



Anca Onaciu (Ghent)

WORK EXPERIENCE

 **Institute for Biomedical Research - MedFuture, "Iuliu Hatieganu" UMPH** – Cluj-Napoca, Romania

City: Cluj-Napoca | Country: Romania

Biotechnology engineer

[01/2016 – Current]

- nanoparticles synthesis and characterization
- transmission electron microscopy
- biological samples processing

 **Research Center for Functional Genomics, "Iuliu Hatieganu" UMPH** – Cluj-Napoca, Romania

City: Cluj-Napoca | Country: Romania

Volunteer

[08/2015 – 12/2015]

- biological samples processing
- cell culture
- molecular biology assays

EDUCATION AND TRAINING

PhD Student

Faculty of Pharmacy, "Iuliu Hatieganu" UMPH [10/2020 – Current]

City: Cluj-Napoca | Country: Romania

MSc Molecular Biotechnology

Faculty of Biology, "Babes-Bolyai" University [2014 – 2016]

City: Cluj-Napoca | Country: Romania

BSc Biotechnology engineering

Faculty of Biology, "Babes-Bolyai" University [2010 – 2014]

City: Cluj-Napoca | Country: Romania

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

French

LISTENING B2 READING B2 WRITING B2
SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

English

LISTENING B2 READING B2 WRITING B2
SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

SKILLS

Microsoft Office / Google Drive / ImageJ

PUBLICATIONS

[2018]

[Chimeric antigen receptor T-cells for the treatment of B-cell acute lymphoblastic leukemia](#) Tomuleasa C, Fuji S, Berce C, Onaciu A, Chira S, Petrushev B, Micu W-T, Moisoiu V, Osan C, Constantinescu C, Pasca S, Jurj A, Pop L, Berindan-Neagoe I, Dima D, Kitano S (2018) Chimeric Antigen Receptor T-Cells for the Treatment of B-Cell Acute Lymphoblastic Leukemia. *Front Immunol* 9: . doi: 10.3389/fimmu.2018.00239

[2018]

[Genetically enhanced T lymphocytes and the intensive care unit](#) Tat T, Li H, Constantinescu C-S, Onaciu A, Chira S, Osan C, Pasca S, Petrushev B, Moisoiu V, Micu W-T, Berce C, Tranca S, Dima D, Berindan-Neagoe I, Shen J, Tomuleasa C, Qian L (2018) Genetically enhanced T lymphocytes and the intensive care unit. *Oncotarget* 9: . doi: 10.18632/oncotarget.24637

[2018]

[Decoding the Emerging Patterns Exhibited in Non-coding RNAs Characteristic of Lung Cancer with Regard to Their Clinical Significance](#) Sonea L, Buse M, Gulei D, Onaciu A, Simon I, Braicu C, Berindan-Neagoe I (2018) Decoding the Emerging Patterns Exhibited in Non-coding RNAs Characteristic of Lung Cancer with Regard to Their Clinical Significance. *Curr Genomics* 19:258–278 . doi: 10.2174/1389202918666171005100124

[2018]

[Differential Effect of Smoking on Gene Expression in Head and Neck Cancer Patients](#) Irimie A, Braicu C, Cojocneanu R, Magdo L, Onaciu A, Ciocan C, Mehterov N, Dudea D, Buduru S, Berindan-Neagoe I (2018) Differential Effect of Smoking on Gene Expression in Head and Neck Cancer Patients. *Int J Environ Res Public Health* 15:1558 . doi: 10.3390/ijerph15071558

[2018]

[Exosomes at a glance – common nominators for cancer hallmarks and novel diagnosis tools](#) Gulei D, Petrut B, Tigu AB, Onaciu A, Fischer-Fodor E, Atanasov AG, Ionescu C, Berindan-Neagoe I (2018) Exosomes at a glance – common nominators for cancer hallmarks and novel diagnosis tools. *Crit Rev Biochem Mol Biol* 53:564–577 . doi: 10.1080/10409238.2018.1508276

[2019]

[Let's Talk About BiTEs and Other Drugs in the Real-Life Setting for B-Cell Acute Lymphoblastic Leukemia](#) Deak D, Pop C, Zimta A-A, Jurj A, Ghiaur A, Pasca S, Teodorescu P, Dascalescu A, Antohe I, Ionescu B, Constantinescu C, Onaciu A, Munteanu R, Berindan-Neagoe I, Petrushev B, Turcas C, Iluta S, Selicean C, Zdrenghea M, Tanase A, Danaila C, Colita A, Colita A, Dima D, Coriu D, Einsele H, Tomuleasa C (2019) Let's Talk About BiTEs and Other Drugs in the Real-Life Setting for B-Cell Acute Lymphoblastic Leukemia. *Front Immunol* 10:.. doi: 10.3389/fimmu.2019.02856

[2019]

[Gold nanorods: from anisotropy to opportunity. An evolution update](#) Onaciu A, Braicu C, Zimta A-A, Moldovan A, Stiufiuc R, Buse M, Ciocan C, Buduru S, Berindan-Neagoe I (2019) Gold nanorods: from anisotropy to opportunity. An evolution update. *Nanomedicine nnm-2018-0409* . doi: 10.2217/nnm-2018-0409

[2019]

[Hydrogels Based Drug Delivery Synthesis, Characterization and Administration](#) Onaciu A, Munteanu RA, Moldovan CS, Moldovan AI, Berindan-Neagoe I (2019) Hydrogels Based Drug Delivery Synthesis, Characterization and Administration. *Pharmaceutics* 11:432 . doi: 10.3390/pharmaceutics11090432

[2019]

[Book chapter: Theranostic Nanoparticles and Their Spectrum in Cancer](#) Onaciu A, Jurj A, Moldovan C, Berindan-Neagoe I (2019) Theranostic Nanoparticles and Their Spectrum in Cancer. In: Silver Nanoparticles - Health and Safety [Working Title]. IntechOpen

[2020]

[Nanoscale delivery systems for microRNAs in cancer therapy](#) Boca S, Gulei D, Zimta A-A, Onaciu A, Magdo L, Tigu AB, Ionescu C, Irimie A, Buiga R, Berindan-Neagoe I (2020) Nanoscale delivery systems for microRNAs in cancer therapy. Cell Mol Life Sci 77:1059–1086 . doi: 10.1007/s00018-019-03317-9

[2020]

[MiRNA-Based Inspired Approach in Diagnosis of Prostate Cancer](#) Munteanu VC, Munteanu RA, Onaciu A, Berindan-Neagoe I, Petrut B, Coman I (2020) MiRNA-Based Inspired Approach in Diagnosis of Prostate Cancer. Medicina (B Aires) 56:94 . doi: 10.3390/medicina56020094

[2020]

[Adipocyte-Based Cell Therapy in Oncology: The Role of Cancer-Associated Adipocytes and Their Reinterpretation as Delivery Platforms](#) Munteanu R, Onaciu A, Moldovan C, Zimta A-A, Gulei D, Paradiso A, Lazar V, Berindan-Neagoe I (2020) Adipocyte- Based Cell Therapy in Oncology: The Role of Cancer-Associated Adipocytes and Their Reinterpretation as Delivery Platforms. Pharmaceutics 12:402 . doi: 10.3390/pharmaceutics12050402

[2020]

[Spontaneous and Induced Animal Models for Cancer Research](#) Onaciu A, Munteanu R, Munteanu VC, Gulei D, Raduly L, Feder R-I, Pirlog R, Atanasov AG, Korban SS, Irimie A, Berindan-Neagoe I (2020) Spontaneous and Induced Animal Models for Cancer Research. Diagnostics 10:660 . doi: 10.3390/diagnostics10090660

[2020]

[Transforming growth factor \$\beta\$ -mediated micromechanics modulates disease progression in primary myelofibrosis](#) Teodorescu P, Pasca S, Jurj A, Gafencu G, Joelsson JP, Selicean S, Moldovan C, Munteanu R, Onaciu A, Tigu AB, Buse M, Zimta AA, Stiuftuc R, Petrushev B, Desmirean M, Dima D, Vlad C, Bergthorsson JT, Berce C, Ciurea S, Ghiaur G, Tomuleasa C (2020) Transforming growth factor β -mediated micromechanics modulates disease progression in primary myelofibrosis. J Cell Mol Med 24:19. <https://doi.org/10.1111/jcmm.15526>

