

Listă de lucrări

Articole relevante

1. **Ileana Rău**, A. Gonzalo, M. Valiente, *Arsenic removal from Aqueous Solutions by Iron (III) Loaded Chelating Resin*, Journal of Radioanalytical and Nuclear Chemistry, **246**, (3), DOI: 10.1023/A:1006713618799, (2000), p. 597-600; cotata ISI, FI (2013) = 1,415, WOS:000165958400018
2. **Ileana Rau**, P. Armatys, P.A. Chollet, F. Kajzar, C. Andraud, Y. Bretonnière, *Aggregation: A new mechanism of relaxation of polar order in electro - optic polymers*, Chem. Phys. Lett., **442**, DOI: 10.1016/j.cplett.2007.05.058, (2007), p. 329 - 333; cotata ISI, FI (2013) = 1,991, WOS:000248382300031
3. **Ileana Rau**, "On the Mechanisms of Relaxation in Electro-Optic Polymers", Mol. Cryst. Liq. Cryst, **485**, DOI: 10.1080/15421400801922528, (2008), p. 114/[862] - 124/[872]; cotata ISI, FI (2013/2014) = 0,491, WOS:000256185900014
4. D. Turcanu-Carutiu, **Ileana Rau**, A. Meghea, "Spectral and Chromatic Analysis in Art Work Authentication" Mol. Cryst. Liq. Cryst, **484**, DOI: 10.1080/15421400801904559, (2008), p. 213/[579] - 237/[603]; cotata ISI, FI (2013/2014) = 0,491, WOS:000256185800021
5. **Ileana Rau**, F. Kajzar, A. Humeau, J. Luc, B. Sahraoui, G. Boudebs, *Comparison of Z-scan and THG derived nonlinear index of refraction in selected organic solvents*, JOSA B, **25** (10), (DOI: 10.1364/JOSAB.25.001738, (2008), p. 1738 - 1747; cotata ISI, FI (2013) = 1,806, WOS:000260506400025
6. M. Moldoveanu, A. Meghea, R. Popescu, J. G. Grote, F. Kajzar, **Ileana Rău**, *On the Stability and Degradation of DNA Based Thin Films*, Mol. Cryst. Liq. Cryst., **523**, DOI: 10.1080/15421401003723086, (2010) p. 182/[754]-190/[762], 2010, cotata ISI, FI (2013/2014) = 0,491, WOS:000278163400016
7. **Ileana Rau**, A. Tane, R. Zgarian, A. Meghea, J. G. Grote, F. Kajzar, *Stability of Selected Chromophores in Biopolymer Matrix*, Mol. Cryst. Liq. Cryst., **554:1**, (2012), p. 43 - 55, WOS:000302299300006
8. I. Iosub, F. Kajzar, M. Makowska-Janusik, A. Meghea, A. Tane, Ileana Rau, *Electronic structure and optical properties of some anthocyanins extracted from grapes*, Optical Materials, **34** (10), DOI: 10.1016/j.optmat.2012.03.020, (2012) p. 1644 - 1650, cotata ISI, FI (2013/2014) = 2,075, WOS:000306618900006
9. **Ileana Rau**, J. G. Grote, F. Kajzar, A. Pawlicka, *DNA - novel nanomaterial for applications in photonics and in electronics*, Comptes Rendus de Physique, **13** (8), (2012), p. 853 - 864, <http://dx.doi.org/10.1016/j.crhy.2012.09.005>, cotata ISI, FI (2013/2014) = 1,639, WOS:000311986300007
10. **Ileana Rau**, A. Szukalski, L. Sznitko, K. Palewska, A. Miniewicz, S. Bartkiewicz, B. Sahraoui, F. Kajzar, J. Mysliwiec *Amplified spontaneous emission of rhodamine 6G embedded in pure deoxyribonucleic acid*, Applied Physics Letters, **101** (17), DOI: 10.1063/1.4764535, (2012), article number 171113, cotata ISI, FI (2013/2014) = 3,515, WOS:000310726200013

