


PERSONAL INFORMATION

Cristina ACHIM (Popa)



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 Laser Department,
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SexF | Date of birth **13/09/1983** | NationalityRomanian

POSITION WITHIN THE PROJECT

PhD., Scientific Researcher 2nd Degree

WORK EXPERIENCE

2006 - present

Scientific Researcher 2nd Degree

National Institute for Laser, Plasma and Radiation Physics, Laser Department,
 409 Atomistilor St., PO Box MG-36, 077125 Magurele, Romania

- main field:biophysics and medical physics
- other fields:technology of lasers;photonics and biophotonics;
- current research interests: - photoacoustic spectroscopy - laser-matter interactions - medical applications of lasers - applications of CO2 lasers in life sciences and environment
- Responsibilities: Project director/responsible,writer/presenter of scientific research results, laboratory research and design experiments, development of project proposals.

Business or sector: Scientific researcher in Laser Physics and applications

2014 - 2015

PostDoc Researcher Position

University Politehnica of Bucharest, Faculty of Applied Sciences, Department of Physics with contract no. POSDRU/159/1.5/S/132395

Research projectTitle:"Laser photoacoustic spectroscopy technique in the evaluation of oxidative attack on young people with mental and breathing disorders" financed by ESF, Operational Programme for the Development of Human Resources

- photoacoustic spectroscopy, laser physics and applications, Laser - matter interactions.

Business or sector: scientific research

EDUCATION AND TRAINING

- 2008 - 2011 **PhD in Physics with "Very good" qualificative**
 University of Bucharest, Faculty of Physics
 Speciality: Physics (principal subject: Study of photoacoustics in medical applications)
 Principal subjects covered or skills acquired: optoelectronics, physics lasers, photoacoustics.
- 2006-2008 **Master Degree in Biophysics and Medical Physics**
 University of Bucharest, Faculty of Physics
 (principal subject: CO2 laser photoacoustic spectroscopy in breath analysis)
 Principal subjects covered or skills acquired: photoacoustics, optics, optical radiation sources, detectors for optical radiation, photoacoustic technologies in medicine
- 2002-2006 **Bachelor of Science in Medical Physics**
 University of Bucharest, Faculty of Physics
 Speciality Medical Physics (principal subject: The Fourier transform in optics)
 Principal subjects covered or skills acquired: optics, optical radiation sources.
- 2004 **Management and computerized accounting at Computer SRL,**
 Bucharest, Romania, principal subject: Small Firm Management
- 19 July – 22 July 2017 **Laser Ignition Summer School (LISS 2017),**
 Brasov, Romania
- July 2-6, 2018 **Laser Ignition Summer School (LISS 2018),**
 Sibiu, Romania

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	A1	A2	A1	A1	A1
Italian	A1	A1	A2	A1	A1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills Improved communication skills gained through my experience as researcher, presenting oral and INVITED lectures, working with students and attending professional tutorials communication-oriented

Organisational / managerial skills

Good organisational / managerial skills proved in the financial and technical implementation of 13 scientific projects, as well in the organization of 6 scientific conferences:

Organizer of International conferences:

1. Light at Extreme Intensities – **LEI 2009**, (October 16 - 21 2009), Brasov, Romania <http://lei2009.inflpr.ro/Index-4.html>
2. International Student Conference on Photonics – ISCP 2012 (8-11 May 2012), Sinaia, Romania http://iscp.inflpr.ro/data/uploads/program/bookabsiscp12_final.pdf
3. **ICUIL 2012**-The International Committee on Ultra-High Intensity Lasers. (September 16 - 21, 2012), Mamaia, Romania <http://www.icuil.org>
4. ISLWA 2011 - International Student Workshop on Laser Applications (May 31- June 4, 2011, Bran, Romania) <http://iswla.inflpr.ro/CompleteProgram.pdf>
5. IONS@ Balvanyos 2017 <http://ionsbalvanyos.osahost.org/>
6. ISCP&INDLAS Conference, Alba Iulia, 2018, <http://iscp-indlas.inflpr.ro/>, <https://www.facebook.com/ISCP-Indlas-2018-Conference-194211797975148/>

Research Projects:

1. Director- PN-II-RU-TE-2011/ no. TE50; "Trace gas detection in life sciences by laser photoacoustic methods-TRACELIFE", (2011-2014), (<http://te50.inflpr.ro>)
2. Project Responsible: PN-II-PT-PCCA-2013-4-0361, no: 72/2014, "Integrated system for monitoring and bioremediation of metal/radionuclides contaminated area – IMONBIO" (2014-2017), (http://www.incdsb.ro/p/lmonbio/index_ro.html)
3. Director - Post Doc Fellowship at University "Politehnica" of Bucharest, Faculty of Applied Sciences, Department of Physics with contract no. POSDRU/159/1.5/S/132395 financed by ESF, Operational Programme for the Development of Human Resources 2007-2013;
4. Project Manager - PhD Fellowship at University of Bucharest, Doctoral School of Physics, Faculty of Physics with contract No. POSDRU/6/1.5/S/10, financed by ESF, Operational Programme for the Development of Human Resources 2007-2013.
5. Project Director- STAR C3/ no. 603, Contract no.153/19.07.207 ; "Development of an Instrument for Monitoring of the Astronauts Health-IMAH", (2017-2019), (http://star.rosa.ro/downloads/C3_2016/STAR_C3_2016_PropFinantare_CDI.pdf)

Member of professional associations: (SPIE) – USA "International Society for Optical Engineering"; Member in the team of 8 National Programmes (including the PC7 project "Extreme Light Infrastructure", finalized with the construction in Romania of a large pan-European research infrastructure (ELI-NP).

Job-related skills

Areas of specialization and qualifications: technology of lasers, photoacoustic spectroscopy, medical applications of lasers.

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient	Proficient	Proficient	Proficient	Proficient

Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

Other digital skills

- Acquisition date: Test Point, Origin.
- Operating (Word, Excel, Power Point, Corel Draw, PhotoShop).