[2021]

[Hsa-miR-125b Therapeutic Role in Colon Cancer Is Dependent on the Mutation Status of the TP53 Gene](#) Cenari u D, Zimta A-A, Munteanu R, Onaciu A, Moldovan CS, Jurj A, Raduly L, Moldovan A, Florea A, Budisan L, Pop LA, Magdo L, Albu MT, Tonea RB, Muresan M-S, Ionescu C, Petrut B, Buiga R, Irimie A, Gulei D, Berindan-Neagoe I (2021) Hsa-miR-125b Therapeutic Role in Colon Cancer Is Dependent on the Mutation Status of the TP53Gene. Pharmaceutics 13(5):664. <https://doi.org/10.3390/pharmaceutics13050664>

[2021]

[Quantifying Cytosolic Cytochrome c Concentration Using Carbon Quantum Dots as a Powerful Method for Apoptosis Detection](#) Moldovan CS, Onaciu A, Toma V, Marginean R, Moldovan A, Tigu BA, Stiuftuc GF, Lucaciu CM, Stiuftuc RI (2021) Quantifying Cytosolic Cytochrome c Concentration Using Carbon Quantum Dots as a Powerful Method for Apoptosis Detection. Pharmaceutics 13, no. 10: 1556. <https://doi.org/10.3390/pharmaceutics13101556>

[2021]

[Proving Nanoscale Chiral Interactions of Cyclodextrins and Propranolol Enantiomers by Means of SERS Measurements Performed on a Solid Plasmonic Substrate](#) Revnic RN, Știuftuc GF, Toma V, Onaciu A, Moldovan A, Tigu AB, Fischer-Fodor E, Tetean R, Burzo E, Știuftuc RI. Facile Microwave Assisted Synthesis of Silver Nanostars for Ultrasensitive Detection of Biological Analytes by SERS. Int J Mol Sci. 2022 Aug 8;23(15):8830. doi: 10.3390/ijms23158830

[2022]

[New Insights into the Multivariate Analysis of SER Spectra Collected on Blood Samples for Prostate Cancer Detection: Towards a Better Understanding of the Role Played by Different Biomolecules on Cancer Screening: A Preliminary Study](#) Munteanu VC, Munteanu RA, Gulei D, Mărginean R, Schițcu VH, Onaciu A, Toma V, Știufiuc GF, Coman I, Știufiuc RI. *New Insights into the Multivariate Analysis of SER Spectra Collected on Blood Samples for Prostate Cancer Detection: Towards a Better Understanding of the Role Played by Different Biomolecules on Cancer Screening: A Preliminary Study*. *Cancers (Basel)*. 2022 Jun 30;14(13):3227. doi: 10.3390/cancers14133227

[2022]

[Hybrid Lipid Nanoformulations for Hepatoma Therapy: Sorafenib Loaded Nanoliposomes-A Preliminary Study](#) Bartos A, Iancu I, Ciobanu L, Onaciu A, Moldovan C, Moldovan A, Moldovan RC, Tigu AB, Știufiuc GF, Toma V, Iancu C, Al Hajjar N, Știufiuc RI. *Hybrid Lipid Nanoformulations for Hepatoma Therapy: Sorafenib Loaded Nanoliposomes-A Preliminary Study*. *Nanomaterials (Basel)*. 2022 Aug 17;12(16):2833. doi: 10.3390/nano12162833

[2022]

[Nanoscale Investigation of DNA Demethylation in Leukemia Cells by Means of Ultrasensitive Vibrational Spectroscopy](#) Onaciu A, Toma V, Moldovan C, Țigu AB, Cenariu D, Culic C, Borșa RM, David L, Știufiuc GF, Tetean R, Tomuleasa C, Știufiuc RI. *Nanoscale Investigation of DNA Demethylation in Leukemia Cells by Means of Ultrasensitive Vibrational Spectroscopy*. *Sensors (Basel)*. 2022 Dec 29;23(1):346. doi: 10.3390/s23010346

[2022]

[Insights into the Human Microbiome and Its Connections with Prostate Cancer](#) Munteanu R, Feder RI, Onaciu A, Munteanu VC, Iuga CA, Gulei D. *Insights into the Human Microbiome and Its Connections with Prostate Cancer*. *Cancers (Basel)*. 2023 Apr 28;15(9):2539. doi: 10.3390/cancers15092539

[2023]

[A New Detection Method of Oral and Oropharyngeal Squamous Cell Carcinoma Based on Multivariate Analysis of Surface Enhanced Raman Spectra of Salivary Exosomes](#) Faur CI, Dinu C, Toma V, Jurj A, Mărginean R, Onaciu A, Roman RC, Culic C, Chirilă M, Rotar H, Fălămaș A, Știufiuc GF, Hedeșiu M, Almășan O, Știufiuc RI. *A New Detection Method of Oral and Oropharyngeal Squamous Cell Carcinoma Based on Multivariate Analysis of Surface Enhanced Raman Spectra of Salivary Exosomes*. *J Pers Med*. 2023 Apr 28;13(5):762. doi: 10.3390/jpm13050762

[2023]

[Insights into the human microbiome and its connections with prostate cancer](#) Munteanu R, Feder R-I, Onaciu A, Munteanu VC, Iuga C-A, Gulei D. *Insights into the Human Microbiome and Its Connections with Prostate Cancer*. *Cancers*. 2023; 15(9):2539. <https://doi.org/10.3390/cancers15092539>

[2023]

[Developing new diagnostic tools based on SERS analysis of filtered salivary samples for oral cancer detection](#) Borșa R-M, Toma V, Onaciu A, Moldovan C-S, Mărginean R, Cenariu D, Știufiuc G-F, Dinu C-M, Bran S, Opreș H-O, et al. *Developing New Diagnostic Tools Based on SERS Analysis of Filtered Salivary Samples for Oral Cancer Detection*. *International Journal of Molecular Sciences*. 2023; 24(15):12125. <https://doi.org/10.3390/ijms241512125>

[2024]

[Understanding DNA Epigenetics by Means of Raman/SERS Analysis for Cancer Detection](#) David L, Onaciu A, Toma V, Borșa R-M, Moldovan C, Țigu A-B, Cenariu D, Șimon I, Știufiuc G-F, Carasevici E, et al. *Understanding DNA Epigenetics by Means of Raman/SERS Analysis for Cancer Detection*. *Biosensors*. 2024; 14(1):41. <https://doi.org/10.3390/bios14010041>

[2024]

[Therapeutic advances of targeting receptor tyrosine kinases in cancer](#) Tomuleasa C, Tigu AB, Munteanu R, Moldovan C-S, Kegyes D, Onaciu A, Gulei D, Ghiaur G, Einsele H, Croce CM. Therapeutic advances of targeting receptor tyrosine kinases in cancer. *Sig Transduct Target Ther* 9, 201 (2024). <https://doi.org/10.1038/s41392-024-01899-w>

[2024]
[Investigating Nanoscale Interactions of Host–Guest Complexes Formed Between CB \[7\] and Atenolol by Quantum Chemistry and Ultrasensitive Vibrational Spectroscopy](#) Onaciu A, Toma V, Borşa R-M, Chiş V, Ştiufiuc G-F, Culic C, Lucaciu C-M, Ştiufiuc R-I. Investigating Nanoscale Interactions of Host–Guest Complexes Formed Between CB[7] and Atenolol by Quantum Chemistry and Ultrasensitive Vibrational Spectroscopy. *Sensors*. 2024; 24(22):7156. <https://doi.org/10.3390/s24227156>

[2024]
[Understanding the Interaction of Röntgen Radiation Employed in Computed Tomography/Cone Beam Computed Tomography Investigations of the Oral Cavity by Means of Surface-Enhanced Raman Spectroscopy Analysis of Saliva](#) Borşa R-M, Toma V, Năşcuţiu M-T, Onaciu A, Colceriu-Şimon I-M, Băciuş G, Bran S, Dinu C-M, Onişor F, Armencea G, et al. Understanding the Interaction of Röntgen Radiation Employed in Computed Tomography/Cone Beam Computed Tomography Investigations of the Oral Cavity by Means of Surface-Enhanced Raman Spectroscopy Analysis of Saliva. *Sensors*. 2024; 24(24):8021. <https://doi.org/10.3390/s24248021>

CONFERENCES & SEMINARS

[24/09/2015 – 25/09/2015] USAMV, Cluj-Napoca, Romania
International Training Workshop Bioethical approaches and responsible conduct in translational research

[06/11/2015 – 08/11/2015] Faculty of Biology, "Babes-Bolyai" University, Cluj-Napoca, Romania
Molecular Biology Current Aspects and Prospects Conference

[11/03/2016 – 12/03/2016] Cluj-Napoca, Romania
Insights in Hematology International Congress

[22/03/2016 – 23/03/2016] Chirurgie 4, Cluj-Napoca, Romania
Biological materials - nanomaterials interaction quantitative spectral analysis. Hyperspectral microscopy in dark field, CytoViva patented Workshop

[14/04/2016] USAMV, Cluj-Napoca, Romania
Airyscan - ZEISS confocal Microscopy with revolutionary technology Workshop

[24/05/2016 – 25/05/2016] ITIM, Cluj-Napoca, Romania
Transmission Electron Microscopy – Cryo-sectioning Workshop

[28/09/2016] ICI-BNS, Cluj-Napoca, Romania
Nanoparticles holistic characterization method by Ronexprim

[10/03/2017 – 11/03/2017] Cluj-Napoca, Romania
Insights in Hematology International Congress

[10/04/2017 – 13/04/2017] Wallenberg Research Centre at STIAS, Stellenbosch, South Africa
14th Annual UNESCO/IUPAC workshop and conference on macromolecules and materials Poster Presentation "Rituximab functionalized gold nanoparticles as molecular therapy in B cell acute lymphoblastic leukemia", Anca Onaciu, Valentina Pileczki, Ancuta Jurj, Tatar Andra-Sorina, Lajos-Zsolt Raduly, Lorand Magdo, Sergiu Pasca, Alin Moldovan, Ciprian Tomuleasa, Sanda Boca, Simion Astilean, Ioana Berindan-Neagoe

[23/05/2018] USAMV, Cluj-Napoca, Romania

From biochemical and cell-based assays to pre-clinical applications

[06/06/2018] Research Center for Advanced Medicine-MedFuture, "Iuliu Hatieganu" UMPH, Cluj-Napoca, Romania

How to write articles in high impact factor journals

[04/07/2018] Research Center for Advanced Medicine-MedFuture, "Iuliu Hatieganu" UMPH, Cluj-Napoca, Romania

CAR T cell therapy against multiple myeloma

[05/07/2018 – 07/07/2018] IOCN, Cluj-Napoca, Romania

YOCN Days Poster Presentation "Gold nanoparticles applications in molecular therapy of hematological malignancies"

[04/12/2018 – 07/12/2018] UMPH Iuliu Hatieganu, Cluj-Napoca, Romania

UMPh Iuliu Hatieganu Days Oral Presentation "Qdots applications in medicine"

[12/05/2019 – 14/05/2019] Cluj-Napoca, Romania

Insights in Hematology International Congress

[01/04/2021 – 03/04/2021] Online

Centenarul Institutului National Cantacuzino Oral Presentation "New methods for plasmonic and magnetoplasmonic liposomes synthesis as tools for drug delivery applications", Anca Ghenț, Cristian Moldovan

[08/12/2021] UMPH Iuliu Hatieganu, Cluj-Napoca, Romania

"Iuliu Hatieganu" UMPH Days Poster Presentation "A new method for DNA methylation assessment using ultrasensitive vibrational microscopy", Anca Onaciu, Valentin Toma, Cristian Moldovan, Adrian Bogdan Tigiu, Diana Cenariu, Razvan Hirian, Gabriela Fabiola Stiuftuc, Ciprian Tomuleasa, Constantin Mihai Lucaciu, Rares Ionut Stiuftuc

[09/12/2022] UMPH Iuliu Hatieganu, Cluj-Napoca, Romania

"Iuliu Hatieganu" UMPH Days Poster Presentation "Investigating plasmonic gold nanoparticles interactions with cellular media by means of hyperspectral microscopy", Anca Onaciu, Bianca-Maria Lazorec, Valentin Toma, Cristian Moldovan, Adrian-Bogdan Tigiu, Alin Moldovan, Gabriela Fabiola Stiuftuc, Rares Ionut Stiuftuc

[18/09/2021 – 19/09/2021] Cluj-Napoca, Romania

Insights in Hematology, 6th edition

[16/09/2022 – 18/09/2022] Cluj-Napoca, Romania

Insights in Hematology, 7th edition

[16/07/2023 – 22/07/2023] University of Debrecen, Debrecen, Hungary

NTEU - Summer School - Electron Microscopy Sample Preparation Practical insights into tissue samples preparation for electron microscopy

[09/09/2023 – 10/09/2023] Cluj-Napoca, Romania

Insights in Hematology, 8th edition

[04/12/2023 – 08/12/2023] "Iuliu Hatieganu" UMPH, Cluj-Napoca, Romania

"Iuliu Hatieganu" UMPH Days Poster Presentation "Developing a method for DNA samples spectral analysis", Anca Onaciu, Valentin Toma, Luca David, Cristian Moldovan, Adrian Bogdan Tigiu, Diana Cenariu, Ciprian Tomuleasa, Rares Ionut Stiuftuc

[09/05/2024 – 10/05/2024] Cluj-Napoca, Romania

Insights in Hematology, 9th edition

[02/12/2024 – 06/12/2024] UMPH Iuliu Hatieganu, Cluj-Napoca, Romania

"Iuliu Hatieganu" UMPH Days Poster Presentation "Combined quantum chemistry and ultrasensitive vibrational spectroscopy analysis of nanoscale interactions established between CB[7] and atenolol enantiomers", Anca Onaciu, Valentin Toma, Rareș-Mario Borșa, Cristian Silviu Moldovan, Richard-Ionuț Feder, Vasile Chiș, Rareș-Ionuț Știuftuc

[14/05/2025 – 15/05/2025] Cluj-Napoca, Romania

PROJECTS

[2016 – 2017]

"Use of new nanogold materials as delivery systems for modulation of MCL-1/p53 siRNA in ALL" – NanoLAL

[2016 – 2020]

"Clinical and economic impact of personalized targeted therapies with anti - microARN in reconverting resistance of malignant lung tumors" – CANTEMIR

[2017 – 2018]

"Diagnostic system of thoracic tumors based on ultrasonography and molecular biomarkers"

[2017 – 2020]

"Genomic population mapping of radioactive and heavy metals in order to increase national security" – ARTEMIS

[2018 – 2020]

"Increasing the performance of scientific research and technology transfer in translational medicine through the formation of a new generation of young researchers" – ECHITAS

[03/2022 – 06/2022]

"Nanomateriale magnetoplasmonice multifunctionale NanoTEX"

[2021 – 2023]

"Cooperation strategy for knowledge transfer, internationalization and curricula innovation in the field of research education at the 3rd level of study"

HONOURS AND AWARDS

[12/2023] UMPH Iuliu Hatieganu, Cluj-Napoca, Romania

2nd place at Research Centers E-Poster Session at UMPH Days Poster title: "Developing a method for DNA samples spectral analysis" Authors: Anca Onaciu, Valentin Toma, Luca David, Cristian Moldovan, Adrian Bogdan Tigu, Diana Cenariu, Ciprian Tomuleasa, Rares Ionut Stiufiuc

COMMUNICATION AND INTERPERSONAL SKILLS

Teamwork, empathy, listening, positive attitude

22.10.2025