Teze de abilitare

- H1. Preparation and Characterization of Organic Thin Films for Optoelectronics Applications – HDR (Habilitation de diriger des Recherches), **domain Physique**, Februarie 2007, Angers, Franța certificate No 8439925, ANGERS/201120606533
- H2. Habilitation Thesis for directing Researches in Chemical Engineering, October 2013, Bucharest, Romania

Teza de doctorat

- T1. “Modeling of Adsorption Process from Water Sources on Iron Adsorbant Materials” January 2002 - **Doctor in Chemistry**, diploma Series C, Nr. 0002956, Ordin MEC 3570/19.04.2002

Brevete de invenție:

- B1. A. Meghea, N. Radu, E. Marica, **Ileana Rău**, L. Sandru, “New fertilizers based on microbial mass” : Brevet nr. RO 121557
- B2. **Ileana Rău**, F. Kajzar, A. Meghea, A. Marin, “Optically Tunable Interferometer”, registered with nr. A00730/16.11.2012, Nr. 128436/30.04.2015 (RO128436-A0; RO128436-B1) Derwent Primary Accession Number: 2013-K35697 - Brevet premiat cu diploma de excelență și Medalia de aur la Salonul International de Inventica PRO INVENT, ed. XII, 2014, Cluj-Napoca Romania

Brevete de inventie depuse

- B3. **Ileana Rău**, M.R. Apetroaei, V. Schroder, “Preparing low molecular mass chitosan useful as antibacterial agent, by harvesting egg capsules of *Rapana venosa*, suspending in sodium hydroxide solution, centrifuging and purifying precipitate with mixture of ethyl alcohol and acetone” Cerere de brevet RO132848-A2, Derwent Primary Accession Number: 2019-37148V
- B4. A. Petris, I.V. Vlad, P. Gheorghe, **Ileana Rău**, F. Kajzar, “All-optical spatial light modulator for applications requiring optical phase modulation in laser beam, has pumping laser which generates modulating beam incident on non-linear optical material”, Cerere de brevet RO132685-A2, Derwent Primary Accession Number: 2019-29186N – brevet premiat cu urmatoarele premii:
- B4a. Medalie de aur pentru cererea de brevet “All-optical spatial light modulator based on functionalized DNA”, A. Petris, P. Gheorghe, I. V. Vlad, I. Rau, F. Kajzar, din partea Universitatii Tehnice a Moldovei la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;
 - B4b. Medalie de bronz si diploma din partea organizatorilor la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;
 - B4c. Medalie de aur si diploma de inventie din partea Universitatii Politehnica Bucuresti la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;

- B4d. Medalie de aur si diploma de recunoastere din partea Centrului National pentru Micro si Nano-materiale la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;
- B4e. Premiul de excelenta si medalie de aur din partea University of Agronomic Sciences and Veterinary Medicine of Bucharest la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;
- B4f. Medalie de aur si diploma de excelenta din partea Salonului International al Cercetarii Stiintifice, Inovarii si Inventicii – PROINVENT Cluj Napoca la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, Chisinau, 2019, Moldova;
- B4g. Premiul de excelenta si medalie de aur din partea National Institute for Research&Development in Chemistry and Petrochemistry la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;
- B4h. Trofeu si Premiul Special din partea Societatii Inventatorilor din Banat la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;
- B4i. Diploma de excelenta si Trofeul Group Mechatron din partea Institutului National pentru Mecatronica si Tehnica Masurarii – Bucuresti la INFOINVENT-International Innovation Conference and International Specialized Exhibition, November 20-23, 2019, Chisinau, Moldova;

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- Ca1. **Ileana Rău**, S. A. Popescu, *General Chemistry*, Editura Printech, ISBN 978-606-521-240-4, 112 pag., 2009 – student book

- Cb1. M.R. Apetroaei, **Ileana Rău**, V. Schroder, Chtosan – Biopolimer identificat la *Rapana Venosa* (Gastropoda Molusca), Editura PIM, ISBN 978-606-13-5543-3, 248 pag, 2020
- Cb2. C.A. Marin, **Ileana Rău**, M. Mihaly, Sisteme hibride biopolimeri – pamanturi rare cu aplicații în fonică, Editura Printech, ISBN 978-606-23-0894-0, 99 pag, 2018 - monograph
- Cb3. F. Kajzar, A. Meghea, **Ileana Rău**, Biomaterials for photonics and electronics, Old City Publishing, Philadelphia, SUA, ISBN 978-1-933153-33-9, 304 pag., 2016 – monograph
- Cb4. A.M. Manea, F. Kajzar, **Ileana Rău**, A. Meghea, Nanostructured materials based on natural extracts – Applications - Editura Printech, ISBN 978-606-23-0611-3, 123 pag., 2016 – monograph
- Cb5. **Ileana Rău** si Francois Kajzar, *Multiphoton Processes in Organic Materials and their Application*, Edition des archives contemporaines, France ISBN 9782813000514 and Old City Publishing, Philadelphia, SUA, ISBN 978-1-933153-15-5 , 399 pag., 2012 – monograph

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- I2. M. Guțul-Văluță, **Ileana Rău**, I. Jitaru, C. Matei, M. Muntean, A. Suciuc, “*Legătura chimică*” Partea I, “*Teoria electronică clasică asupra legăturii chimice. Exerciții și probleme*”, Litografia UPB, 1998, (115 pag.) student book
- I3. **Ileana Rău** (în grup de autori), “*Probleme teoretice și practice*”, Concursul Național de Chimie pentru elevi, “Costin D. Nenițescu” București, Ed. Flomarco, 2002, ISBN 973-96735-4-3 - student book.

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- D1. F. Kajzar, **Ileana Rau**, “*Nonlinear Optics - Materials: Organic Nonlinear Materials*”, **chapter** in Encyclopedia of Modern Optics, edited by Robert D. Guenther, Duncan G. Steel and Leopold Bayvel, Elsevier, Oxford, 2004. ISBN 0-12-227600-0, pp. 42 – 60
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- D3. **Ileana Rau**, O. Krupka, J.G. Grote, F. Kajzar, B. Sahraoui, “*Nonlinear optical properties of functionalized DNA*”, **chapter** in Atomic and Molecular Nonlinear optics: Theory, Experiment and Computation, edited by G. Maroulis, T. Bancewicz, B. Champagne, A. D. Buckingham, IOS Press Amsterdam, ISBN 978-1-60750-741-3, 2011, pp. 423 – 435
- D4. F. Ouchen, E. M. Heckman, C. M. Bartsch, R. S. Aga, Jr., J. P. Lombardi III, S. Husaini, R. G. Bedford, E. M. Fehrman Cory, P. P. Yaney, **Ileana Rău**, F. Kajzar, and J. G. Grote, Bio-based Nanomaterials for Photonic Applications, **chapter** in New Horizons in Nanoscience and Engineering, edited by David L. Andrews; James G. Grote, Spie Press Book, USA, ISBN: 9781628417951, 2015, pp. 285 – 336
- D5. **Ileana Rău**, F. Kajzar, *Biopolymers For Application In Photonics*, **chapter** in Analysis and Performance of Engineering Materials, Key Research and Development, Edited by Gennady E. Zaikov, Apple Academic Press, Print ISBN: 978-1-77188-085-5, eBook ISBN: 978-1-4987-0773-2, 2015/2016, pp. 107 – 155

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- Ris 2. I. Peleanu, M. Zaharescu, **Ileana Rău**, M. Crișan, A. Meghea, A. Jitianu, *Composite SiO₂-Iron Oxides Materials for Magnetically Intensified Adsorption*, Journal of Radioanalytical and Nuclear Chemistry, **246**, (3), DOI: 10.1023/A:1006788806079, (2000), p. 557-563; cotata ISI, FI (2013) = 1,415, WOS:000165958400011
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- Ris 5. I. Peleanu, M. Zaharescu, **Ileana Rău**, M. Crisan, A. Jitianu, A. Meghea, *Nanocomposite Materials for As(V) Removal by Magnetical Intensified Adsorption*, Separation Science and Technology, **37**, (16), DOI: 10.1081/SS-120014827, (2002), p. 3693 – 3701; cotata ISI, FI (2013) = 3,065, WOS:000179889200007
- Ris 6. M. Preda, A. Meghea, A. Melinescu, **Ileana Rău**, *Ceramic pigments base don TiO₂ and transitional cations as chromophore species*, Revista Romana de Materiale, **XXXII**, (3), (2002), p. 163 – 167; cotata ISI, FI (2013/2014) = 0,538
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- Ris 18. N. Mercier, A.L. Barres, M. Giffard, **Ileana Rau**, F. Kajzar, B. Sahraoui, *Conglomerate-to-True-Racemate Reversible Solid-State Transition in Crystals of an Organic Disulfide-Based Iodoplumbate*, Angew. Chem. Int. Ed., **45** (13), DOI: 10.1002/anie.200503423, (2006), p. 2100 – 2103; cotata ISI, FI (2013/2014) = 11,336, WOS:000236377000024
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- Ris 20. N. Radu, E. Bondar, A. Meghea, **Ileana Rau**, *“Removal of copper and cobalt from diluted aqueous systems by biosorption processes”*, Rev. Chem. (Romanian) **57** (7) (2006), p. 711 – 717; cotata ISI, FI (2013/2014) = 0,677, WOS:000241770900010
- Ris 21. V. Daescu, A. Meghea, G. Pancescu, **Ileana Rau**, *“Impact of some economic activities on environmental factors in the Danube Delta biosphere reservation”*, Journal of Environmental Protection and Ecology, **7**(1), (2006), p. 93 – 97, cotata ISI; FI (2013/2014) = 0,338, WOS:000208350600013
- Ris 22. N. Radu, L. Szabolcs, **Ileana Rau**, A. A. Chirvase, *Effects due to the interaction between urea and calcium dihydrogenphosphate*, Rev. Chem. **58** (2), (2007), p. 158 – 162; cotata ISI, FI (2013/2014) = 0,677, WOS:000245736800007
- Ris 23. **Ileana Rau**, P. Armatys, P.A. Chollet, F. Kajzar, C. Andraud, Y. Bretonnière, *Aggregation: A new mechanism of relaxation of polar order in electro – optic polymers*, Chem. Phys. Lett., **442**, DOI: 10.1016/j.cplett.2007.05.058, (2007), p. 329 – 333; cotata ISI, FI (2013) = 1,991, WOS:000248382300031

- Ris 24. **Ileana Rau**, F. Kajzar, *Catenanes and Rotaxanes – New Classes of Molecules with Mobile Parts for Application in Photonics*, Rev. Chem., **58** (9), (2007), p. 861 – 865; cotata ISI, FI (2013/2014) = 0,677, WOS:000250636800001
- Ris 25. D. Țurcanu Căruțiu, A. Murariu, M. Giurginca, **Ileana Rău**, A. Meghea, *Complementary Spectral Techniques for Authentication of Artistic Production*, Rev. Chem., **58** (9), (2007), p. 907 – 909; cotata ISI, FI (2013/2014) = 0,677, WOS:000250636800011
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- Ris 27. W. Bi, N. Louvain, N. Mercier, J. Luc, F. Kajzar, **Ileana Rau**, B. Sahraoui, *A switchable NLO organic-inorganic compound based on conformationally chiral disulfide molecules and Bi^(III)I₅ iodobismuthate networks*, Adv. Mat., **20** (5), (2008), p. 1013 – 1017, doi:10.1002/adma.200701753; cotata ISI, FI (2013/2014) = 15,409, WOS:000254181900026
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- Ris 33. R. Czaplicki, S. Dabos-Seignon, **Ileana Rau**, O. Krupka, B. Sahraoui, J. Nizioł, M. Bednarz, J. Pielichowski, A. Meghea, M. Bakasse, *“Photoinduced Gratings in Functionalized Azo-Carbazole Compounds in Picosecond Regime”*, Mol. Cryst. Liq. Cryst, **485**, DOI: 10.1080/15421400801926396, (2008), p. 282/[1030] – 294/[1042]; cotata ISI, FI (2013/2014) = 0,491, WOS:000256185900031

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- E 27. B. Sahraoui , O. Krupka , A. El-Ghayoury , **Ileana Rau**, B. Savu, G. A. Stanciu, F. Kajzar , “*Nonlinear optical properties of functionalised DNA thin films*”, The 14th International Conferences on Advanced Laser Technologies, 14th ALT, Brasov, Roumanie, 8 – 12 Sept., 2006, **invited lecture**
- E 28. **Ileana Rau**, R. Czaplicki, A. Hameau, B. Sahraoui, G. Boudebs, O. Krupka, D. A. Leigh, J. Berna – Canovas, F. Kajzar, “*Third order nonlinear optical properties of selected rotaxanes*”, 6th International Conference Electronic Process in Organic Materials, ICEPOM – 6, Gurzuf (Great Yalta), Crimea, Ukraine, 25 – 29 Sept., 2006, **invited lecture**
- E 29. **Ileana Rau**, R. Czaplicki, A. Hameau, B. Sahraoui, G. Boudebs, O. Krupka, D. A. Leigh, J. Berna – Canovas, F. Kajzar, “*On the Importance of Rotational Contributions to Cubic Suceptibility in Catenanes and Rotaxanes*”, Photonics West 2007 - Organic Photonic Materials and Devices IX, San Jose, SUA, 20 – 25 Jan. 2007, **invited lecture**
- E 30. R. Zamboni, S. Caria, E. Da Como, M. Muccini, M. Murgia, **Ileana Rau**, F. Kajzar, G. Barbarella, L. Favaretto, “*Highly efficient organic thin films for second order*

- nonlinear optics*”, Photonics West 2007 - Organic Photonic Materials and Devices IX, San Jose, SUA, 20 – 25 Jan. 2007, **invited lecture**
- E 31. **Ileana Rau**, “*New Approach of UPB - CNC Concerning DNA Based Films for Optoelectronic Applications*”, Air Force Research Laboratory International Workshop on Biotronics, Hawaii, SUA, 29 April – 4 May, 2007
- E 32. **Ileana Rău**, “*Preparation and characterization of organic thin films for optoelectronics applications*” 9th International Conference on Frontiers and Advanced Materials, ICFPAM 2007, Krakow, Poland, 8 – 12 July 2007, **invited lecture**
- E 33. A.C. Mitus, G. Pawlik, **Ileana Rău**, F. Kajzar, C. Andraud, “*Monte Carlo Simulations of a New Mechanism of Relaxation in Guest – Host systems*”, 9th International Conference on Frontiers and Advanced Materials, ICFPAM 2007, Krakow, Poland, 8 – 12 July 2007, **invited lecture**
- E 34. B. Sahraoui, A. Migalska-Zalas, **Ileana Rău**, R. Czaplicki, J. Luc, “*Design and Synthesis of a New series of Alkynyl Ruthenium Chromophores for Nonlinear Optical Applications*”, 9th International Conference on Frontiers and Advanced Materials, ICFPAM 2007, Krakow, Poland, 8 – 12 July 2007, **invited lecture**
- E 35. **Ileana Rău**, “*Microemulsion New Method for DNA Functionalization*”, Nano – Bio – Photonics: Converging Science and Technologies, Focal Aspects and Perspectives, Rome, Italy, September 14, 2007, **invited lecture**
- E 36. **Ileana Rău**, F. Kajzar, P. Armatys, J. Niziol, P.-A. Chollet, “*Engineering and performances of pi conjugated polymers for all optical switching applications*” SPIE Europe Optics & Photonics in Security and Defense, Optical Materials in Defense Systems Technology, Florence, Italy, 17 – 20 September, 2007, **invited lecture**
- E 37. **Ileana Rau**, “*Relaxation study on organic thin films for optoelectronics applications*”, Photonics West 2008 - Organic Photonic Materials and Devices X, San Jose, SUA, 19 – 24 Jan. 2008, **invited lecture**
- E 38. **Ileana Rau**, R. Popescu, G. Tihan, I. Demetrescu, A. Meghea, J. G. Grote, F. Kajzar, “*Degradation kinetics of biopolymers based thin films*”, 2nd International Conference on Functional Materials and Devices, 2008 (ICFMD-2008), Kuala Lumpur, Malaysia, Malaysia, 16 – 19 June 2008, **invited lecture**
- E 39. **Ileana Rau**, R. Popescu, G. Tihan, I. Demetrescu, A. Meghea, J. G. Grote, F. Kajzar, “*Biopolymer Thin Films: Processing, Properties and Stability*”, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications, San Diego, USA, 10 – 14 August, 2008, **invited lecture**
- E 40. **Ileana Rau**, R. Popescu, G. Tihan, A. Boumard, A. Mesmin, A. Meghea, J. G. Grote, F. Kajzar, “*Biopolymers - Novel Materials for Application in Photonics*”, The 6th International Conference “Advanced Optical Materials and Devices”, Riga, Latvia, 24-27 August 2008, **plenary lecture**
- E 41. A.C. Mitus, G. Pawlik, **Ileana Rău**, F. Kajzar, “*Monte Carlo simulation of chromophore orientation kinetics in polymer matrices*”, First International Workshop on Advanced Nano- and Biomaterials and Their Device Applications, Poiana Braşov, Romania, 17 – 20 septembrie, 2008, **invited lecture**
- E 42. **Ileana Rau**, R. Popescu, G. Tihan, A. Boumard, A. Mesmin, V. Trandafir, I. Demetrescu, A. Meghea, J. G. Grote, F. Kajzar, “*Stability of DNA and collagen-based*

- thin films*, Photonics West 2008 - Organic Photonic Materials and Devices XI, San Jose, SUA, 24 – 29 Jan. 2009, **invited lecture**
- E 43. **Ileana Rau**, *Photo-, thermal- and chemical stability of pure and functionalized DNA and collagen films*, International Symposium on Materials and Devices for Nonlinear Optics, ISOPL'5, Porquerolles, Franta, 26 June-1 July 2009, **invited lecture**
- E 44. **Ileana Rau**, R. Popescu, M. Moldoveanu, A. Meghea, J. G. Grote, F. Kajzar, *On the Stability and Degradation of DNA and Collagen Based Thin Films*, X ICFPAM Santiago de Chile, Chile sept. 2009, **invited lecture**, WOS:000278163400016
- E 45. A.C. Mitus, G. Pawlik, **Ileana Rau**, Francois Kajzar, *Pre-Polig History Paradigm for Poled Guest-Host Systems: Experiment and Monte Carlo Studies*, X ICFPAM Santiago de Chile, Chile sept. 2009, **plenary lecture**
- E 46. **Ileana Rau**, R. Popescu, M. Moldoveanu, A. Meghea, J. G. Grote, F. Kajzar, *"Degradation of Biopolymer-Based Thin Films"*, Photonics West 2010 - Organic Photonic Materials and Devices XI, San Francisco, SUA, 24 – 29 Jan. 2010, **invited lecture**
- E 47. **Ileana Rau**, *Degradation of Biopolymer-Based Thin Films*, 2010 International Workshop on Biotronics, San Juan, Puerto Rico, March 29, 2010 – April 2, 2010, **invited lecture**
- E 48. **Ileana Rau**, *On the stability DNA-based thin films*, The 6th International Colloquium "Mathematics and physics in engineering, numerical physics and complexity" (MENP - 6) joint with The 2nd international colloquium "Physics of Materials" (PM-2), 8 oct. 2010, Bucuresti, Romania, **invited lecture**
- E 49. F. Kajzar, O. Krupka, A. Mitus, G. Pawlik, **Ileana Rau**, *Concentration variation of quadratic NLO susceptibility in PMMA-DR1 side chain polymer* Photonics West 2011 - Organic Photonic Materials and Devices XII, San Francisco, SUA, 22 – 27 Jan. 2011, **invited lecture**, WOS:000278163300020
- E 50. **Ileana Rău**, *DNA based materials Processing, characterisation, stability and applications* XI ICFPAM, Pretoria, Africa de Sud, 22 – 27 mai 2011 **Keynote Lecture**
- E 51. **Ileana Rău**, R. Zgârian, A. Țane, A. Meghea, F. Kajzar, *DNA based materials with enhanced fluorescent properties*, International Workshop on Nano and Bio-Photonics (IWNBP), St. Germain au Mont d'Or, Franta, 23 – 28 octombire 2011, **invited lecture**
- E 52. **Ileana Rău**, *DNA Based Materials. Processing, Characterisation and Stability*, International Conference on PhotonicsPolymers / ICAPP-2011, Yokohama, Japonia, 1 – decembrie 2011, **invited lecture**
- E 53. J. Mysliwiec, M. Czajkowski, S. Bartkiewicz, A. Miniewicz, K. Zygadlo, Z. Galewski, **Ileana Rau**, F. Kajzar, B. Sahraoui, *Photonic applications of photochromic molecules* Photonics West 2012 - Organic Photonic Materials and Devices XIV, San Francisco, SUA, 21 – 26 Jan. 2012, **invited lecture**, WOS:000302548700008
- E 54. **Ileana Rau**, A. Meghea, A. M. Manea, A. Tane, *Doping and characterization of nonlinear optical properties of DNA complexes with NLO chromophores*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications V, San Diego, USA, August, 2012, **invited lecture**

- E 55. **Ileana Rau**, I. Iosub, F. Kajzar, M. Makowska-Janusik, J. Dlugosz, A. Meghea, A. Tane, R. Zgarian, *On electronic structure and optical properties of anthocyanidines extracted from grapes*, SPIE Europe Optics & Photonics in Security and Defense, Optical Materials in Defense Systems Technology, Edinburgh, United Kingdom, September, 2012, **invited lecture**
- E 56. **Ileana Rău**, *DNA complexes with NLO chromophors for biophotonics*, International Conference on Advanced Materials for Photonics, Sensing and Energy Conversion Applications, El Jadida, Maroc, Dec. 2012 – **plenary lecture**
- E 57. **Ileana Rau**, Ana-Maria Manea, Roxana Zgarian, Alexandrina Tane, Aurelia Meghea, Francois Kajzar, **Functionalization and linear as well nonlinear optical properties characterization of DNA biopolymer based complexes**, *Photonic applications of photochromic molecules* Photonics West 2013 - Organic Photonic Materials and Devices XV, San Francisco, SUA, 4 – 6 February, 2013, **invited lecture**
- E 58. A. C. Mitus, G. Pawlik, W. Radosz, J. Mysliwiec, A. Miniewicz, F. Kajzar, **Ileana Rau**, *Grating inscription in DR1: DNA-CTMA thin film: simple models and experiment*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VI, San Diego, USA, August, 2013, **invited lecture**
- E 59. **Ileana Rau**, *Deoxyribonucleic acid (DNA): a new nanomaterial for applications in electronics and in photonics*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VI, San Diego, USA, August, 2013, **invited lecture**
- E 60. **Ileana Rau**, A. Meghea, A. Tane, F. Kajzar, R. Zgarian, G. Tihan, *Matrix influence on photoluminescence of organic dyes in solid medium*, SPIE Europe Optics & Photonics in Security and Defense, Optical Materials in Defense Systems Technology, Optical Materials and Biomaterials in Security and Defence Systems Technology X, Dresden, Germany, 23 – 26 Sept. 2013, **invited lecture**
- E 61. **Ileana Rau**, *DNA based materials for biophotonics applications*, Workshop on Organic Electronics and Nanophotonics – WOREN, Zlotckie, