, and gene therapy*. Elsevier, pp. 197-209, DOI: <http://doi.org/10.1016/B978-0-12-818435-6.00007-4>

Predan G. M. I., Lazar D. A., **Lungu I. I.** (2019). Chapter 15 – Cocoa Industry – From Plant Cultivation to Cocoa Drinks Production. In *Caffeinated and Cocoa Based Beverages: Volume 8. The Science of Beverages*. Elsevier, pp. 489 – 509, DOI: <https://doi.org/10.1016/B978-0-12-815864-7.00015-5>

Boarca B., **Lungu I.** & Holban A. M. (2019). Chapter 3 – Bioactive Packaging for Modern Beverage Industry. In *Trends in Beverage Packaging: Volume 16. The Science of Beverages*. Elsevier, pp. 51 – 71, DOI: <https://doi.org/10.1016/B978-0-12-816683-3.00003-7>

**Lungu, I. I.**, Holban, A. M. & Grumezescu, A. M. (2019). Chapter 1 – Superiorities of nanoscale materials in drug delivery. In *Materials for biomedical engineering: Nanomaterials based drug-delivery*. Elsevier, pp. 1-18, DOI:<https://doi.org/10.1016/B978-0-12-816913-1.00001-5>

Mihai, M. M., Preda, M., **Lungu, I.**, Gestal, M. C., Popa, M. I., & Holban, A. M. (2018). Nanocoatings for Chronic Wound Repair – Modulation of Microbial Colonization and Biofilm Formation. In *International Journal of Molecular Sciences*. Vol. 19, pp. 1179, DOI: <https://doi.org/10.3390/ijms19041179>

**Lungu, I. I.**, Holban, A., Ficai, A., Grumezescu, A. (2017). Chapter 22: Zinc Oxide Nanostructures: New Trend in Antimicrobial Therapy. In *Nanostructures for Antimicrobial Therapy: Nanostructures in therapeutic medicine series*. Elsevier, pp. 503-514, DOI: <https://doi.org/10.1016/B978-0-323-46152-8.00022-6>

Aiacoboae, A., Gheorghe T., **Lungu, I. I.**, Curutiu, C., Chifiriuc, M. C., Grumezesc, M. A., Holban, A. M. (2017). Chapter 2 – Applications of nanoscale drugs carriers in the

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treatment of chronic diseases. In *Nanostructures for Novel Therapy: Synthesis, characterisation and applications*. Elsevier, pp. 37-55, DOI: <https://doi.org/10.1016/B978-0-323-46142-9.00002-5>

**Lungu, I. I.**, Radulescu, M., Mogosanu, G. D. & Grumezescu, A. M. (2016). pH sensitive core-shell magnetic nanoparticles for targeted drug delivery in cancer therapy. In *Romanian Journal of Morphology and Embryology*. 57(1):23-32

**Lungu I. I.**, Holban A. M., Vasile B., Grumezescu A. M., & Andronescu E. (2016). *Nanostructured materials based on magnetite and phytocomponents with applications in anti-infectious therapy*. Bulletin of Romanian Chemical Engineering Society.

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## Conferences

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|----------------------------|---|
| 11/07/2023 –<br>14/07/2023 | <b>Poster Presentation at IBWAP 2023</b><br>Constanta (Romania)<br>Poster session presented at the 21 <sup>st</sup> International Balkan Workshop on Applied Physics and Materials Science. “Iron oxide nanoparticles synthesized by laser pyrolysis using ethylic alcohol as sensitizer and their biocompatibility”  |
| 28/06/2023 –<br>30/06/2023 | <b>Poster Presentation at NanoBioMat2023</b><br>Virtual conference<br>Poster session presented at the International Scientific Conference “Applications of chemistry in nanoscience and biomaterials engineering”. “Laser pyrolysis of iron oxide nanoparticles and the influence of laser power”   |
| 26/07/2022 –<br>30/07/2022 | <b>Poster Presentation at CEEC-PCMS1</b><br>Split (Croatia)<br>Poster session presented at the 1 <sup>st</sup> Central and Eastern European Conference on Physical Chemistry and Materials Science “Chitosan stabilized suspensions of iron oxide nanoparticles synthesized by laser pyrolysis – the optimization of oxygen flow ratio in reactive mixture” |
| 25/11/2021 –<br>27/11/2021 | <b>Poster Presentation at NanoBioMat2021</b><br>Virtual conference<br>Poster session presented at the International Scientific Conference “Applications of chemistry in nanoscience and   |
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biomaterials engineering". "Iron oxide nanoparticles for photodynamic therapy. An *in vitro* study"

26/10/2021 –  
29/10/2021

**Poster Presentation at EnergEn 2021**

Baile Govora (Romania)

Poster session presented at 23<sup>rd</sup> International Conference "New cryogenic and isotope technologies for energy and environment"

20/07/2021 –  
24/07/2021

**Executive Organizing Committee**

Split (Croatia)

6<sup>th</sup> Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC6) & 15<sup>th</sup> Mediterranean Conference on Calorimetry and Thermal Analysis (Medicta2021)

27/11/2020 –  
28/11/2020

**Online Presentation at Autumn Scientific Conference AOSR 2020**

Bucharest (Romania)

Online presentation at the Autumn Scientific Conference AOSR, section Chemistry. Applications of chemistry in nanoscience and bionanomaterial engineering.

18/09/2020 –  
18/09/2020

**Online Poster Session at SICHEM 2020**

Bucharest (Romania)

Online poster session presented at the annual meeting of the Symposium of the Young Chemical Engineers, University of Politehnica Bucharest

27/08/2019 –  
30/08/2019

**Executive Organizing Committee**

Roma (Italy)

5<sup>th</sup> Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC5) & 14<sup>th</sup> Mediterranean Conference on Calorimetry and Thermal Analysis (Medicta2019)

11/02/2019 –  
22/02/2019

**Poster Presentation at ICTP 2019**

Trieste (Italy)

Poster session presented at International Centre for Theoretical Physics, Winter College on Applications of Optics and Photonics in Food Science

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08/09/2016 –  
09/09/2016

**Poster Session at SICHEM 2016**

Bucharest (Romania)

Poster session presented at the annual meeting of the Symposium of the Young Chemical Engineers, University of Politehnica Bucharest

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————— Awards —————

<b>UNEFISCDI Award 2021 – PN-III-P1-1.1- PRECISI-2021- 61773</b>
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<b>UNEFISCDI Award 2021 – PN-III-P1-1.1- PRECISI-2021- 61385</b>
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<b>UNEFISCDI Award 2021 – PN-III-P1-1.1- PRECISI-2021- 61557</b>
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<b>UNEFISCDI Award 2020 – PN-III-P1-1.1-PRECISI-2020-46527</b>
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<b>UNEFISCDI Award 2018 – PN-III-P1-1.1-PRECISI-2018-25743</b>
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————— Patents —————

1 patent application at the Romanian State Office for Inventions and Trademarks: <b>Lungu I.I.,</b> Fleaca C.T., Gavrilă-Florescu L., Balas M., Nistorescu I.S., Morjan I., Niculescu A.M., Dumitrache F.: “Procedure for obtaining iron oxide nanoparticles and biocompatible suspensions stabilized with sodium carboxymethyl cellulose (CMCNa) / Procedeu de obtinere a nanoparticulelor de oxid de fier si suspensii biocompatibile stabilizate cu carboximetil celuloza de sodiu (CMCNa)” (A/00573/23.09.2021)
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