Driving licences:

B

ACADEMIC ACTIVITIES
Media and TV Appearances

1. 2016 (20 Feb.) at ProTV “Ce se intampla doctore” - CSID, <http://protvplus.ro/produs/ce-se-intampla-doctore/video/6940-ce-se-intampla-doctore-20-februarie-2016?page=2>
2. 2018 (01 Aprilie) la ProTV “Ce se intampla doctore” - CSID , <https://stirileprotv.ro/stiri/csid/ce-se-ascunde-de-fapt-in-tigarile-sanatoase-respiram-plastic-ars-cu-cianura.html>
3. 2016 (02 April.) at ProTV “Ce se intampla doctore” - CSID, <http://protvplus.ro/produs/ce-se-intampla-doctore/video/7186-ce-se-intampla-doctore-2-aprilie-2016>
4. 2016 (16 Aug.) Online Press release published by “ Stiinta si Tehnica” <http://stiintasitehnica.com/tigari-electronice-traditionale-efecte-sanatate/>
5. 2016 (Nov.) Newsmagazine in “ Stiinta si Tehnica”, no.61, November edition, article about “Heavy metals impact at plants”.
6. 2015 (March) Newsmagazine in “Stiinta si Tehnica”, no.44, March edition, article about “Effects of electronic cigarettes versus traditional cigarettes on human health”.
7. 2013 (Jul.-Aug.) Newsmagazine in “ Stiinta si Tehnica”, no.27, July-August edition, article about “Respiration in wavelengths”.
8. Online Press release published by marketingromania.ro (<https://www.marketingromania.ro/comunicatedepresa/primul-studiu-romanesc-atesta-eficientatigarii-electronice>)
9. Online Press release published by stirilocale24.ro (<http://stirilocale24.ro/iasi/tigara-electronicaajuta-fumatorii-sa-renunte-la-viciu-studiu-205264/>)
10. Online Press release published by diete-sanatoase.ro (<http://diete-sanatoase.ro/business/studiialege-acum-o-tigara-electronica-daca-tii-la-viata-ta?name=studii-alege-acum-o-tigaraelectronica-daca-tii-la-viata-ta>)

Tutoring

2017-2018: Practice Coordinator (Supervising) in Research internship in Bachelor's degree programs (University of Bucharest, Faculty of Physics)

2016-2017: Practice Coordinator (Supervising) in Research internship in Bachelor's degree programs (University of Bucharest, Faculty of Physics)

2015-2018: Practice Coordinator (Supervising) of Diploma and PhD Thesis of PhD students from University Politehnica of Bucharest, Faculty of Applied Sciences, Department of Physics.

2011-2014: Practice Coordinator (Supervising) of Diploma and PhD Thesis of PhD students from University Politehnica of Bucharest, Faculty of Applied Sciences, Department of Physics.

Scientific review at ISI and non ISI journals

Journal of Biomedical Optics (IF= 2.859); Journal of Breath Research (IF= 4.631); Journal of Food Science and Technology (IF=2.203); Journal of Spectroscopy (IF=0.87); Microchemical Journal (IF= 3.034); Postharvest Biology and Technology (IF= 2.223); Infrared Physics and Technologies (IF = 1.6) Biological and Chemical Research; Advances in Optical Technologies

Presentations:

Author of more than 83 communications to international and national conferences (author/co-author of more than 13 invited lectures).

Publications

- Author/co-author of more than 46 scientific manuscripts (with 39 scientific papers published in ISI journals and 7 paper published in non-ISI journals);
- Author/editor of 5 books and 4 book chapters;

Chairman:

Chairman at conference session: IONS Balvanyos 2017 (International OSA Network of Students, Transylvania, Balvanyos, 25-28 July,2017), chairman at:” Plasma Physics and Applications”

Invited lecture:

The 25th Annual International Conference on Advanced Laser Technologies ALT'17 Busan, Korea, September 10–15, 2017, (INVITED); autori: C. Achim (Popa), D.C. Dumitras “VOCs emitted from seeds germinated with heavy metals measured by optical spectroscopy technique”; HSBS'15 4 th International Conference on Health Science and Biomedical Systems, Sliema, Malta 17-19 August 2015 (INVITED), autori: C. Popa, M. Petrus, A.M. Bratu, “Biomedical applications of CO2 laser photoacoustic spectroscopy”; si International Conference on Advanced Laser Technologies ALT '15, Faro, Portugalia, September 7-11, 2015 (INVITED), autori: D. C. Dumitraş, M. Petruş, A. M. Bratu, M. Paţachia, Ş. Băniţă, C. Popa, “Non-invasive evaluation of breath biomarkers in oxidative stress using photoacoustic spectroscopy”.

Other activities:

1. I organized international conferences with topics related to ELI: LEI 2009: Light at Extreme Intensities, Braşov, Romania, 16-21 October 2009; ICUIL 2012: International Conference on Ultra Intense Lasers, Mamaia, Romania, 16-21 September 2012.
2. I was member in the team of PC7 project "Extreme Light Infrastructure", finalized with the construction in Romania of a large pan-European research infrastructure ELI-NP.
3. I was editor of the abstract book: D. C. Dumitraş, C. Matei, Cristina ACHIM, A. Bratu Editors, "The International Committee on Ultra-High Intensity Lasers ICUIL", Book of abstracts, 124 pp., 2012 (Mamaia, Romania).
4. I was co-author at presented international conferences topics, challenges and applications of ELI project:
 - a) D. C. Dumitraş, R. Dabu, D. C. A. Duţu, C. Matei, Cristina Achim, M. Paţachia, M. Petruş, A. M. Bratu, Ş. Băniţă, "Extreme Light Infrastructure (ELI) and hadron therapy", First International Workshop on Radiotherapy with Neutrons, Protons and Carbon Ions Beams RNPB '09, Predeal, România, 27 February-1 March 2009 (Invited lecture).
 - b) C. Matei, Cristina Achim, A. M. Bratu, M. Paţachia, Ş. Băniţă, M. Bercu, I. Ivaşcu, D. C. Dumitraş, "Feasibility of radiobiological studies at Romanian TEWALAS and CETAL laser facilities", 22nd International Laser Physics Workshop LPHYS13, Prague, Czech Republic, 15-19 July 2013 (Oral presentation).
 - c) C. Matei, Cristina Popa, A.M. Bratu, M. Petruş, M. Paţachia, Ş. Băniţă, I. Ivaşcu, D. C. Dumitraş, "Initialization of radiobiological studies at Romanian high power laser facilities", ALT'13 (Advanced Laser Technologies Conference), Budva, Montenegro, 16-20 September 2013 (Poster).
5. I was member in the team of the project RO-CERN E12 "Preliminary studies for bio-medical experiments implementation at ELI-NP" (2014-2016), whose results were evaluated by International Scientific Advisory Board – ISAB ELI-RO with 100 points of 100 possible (December 2015).

ANNEXES

Programme/Project	Position	Period: from... to...
STAR ROSA C3/ no. 603, Contract no.153 ; "Development of an Instrument for Monitoring of the Astronauts Health-IMAH"	Project Director	2017 - 2019
PN-II-RU-TE-2011-3-0269 , No. TE50 " Trace gas detection in life sciences by laser photoacoustic methods"	Project Director	2011 - 2014
PN-II-PT-PCCA-2013-4-0361, no: 72/2014, "Integrated system for monitoring and bioremediation of metal/radionuclides contaminated area – IMONBIO"	Project Responsible	2014-2017
Post Doctoral European Social Fund (ESF) through the Operational Programme Human Resources Development (HRD) of University POLITEHNICA of Bucharest, Faculty of Applied Sciences, Department of Physics with contract no. POSDRU/159/1.5/S/132395 financed by ESF, Operational Programme for the Development of Human Resources 2007-2013	Post Doc Researcher	2014 - 2015
PhD Fellowship at University of Bucharest, Doctoral School of Physics, Faculty of Physics with contract No. POSDRU/6/1.5/S/10, financed by ESF, Operational Programme for the Development of Human Resources 2007-2013.	PhD Researcher	2008-2011
Project "Preliminary Studies for Implementation of BioMedical Experiments at ELI-NP" (ELI-BIOMED)	Researcher in the team	2014 - 2016
Project PNCD II Partnership 200 "Imaging System for Differentiation of Malign and Benign Tumoral Lesions based on the Duality of Hyperspectral Fluorescence and Diffuse Optical Tomography" (HyperDOT)	Researcher in the team	2014 - 2016
Project PNCD II Partnership184 "Multimodal optical imaging system for intraoperative detection of tumor positive margins (MOIST)"	Researcher in the team	2012 – 2016
Project PC7 Grant Agreement Number 212105 "ELI – Extreme Light Infrastructure – Preparatory Phase"	Researcher in the team	2007-2010
Project CEEX 06-D11-16 "Near infrared (NIR) diffuse optical tomography for breast specific diseases"	Researcher	2006-2008

PUBLISHED ARTICLES

1. D.C. Dumitras, D.C. Dutu, C. Matei, A. M. Magureanu, M. Petrus, and C. Popa, "Improvement of a laser photoacoustic instrument for trace gas detection", U. P. B. Sci. Bull., Series A 69, No. 3, pp. 45-56 (2007).
2. D. C. Dumitras, D. C. Dutu, C. Matei, A. M. Magureanu, M. Petrus and C. Popa, "Laser photoacoustic spectroscopy: principles, instrumentation, and characterization" Journal of Optoelectronics and Advanced Materials, Vol 9, No. 12, pp: 3655-3701 (2007).
3. D.C. Dumitras, D.C. Dutu, C. Matei, A.M. Magureanu, M. Petrus, C. Popa and M. Patachia, "Measurements of ethylene concentration by laser photoacoustic techniques with applications at breath analysis" Romanian Reports in Physics , Vol 60, No. 3, pp: 593-602, (2008).
4. R. Cernat, C. Matei, A.M. Bratu, C. Popa, D.C.A. Dutu, M. Patachia, M. Petrus, S. Banita and D.C. Dumitras, "Laser photoacoustic spectroscopy method for measurements of trace gas concentration from human breath" Romanian Reports in Physics, Vol. 62, No.3, pp. 610-616, (2010).
5. D.C. Dumitras, S. Banita, A.M. Bratu, R. Cernat, D.C.A. Dutu, C. Matei, M. Patachia, M. Petrus and C. Popa, "Ultrasensitive CO₂ laser photoacoustic system", Infrared Physics & Technology Journal, Vol. 53, nr. 5, pp. 308-314, 2010.
6. D.C. Dumitras, D.C. Dutu, C. Matei, R. Cernat, S. Banita, M. Patachia, A. M. Bratu, M. Petrus and C. Popa, "Evaluation of ammonia absorption coefficients by photoacoustic spectroscopy for detection of ammonia levels in human breath", Laser Physics, Vol. 21, No. 4, pp: 796-800, (2011).
7. C. Popa, A. M. Bratu, Ramona Cernat, Doru C. A. Dutu, S. Banita and Dan C. Dumitras, "Spectroscopic studies of ethylene and ammonia as biomarkers at patients with different medical disorders", U. P. B. Sci. Bull., Series A, Vol. 73, No. 2, pp.167-174 (2011)
8. C. Popa, D. C. A. Duțu, R. Cernat, C. Matei, A. M. Bratu, Ș. Băniță and D. C. Dumitraș, "Ethylene and ammonia traces measurements from the patients' breath with renal failure via LPAS method", Appl. Phys. B, Vol. 105, No. 3, pp. 669-674 (2011)
9. C. Popa, A. M. Bratu, C. Matei, R. Cernat, A. Popescu, and D.C. Dumitras, "Qualitative and quantitative determination of human biomarkers by laser photoacoustic spectroscopy methods", Laser Physics, Vol. 21, No. 7, pp: 1336-1342, (2011)
10. M. Bratu, C. Popa, C. Matei, S. Banita, D. C. A. Dutu, and D. C. Dumitras "Removal of interfering gases in breath biomarker measurements", Journal of Optoelectronics and Advanced Materials, Vol. 13, No. 8, pp. 1045-1050, (2011).
11. C. Popa, C. Matei "Photoacoustic Assessment of Oxidative Stress in Dialysis and Radiotherapy by LPAS System", Optoelectronics and Advanced Materials - Rapid Communications, Vol. 5, No.11, pp. 1237-1242. (2011)
12. Ș. Băniță, C. Popa, M. Pațachia and D. C. Dumitraș, "Ethylene concentration at fruits under aerobic vs. anaerobic conditions", U.P.B Sci. Bull., Series A, Vol. 75, No. 3, pp. 217-226 (2013)
13. C. Popa, M. Pațachia, S. Băniță, and D. C. Dumitraș, "Exertion in Kangoo Jumps aerobic: evaluation and interpretation using spectroscopic technique determinations", J.Spectroscopy, Article ID 602434, <http://dx.doi.org/10.1155/2013/602434>, (2013).
14. C. Popa, Ș. Băniță, A. M. Bratu, M. Pațachia, C. Matei, and D. C. Dumitraș, "The level of ethylene biomarker in renal failure of elderly patients analyzed by photoacoustic spectroscopy", Laser Physics, Vol. 23, No. 12, doi:10.1088/1054-660X/23/12/125701, Article ID 125701 (2013)
15. C. Popa, M. Pațachia, Ș Băniță, and D. C. Dumitraș, "Spectroscopic study of ammonia molecules at subjects with kidney failure: a case control study", Rev. Roum. Chim, Vol. 58, No. 9-10, pp. 779-784 (2013)
16. C. Popa, N. Verga, M. Pațachia, Ș. Băniță, C. Matei, and D. C. Dumitraș, "Advantages of laser photoacoustic spectroscopy in radiotherapy characterization", Rom. Rep. Phys, Vol. 66, No. 1, pp. 120-126 (2014)
17. Ș Băniță, D. C. Dumitraș, A. M. Bratu, M. Pațachia and C. Popa, "Ethylene production of organic and nonorganic mature mushrooms measured by LPAS", Rom. Rep. Phys., Vol. 66, No. 3, pp 887-892. (2014)
18. C. Popa, A. M. Bratu, D. C. Dumitraș, M. Pațachia, and Ș Băniță, "Photoacoustic detection of ethylene concentration in cherry tomatoes", Journal of Optoelectronics and Advanced Materials, Vol. 16, No. 1-2, pp. 82-86 (2014)
19. M. Pațachia, C. Popa, Ș Băniță, and D. C. Dumitraș, "Acquisition and electrical signal processing in an experimental CW-Diffuse Optical Tomography system", Rom. Rep. Phys., Vol. 66, No. 4, pp: 1061-1077, (2014)
20. M. Pațachia, Ș. Băniță, C. Popa and D. C. Dumitraș, "CW Diffuse Optical Tomography system tested on phantoms and animal tissues", Rom. Rep. Phys., Vol. 67, No. 2, pp. 412-422 (2015)
21. C. Popa, "Laser spectroscopy applied to analysis of active young women's breath" Rom. Rep. Phys. Vol. 66, No.4, pp. 1056-1060 (2014)
22. C. Popa, D. C. Dumitraș, M. Pațachia, and S. Băniță, "Testing fruits quality by photoacoustic spectroscopy assay", Laser Physics, Vol. 24, No. 10, [doi:10.1088/1054-660X/24/10/105702](https://doi.org/10.1088/1054-660X/24/10/105702), (2014)
23. C. Popa "IR spectroscopy study of the influence of inhaled vapors/smoke produced by cigarettes at active smokers", Journal of Biomedical Optics 20(5), 051003-1 - 051003-5, [DOI: 10.1117/1.JBO.20.5.051003] (May 2015)
24. C. Popa, D. C. Dumitraș, M. Pațachia and Ș. Băniță, "Improvement of a Photoacoustic Technique for the Analysis of Non-Organic Bananas During Ripening Process" Rom. J. Phys., Vol. 60, No. 7-8, pp 1132-1138, (2015)

25. C. Popa, S. Băniță, M. Pațachia, C. Matei, A. M. Bratu, M. Petruș, D. C. Dumitraș, "CO₂ laser-photoacoustic study of exhaled breath produced by electronic vs. traditional cigarettes", Rom. Rep. Phys. Vol. 67, No. 3, pp. 946-953, (2015)
26. A. M. Bratu, M. Petruș, M. Pațachia, C. Matei, C. Popa, Ș. Băniță and D. C. Dumitraș, "Quantitative analysis of surgical smoke produced in vitro by CO₂ laser vaporization of animal tissues", Rom. J. Phys., Vol. 60, No. 1-2 pp. 215-227 (2015)
27. Cristina Popa, Mioara Petrus, Ana Bratu "Ammonia and ethylene biomarkers in the respiration of the people with schizophrenia using photoacoustic spectroscopy", Journal of Biomedical Optics 20(5), 057006 - 057006-8 (May 2015). [DOI: 10.1117/1.JBO.20.5.057006]
28. C. Popa, M. Petrus, A. Bratu, "Photoacoustic spectroscopy for non-invasive analysis of human respiration", Rom. Rep. Phys, Vol. 67, no 4, pp. 1537-1544, (2015)
29. C. Popa "Detection of ethylene by infrared spectroscopy in mental disorders", at Rom Rep Phys, Vol. 67, no 4, pp. 1565-1569, (2015)
30. S. Banita, M. Patachia, D.C. Dumitras, C. Achim, M. Bercu, A.M. Bratu, C. Matei, "Testing fruits quality by laser photoacoustic spectroscopy", Title: Recent Advances in Biology, Biomedicine and Bioengineering, Proceedings of the 3rd International Conference on Health Science and Biomedical Systems (HSBS'14), Recent Advanced in Biology and Biomedicine Series 6, Editors: Nikos E. Mastorakis, Atsushi Fukasawa, Published by WSEAS Press, pp. 63-67, ISSN: 1790-5125, ISBN: 978-960-474-401-5, (2014).
31. C. Popa, M. Petrus, A.M. Bratu, "Biomedical applications of CO₂ laser photoacoustic spectroscopy", Title: Recent Advances on Biomedical Sciences, Proceedings of the 4rd International Conference on Health Science and Biomedical Systems (HSBS'15), Recent Advanced in Biology and Biomedicine Series 9 , Editor: Carlos M. Travieso-Gonzalez, Published by WSEAS Press, pp. 72-75, ISSN: 1790-5125, ISBN: 978-1-61804-334-4, (2015).
32. M. Petrus, A.M. Bratu, C. Popa "Oxidative Stress in Diabetes: Ammonia Breath Analysis by Laser Photoacoustic Spectroscopy", Title: Recent Advances on Biomedical Sciences, Proceedings of the 4rd International Conference on Health Science and Biomedical Systems (HSBS'15), Recent Advanced in Biology and Biomedicine Series 9, Editor: Carlos M. Travieso-Gonzalez, Published by WSEAS Press, pp. 61-64, ISSN: 1790-5125, ISBN: 978-1-61804-334-4, (2015).
33. Cristina Achim (Popa), Ana Bratu, Mioara Petrus, Dan Dumitraș, "Impactul metalelor grele asupra plantelor/ REVISTA STIINTA & TEHNICA 61 Noiembrie, 104-107 (2016).
34. Cristina Achim (Popa), Mihai Patachia, Stefan Băniță, Ana Bratu, Consuela Matei, Mioara Petrus, Dan C. Dumitraș, "Respirația în lungimi de undă", Revista Stiinta & Tehnica, Nr. 27 iulie-august, pp:056-059, (2013).
35. Cristina Achim (Popa), Ana Bratu, Mioara Petrus, Stefan Băniță, Mihai Patachia, Consuela Matei, Dan C. Dumitraș, "Efectele țigărilor electronice si traditionale asupra sanatatii", Revista Stiinta & Tehnica, Nr. 44 martie, pp: 046-049 (2015).
36. C. Popa "Breathing Disorders Using Photoacoustics Gas Analyzer", Journal of Medical Imaging and Health Informatics, Vol. 6, no. 8, pp. 1893–1895, <https://doi.org/10.1166/jmihi.2016.1944>, (2016).
37. Petrus, Mioara; Bratu, Ana M.; Popa, Cristina "THE RESPONSE OF HUMAN BODY AT OXIDATIVE STRESS IN SUBJECTS WITH TYPE 2 DIABETES: AMMONIA BREATH ANALYSIS BY LASER PHOTOACOUSTIC SPECTROSCOPY"/ REVUE ROUMAINE DE CHIMIE Volume: 61 Issue: 2 Pages: 83-87 Published: FEB 2016.
38. C. Popa, M. Petrus, A.M. Bratu, M. Patachia, S. Banita, " Photoacoustic response of cherry tomatoes contaminated with car engines pollution and UV radiation", Optoelectronics and Advanced Materials - Rapid Communications, vol. 11, pp:262-266 (2017).
39. M. Petrus, A. M. Bratu, C. Popa, "Spectroscopic analysis of breath ethylene and oxidative stress relation with glycaemic status in type 2 diabetes", Optical and Quantum Electronics, 49:2, January 2017, doi:10.1007/s11082-016-0837-y b (2017).
40. M. Petrus, A.M. Bratu, C. Popa, "Spectroscopic study of dietary effects on volatile breath biomarkers", Romanian Reports in Physics, Vol 69, Nr. 3, pp 609, (2017).
41. C. Popa, M. Petrus, „Heavy metals impact at plants using photoacoustic spectroscopy technology with tunable CO₂ laser in the quantification of gaseous molecules”, Microchemical Journal, Vol. 134, September 2017, Pages 390-399, <https://doi.org/10.1016/j.microc.2017.07.006> (2017).
42. C. Popa, M. Petrus, A.M. Bratu, A comparative photoacoustic study of multi gases from human respiration: mouth breathing vs. nasal breathing, February 2018, Microchemical Journal 139, DOI 10.1016/j.microc.2018.02.030 (2018).
43. Ana M. Bratu, Mioara Petrus, Cristina Popa, Laser-based spectrometer for optical trace gas detection in young adults with autism, Microchemical Journal, Volume 138, May 2018, Pages 203- 208, <https://doi.org/10.1016/j.microc.2018.01.014> (2018).
44. Camelia FLORICA, Andreea COSTAS, Nicoleta PREDA, Mihaela BEREGOI, Andrei KUNCSEK, Nicoleta APOSTOL, Cristina POPA, Gabriel SOCOL, Victor DICULESCU, Ionut ENCULESCU, Core-shell nanowire arrays based on ZnO and CuxO for water stable photocatalysts, under review in Nano Energy NANOEN-D-18-01686, (2018).
45. C. Popa, M. Petrus, A.M. Bratu, Photoacoustic analysis of multi gases using infrared region of CO₂ laser spectrum, under review in Infrared Physics & Technology INFPHY_2018_328 (2018).

Books and Chapters

1. Contributing Editors: Cristina Achim, Mioara Bercu, Andra Dinache, Agota Simon, Adriana Smarandache, Book of Abstract, IONS Balvanos 2017 International OSA Network of Students ,editura Universitatii din Bucuresti, 2017, ISBN: 978-606-16-0903-1.
2. Cristina Popa, M. Petrus, A.M. Bratu, M. Patachia, S. Banita, D.C. Dumitras,"Food safety test by laser photoacoustic spectroscopy assessment"/, Editura Universitatii Transilvania, Brasov,editura acreditata de CNCISIS, Editor. Florescu Monica, Chapter I , pp: 65-82, in "Biophysics for Biomedical and Evironmental Sciences", 2016, ISBN 978-606-19-0768-7.
3. Cristina Popa and M. Petrus, "Spectroscopic analysis of some heavy metals on the contaminated vegetation", Editura Universitatii Transilvania, Brasov, editura acreditata de CNCISIS / Editor. Florescu Monica, Chapter II, pp: 83-107 in "Biophysics for Biomedical and Evironmental Sciences", 2016, ISBN 978-606-19-0768-7.
4. D. C. Dumitras, A. M. Bratu and Cristina Popa, "CO₂ Laser Photoacoustic Spectroscopy: Principles", Intech, Croatia (2012); Chapter I in " CO₂ Laser-Optimisation and Application", ISBN 979-953-307-712-2, Ed. D. C. Dumitras.
5. D. C. Dumitras, A. M. Bratu and Cristina Popa, "CO₂ Laser Photoacoustic Spectroscopy: Instrumentation and Applications", Intech, Croatia (2012); Chapter II in " CO₂ Laser-Optimisation and Application", ISBN 979-953-307-712-2, Ed. D. C. Dumitras.
6. Cristina Popa, "[Human respiration in wavelengths](#)", ISBN: 978-3-659-61401-9, LAP Lambert Academic Publishing (2014) .
7. Editors: D. C. Dumitras, C. Matei, Cristina ACHIM, A. Bratu, "The International Committee on Ultra-High Intensity Lasers ICUIL", Book of abstracts, 124 pp., 2012 (Mamaia, Romania) (ICUIL 2012).
8. Editors: Cristina Achim, Mihai Boni, Viorel Nastasa, Book of Abstract, International Student on Photonics 2012 (ISCP 2012), ISSN: 2284-9750, ISSN-L: 2284-9750.
9. Marian Mogildea , George Mogildea, Cristina Popa, Frontiers in materials science and optoeletronics: Microwaves and application areas, Lambert Academic Publishing (2018), ISBN: 978-613-8-27006-5 (2018).

National/international conferences:

1. D. C. Dumitras, D. C. Dutu, C. Matei, A. M. Magureanu, M. Petrus, C. Popa, "Noises and limiting factors of instruments based on laser photoacoustic spectroscopy", International Conference Industrial Applications of Lasers INDLAS 2007, Bran, Romania, May 23-25, 2007
2. D. C. Dumitras, D. C. Dutu, C. Matei, A. M. Magureanu, M. Petrus, C. Popa, "Laser photoacoustic spectroscopy: principles, instrumentation and characterization", 15-th International Conference ALT'07, Advanced Laser Technologies, Levi, Finland, September 3-7, 2007 (Invited Lecture)
3. D. C. Dumitraş, D. C. DuŃu, C. Matei, A. M. Măgureanu, M. Petruş, C. Popa, M. PaŃachia, "Ethylene monitoring by photoacoustic spectroscopy during radiotherapy in specific oncological cases", International Conference - INDLAS - Second Edition 2008 "Modern Laser Applications", Bran, Romania, May 20-23, 2008 (Poster)
4. D. C. Dumitraş, D. C. DuŃu, A. M. Măgureanu, M. Petruş, C. Matei, C. Popa, "Performances and limits of laser photoacoustic spectroscopy for trace gas measurements", International Conference Advanced Laser Technologies ALT'08, Siofok, Hungary, September 13-18, 2008 (Invited lecture)
5. M. Petruş, D. C. Dumitraş, D. C. DuŃu, C. Matei, C. Popa, "Laser irradiation effects on ENT tissues", International Conference Advanced Laser Technologies ALT'08, Siofok, Hungary, September 13-18, 2008 (Poster)
6. D. C. Dumitraş, R. Dabu, D. C. A. DuŃu, C. Matei, C. Achim, M. PaŃachia, M. Petruş, A. M. Bratu, Ş. BăniŃă, "Extreme Light Infrastructure (ELI) and hadron therapy", First International Workshop on Radiotherapy with Neutrons, Protons and Carbon Ions Beams RNPB '09, Predeal, România, 27 February-1 March 2009 (Invited lecture)
7. D. C. Dumitraş, D. C. A. DuŃu, M. Patachia, A. M. Bratu, M. Petruş, C. Achim, "Laser photoacoustic spectroscopy for exhaled biomarker measurements", II International Symposium Topical Problems of Biophotonics TPB-2009, Optical Bioimaging/Workshop, Nizhny Novgorod, Russia, 19- 24 July 2009 (Invited lecture)
8. D. C. Dumitraş, D. C. A. DuŃu, A. M. Bratu, M. PaŃachia, C. Achim, M. Petruş, C. Matei, Ş. BăniŃă, "Photoacoustic spectroscopy: low vs. high laser power", International Conference Advanced Laser Technologies ALT'09, Antalya, Turcia, 26 September-1 October 2009 (Invited lecture)
9. R. Cernat, D. C. A. DuŃu, M. PaŃachia, C. Achim, D.C. Dumitraş, "Noninvasive detection of breath ammonia levels in renal diseases using laser photoacoustic spectroscopy", International Conference Advanced Laser Technologies ALT'09, Antalya, Turcia, 26 September-1 October 2009 (Poster)
10. C. Achim, D. C. Dumitraş, D. C. A. DuŃu, R. Cernat, "Evaluation of ammonia absorption coefficients by photoacoustic spectroscopy for detection of ammonia levels in human breath", International Conference Advanced Laser Technologies ALT'09, Antalya, Turcia, 26 September-1 October 2009 (Poster)
11. C. Achim, R. Cernat, A. M. Bratu, S. Banita , D. Dutu, C. Matei, M. Petrus, M. Patachia, D. C. Dumitraş, "Breath diagnostics using ultrasensitive CO₂ laser photoacoustic spectroscopy system", International Student Workshop on Laser Applications 2010 ISWLA'10, Bran, 25-28 May 2010 (Poster)
12. D. C. Dumitraş, C. Achim, D. DuŃu, C. Matei, R. Cernat, A. M. Bratu, M. Petruş, M. PaŃachia, Ş. BăniŃă "Qualitative and quantitative determination of human biomarkers by laser photoacoustic spectroscopy methods", 19-th International Laser Physics Workshop LPHYS'10, Foz do Iguaçu, Brasil, 5-9 July 2010 (Invited lecture)
13. A.M. Bratu, C. Achim, R. Cernat, D. Dutu, D. C. Dumitraş, „Laser measurements of ammonia and ethylene at patients with renal dialysis”, ALT'10 Advanced Laser Technologies Conference, Egmond aan Zee, The Netherlands, 12-15 September 2010 (Poster).

14. C. Achim, D. DuŃu, D. C. Dumitraş, „Noninvasive investigation of human biomarkers by laser photo-acoustic spectroscopy method”, International Congress Laser Bucharest, Bucharest, România, 11-13 November 2010 (Oral)
15. C. Popa, A. M. Bratu, D. C. A. DuŃu, C. Matei, Ş. BăniŃă, D. C. Dumitraş, „Analysis of ethylene and ammonia as biomarkers for patients with renal failure”, International Student Workshop on Laser Applications, Bran, Romania, 31 May-4 June, 2011 (Oral)
16. Ş. BăniŃă, D. C. A. DuŃu, C. Matei, A. M. Bratu, M. Petruş, C. Achim, M. PaŃachia, D. C. Dumitraş, „Ethylene concentration measurement at fruits using LPAS”, International Student Workshop on Laser Applications, Bran, Romania, 31 May-4 June, 2011 (Oral)
17. A. M. Bratu, C. Popa, C. Matei, Ş. BăniŃă, D. C. Dumitraş, „Removing of interfering gases in LPAS breath biomarker concentration measurements”, International Student Workshop on Laser Applications, Bran, Romania, 31 May-4 June, 2011 (Oral)
18. D. C. Dumitraş, Ş. BăniŃă, A. M. Bratu, C. Matei, C. Popa, “Assessment of medical treatment efficiency based on multiple biomarkers measurement”, 19-th International Conference on Advanced Laser Technologies - ALT'11, Golden Sands, Bulgaria, September 3-8, 2011 (Invited lecture)
19. A. Bratu, M. Petruş, C. Achim, C. Matei, M. PaŃachia, Ş. BăniŃă, D. C. Dumitraş, “Quantitative analysis of surgical smoke by laser photoacoustic spectroscopy”, International Student Conference on Photonics ISCP 2012, Sinaia, Romania, May 8-11, 2012 (Oral)
20. M. Petruş, C. Matei, M. PaŃachia, C. Popa, A. M. Bratu, Ş. BăniŃă, D. C. Dumitraş, “Quantitative analysis in vitro of surgical smoke by laser photoacoustic spectroscopy”, International Student Conference on Photonics ISCP 2012, Sinaia, Romania, May 8-11, 2012 (Oral)
21. M. Patachia, D. C. Dutu, Ş. BăniŃă, C. Achim, M. Petruş, A. Bratu, C. Matei, D. C. Dumitraş, “Calibration and artifact minimization in a CW Diffuse Optical Tomography system”, International Student Conference on Photonics ISCP 2012, Sinaia, Romania, May 8-11, 2012 (Oral)
22. C. Achim (Popa), A. M. Bratu, D. C. Dumitraş, “Assessment of HD efficiency based on multiple biomarkers spectroscopic measurement”, 21-th International Laser Physics Workshop LPHYS12, Calgary, Canada, July 23-27, 2012 (Oral)
23. C. Matei, S. BăniŃă, C. Achim, A. M. Bratu, M. Bercu, M. PaŃachia, D. C. Dumitraş, “Technical performances of a LPAS system for biomarker analysis”, 2012 International Breath Analysis Meeting, Sonoma, USA, October 28–November 1, 2012 (Oral)
24. C. Achim, C. Matei, M. Petruş, A. M. Bratu, M. PaŃachia, Ş. BăniŃă, D.C. Dumitraş, “Breath analysis by laser photoacoustic spectroscopy method”, 2012 International Breath Analysis Meeting, Sonoma, USA, October 28–November 1, 2012 (Poster)
25. A. M. Bratu, C. Achim, C. Matei, M. Petruş, S. BăniŃă, M. Patachia, D. C. Dumitraş, “Gas interference in breath analysis”, 2012 International Breath Analysis Meeting, Sonoma, USA, October 28 – November 1, 2012 (Poster)
26. C. Achim, A. M. Bratu, C. Matei, M. Petrus, M. Patachia, S. Banita, N. Verga, D. C. Dumitraş, “Advantages of laser photoacoustic spectroscopy in radiotherapy characterization”, 1st Annual Conference of the Romanian Society of Hadrontherapy (ICRSH 2013), Predeal, Romania, February 21-24, 2013 (Oral)
27. Ş. BăniŃă, C. Popa, C. Matei, M. PaŃachia, A. M. Bratu, M. Petruş, D. C. Dumitraş, “The monitorization of lipid oxidation in strawberries, using photoacoustic spectroscopy assay”, Third Edition of the International Conference "Modern Laser Applications" INDLAS 2013, Bran, Romania, May 20-24, 2013 (Oral)
28. M. Patachia, C. Achim, S. BăniŃă, C. Matei, A. Bratu, M. Petruş, D. C. Dumitraş, “Acquisition and electrical signal processing in an experimental CW-Diffuse Optical Tomography system”, Third Edition of the International Conference "Modern Laser Applications" INDLAS 2013, Bran, Romania, May 20-24, 2013 (Poster P12)
29. C. Popa, C. Matei, Ş. BăniŃă, M. PaŃachia, A. M. Bratu, M. Petruş, D. C. Dumitraş, “Breath ethylene assessment at subjects under haemodialysis treatment”, Third Edition of the International Conference "Modern Laser Applications" INDLAS 2013, Bran, Romania, May 20-24, 2013 (Poster P13)
30. A. M. Bratu, M. Petruş, M. PaŃachia, C. Matei, C. Popa, Ş. BăniŃă, D. C. Dumitraş, “Laser photoacoustic analysis of surgical smoke produced by tissue ablation”, Third Edition of the International Conference "Modern Laser Applications" INDLAS 2013, Bran, Romania, May 20-24, 2013 (Poster P14)
31. C. Matei, C. Popa, A. M. Bratu, M. Petruş, M. PaŃachia, Ş. BăniŃă, D. C. Dumitraş, “Dual LPAS system for trace gas detection”, Third Edition of the International Conference "Modern Laser Applications" INDLAS 2013, Bran, Romania, May 2024, 2013 (Poster)
32. Ş. BăniŃă, C. Achim, M. Patachia, C. Matei, A. M. Bratu, M. Petruş, D. C. Dumitraş, “Characterization of organic vs. nonorganic raspberries and strawberries fruits using laser photoacoustic spectroscopy”, 22nd International Laser Physics Workshop LPHYS13, Prague, Czech Republic, July 15-19, 2013 (Oral 3.5.2)
33. M. Patachia, C. Achim, S. BăniŃă, C. Matei, A. Bratu, M. Petruş, D. C. Dumitraş, “CW-Diffuse Optical Tomography system: acquisition and electrical signals processing”, 22nd International Laser Physics Workshop LPHYS13, Prague, Czech Republic, July 15-19, 2013 (Poster)
34. C. Matei, C. Achim, A. M. Bratu, M. Patachia, Ş. BăniŃă, M. Bercu, I. Ivaşcu, D. C. Dumitraş, “Feasability of radiobiological studies at Romanian TEWALAS and CETAL laser facilities”, 22nd International Laser Physics Workshop LPHYS13, Prague, Czech Republic, July 15-19, 2013 (Oral EL.8.5)
35. C. Achim, A. M. Bratu, C. Matei, M. Petruş, M. PaŃachia, Ş. BăniŃă, D. C. Dumitraş, “Non-invasive breath gas analysis based on spectroscopic measurements”, 22nd International Laser Physics Workshop LPHYS13, Prague, Czech Republic, July 15-19, 2013 (Poster P3.1)
36. M. PaŃachia, C. Popa, Ş. BăniŃă, C. Matei, A. Bratu, M. Petruş, D. C. Dumitraş, “CW diffuse optical tomography testing and calibration on phantoms”, ALT '13 (Advanced Laser Technologies Conference), Budva, Montenegro, September 16-20, 2013 (Poster B-P-4)
37. C. Achim, M. Patachia, Ş. BăniŃă, M. Petruş, A. M. Bratu, C. Matei, D. C. Dumitraş, “The evaluation of overexertion in kangoo jumps program using spectroscopic measurements”, ALT '13 (Advanced Laser Technologies Conference), Budva, Montenegro, September 16-20, 2013 (Poster D-P-1)
38. A. M. Bratu, M. Petruş, C. Popa, C. Matei, M. PaŃachia, Ş. BăniŃă, D. C. Dumitraş, “Hazardous chemical products detection from surgical smoke”, ALT '13 (Advanced Laser Technologies Conference), Budva, Montenegro, September 16-20, 2013 (Oral B-O-6)

39. Ș. Băniță, C. Achim, M. Patachia, C. Matei, A. M. Bratu, M. Petruș, D. C. Dumitraș, "Ethylene release from strawberries by photoacoustic spectroscopy assay", ALT '13 (Advanced Laser Technologies Conference), Budva, Montenegro, September 16-20, 2013 (Poster PA-P-1)
40. C. Matei, C. Popa, A.M. Bratu, M. Petruș, M. Patachia, Ș. Băniță, I. Ivașcu, D. C. Dumitraș, "Initialization of radiobiological studies at Romanian high power laser facilities", ALT '13 (Advanced Laser Technologies Conference), Budva, Montenegro, September 16-20, 2013 (Poster B-P-3)
41. A. Bratu, M. Petruș, M. PaŃachia, C. Matei, C. Popa, S. BăniŃă, D. C. Dumitraș, "Laser photoacoustic spectroscopy on surgical smoke produced in vitro by CO2 laser ablation of animal tissue", 12th International Conference on Laser Ablation (COLA 2013), Ischia, Italy, October 6-11, 2013 (Poster P3-58)
42. C. Popa (Achim), A. M. Bratu, C. Matei, M. Petruș, M. PaŃachia, S. BăniŃă, D. C. Dumitraș, "Non-invasive CO2 laserphotoacoustic study of exhaled breath produced by active smoking with electronic vs. traditional cigarettes", Conferences on Laser Applications in Life Sciences (LALS 2014), Ulm, Germany, June 29-July 2, 2014 (Oral)
43. A. M. Bratu, C. Popa, C. Matei, M. Petruș, M. PaŃachia, Ș. BăniŃă, D. C. Dumitraș, "Mouth vs. nasal breathing analysis using laser photoacoustic spectroscopy method", Conferences on Laser Applications in Life Sciences (LALS 2014), Ulm, Germany, June 29-July 2, 2014 (Poster)
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45. C. Matei, M. Patachia, S. Micloș, S. Dontu, D. Savastru, C. Achim, A. M. Bratu, M. Petruș, Ș. BăniŃă, M. A. Calin, D. C. Dumitraș, "Dual OCT – hyperspectral imaging system for intraoperative assessment of tumor spreading", Conferences on Laser Applications in Life Sciences (LALS 2014), Ulm, Germany, June 29-July 2, 2014 (Poster)
46. M. PaŃachia, Ș. BăniŃă, C. Popa, C. Matei, A. Bratu, M. Petruș, D. C. Dumitraș, "Tumor positive margins imaging by OCT assisted with a hyperspectral camera", Conferences on Laser Applications in Life Sciences (LALS 2014), Ulm, Germany, June 29-July 2, 2014 (Poster)
47. C. Popa, S. BăniŃă, M. PaŃachia, C. Matei, A. M. Bratu, M. Petruș, D. C. Dumitraș, "Human breath biomarker for clinical diagnosis by photoacoustic spectroscopy technique", New Trends on Sensing - Monitoring - Telediagnosis for Life Sciences, Brașov, Romania, July 24-26, 2014 (Oral)
48. A. M. Bratu, C. Popa, Ș. BăniŃă, M. PaŃachia, C. Matei, M. Petruș, D. C. Dumitraș, "Laser photoacoustic spectroscopy for quality evaluation of fruits and vegetables", New Trends on Sensing - Monitoring - Telediagnosis for Life Sciences, Brașov, Romania, July 24-26, 2014 (Poster)
49. M. Petruș, A. M. Bratu, C. Popa, M. PaŃachia, C. Matei, Ș. BăniŃă, D. C. Dumitraș, "Spectroscopic analysis of surgical smoke produced in vitro by laser vaporization of animal tissues in a closed gaseous environment", New Trends on Sensing - Monitoring - Telediagnosis for Life Sciences, Brașov, Romania, July 24-26, 2014 (Poster)
50. D. C. Dumitraș, Ș. BăniŃă, M. Bercu, A. M. Bratu, I. Ivașcu, C. Matei, M. PaŃachia, C. Popa, "New applicative results in CO2 laser photoacoustic spectroscopy", ALT '14 (Advanced Laser Technologies Conference), Cassis, France, October 6-10, 2014 (Invited)
51. C. Popa-Achim, M. Petruș, C. Matei, Ș. BăniŃă, A. M. Bratu, D. C. Dumitraș, "Breath biomarkers can help clinicians to assess the role of oxidative attack in young population with mental disorders", ALT '14 (Advanced Laser Technologies Conference), Cassis, France, October 6-10, 2014 (Oral)
52. C. Matei, M. PaŃachia, S. Micloș, S. DonŃu, D. Savastru, C. Achim, A. M. Bratu, M. Petruș, Ș. BăniŃă, M. A. Călin, D. C. Dumitraș, "Dual imaging system for intraoperative assessment of positive tumor margins", ALT '14 (Advanced Laser Technologies Conference), Cassis, France, October 6-10, 2014 (Oral)
53. M. Petruș, C. Popa, A. M. Bratu, C. Matei, M. PaŃachia, Ș. BăniŃă, D. C. Dumitraș, "Ethylene and ammonia traces measurements from healthy humans with different diets by LPAS technique", ALT '14 (Advanced Laser Technologies Conference), Cassis, France, October 6-10, 2014 (Poster)
54. C. Popa, A. M. Bratu, M. Petruș, M. PaŃachia, Ș. BăniŃă, D. C. Dumitraș, "Photoacoustic assessment of electronic vs. traditional cigarettes on human health", 24th Annual International Laser Workshop LPHYS '15, Shanghai, China, August 21-25, 2015 (Invited)
55. C. Popa, M. Petruș, A. M. Bratu, M. PaŃachia, Ș. BăniŃă, C. Matei, D. C. Dumitraș, "Laser spectroscopy for noninvasive gas monitoring in patients with dysfunctions", 13th Conference on Laser Ablation COLA 2015, Cairns, Australia, August 31-September 4, 2015 (Poster)
56. M. Petruș, C. Achim, A. M. Bratu, Ș. BăniŃă, M. PaŃachia, C. Matei, D. C. Dumitraș, "Spectroscopic analysis of breath ethylene from patients with type 2 diabetes", 13th Conference on Laser Ablation COLA 2015, Cairns, Australia, August 31-September 4, 2015 (Poster)
57. D. C. Dumitraș, M. Petruș, A. M. Bratu, M. PaŃachia, Ș. BăniŃă, C. Popa, "Non-invasive evaluation of breath biomarkers in oxidative stress using photoacoustic spectroscopy", International Conference on Advanced Laser Technologies ALT '15, Faro, Portugal, September 7-11, 2015 (Invited)
58. M. Petruș, A. M. Bratu, C. Popa, Ș. Băniță, M. PaŃachia, C. Matei, D. C. Dumitraș, "Spectroscopic analysis of humans breath in subjects with type 2 diabetes", International Conference on Advanced Laser Technologies ALT '15, Faro, Portugal, September 7-11, 2015 (Oral)
59. Ș. Băniță, M. Patachia, D. C. Dumitraș, C. Achim, M. Bercu, A. M. Bratu, C. Matei, "The effects of air pollution and UV-B radiation on fruits using LPAS method", International Conference on Advanced Laser Technologies ALT '15, Faro, Portugal, September 7-11, 2015 (Poster)
60. M. PaŃachia, Ș. BăniŃă, C. Matei, M. Petruș, C. Achim, A. M. Bratu, D. C. Dumitraș, "New optical imaging system for intraoperative detection of tumors margins", International Conference on Advanced Laser Technologies ALT '15, Faro, Portugal, September 7-11, 2015 (Poster) .

61. M. Petrus (Bercu), A.M. Bratu, C. Popa (Achim), "Oxidative stress in diabetes: ammonia breath analysis by laser photoacoustic spectroscopy", HSBS'15 4 th International Conference on Health Science and Biomedical Systems, Sliema, Malta 17-19 August 2015., nr. Prezentare 72708-115. – invited.
62. C. Popa, M. Petrus, A.M. Bratu, "Biomedical applications of CO₂ laser photoacoustic spectroscopy", HSBS'15 4 th International Conference on Health Science and Biomedical Systems, Sliema, Malta 17-19 August 2015. – invited
63. M. Petrus (Bercu), A.M. Bratu, C. Popa (Achim), "Chemotherapy and collateral damage: oxidative stress analysis by laser photoacoustic spectroscopy", 11th International Conference "Micro- to Nano-Photonics IV- ROMOPTO 2015" September 1 - 4, 2015, Bucharest, Romania. Nr. Prezentare: O10 – oral.
64. C. Popa (Achim), M. Petrus, A.M. Bratu, "Photoacoustic spectroscopy for non-invasive analysis of human respiration", 11th International Conference "Micro- to Nano-Photonics IV- ROMOPTO 2015" September 1 - 4, 2015, Bucharest, Romania. Nr. Prezentare: O6 –oral.
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66. C.E. Matei, M. Patachia, S. Banita, M. Petrus, C. Achim, D.C. Dumitras/Integrated Diffuse Optical Tomography and Hyperspectral Fluorescence System for Tumor Assessment / The 24th Annual International Conference on Advanced Laser Technologies ALT'16 Galway, Ireland, September 12–16, 2016/ No. LDS-1-4 (Oral)
67. M. Bercu (Petrus), C. Achim (Popa), A.M. Bratu, M. Patachia, S. Banita, C. Matei, and D.C. Dumitras/Laser spectroscopy method for non-invasive analysis of breath in subjects with pulmonary disease/The 24th Annual International Conference on Advanced Laser Technologies ALT'16 Galway, Ireland, September 12–16, 2016/No. LDS-P-7 (Poster)
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72. D. C. Dumitraș, D. DuŃu, C. Matei, A. M. Măgureanu, M. Petruș, C. Popa, "Îmbunătățirea dispozitivului fotoacustic laser pentru detecția urmelor de gaze"(Improvement of a laser photoacoustic instrument for trace gas detection), Sesiunea de Comunicări Științifice cu ocazia centenarului prof. Agârbiceanu, UPB, 9 martie 2007
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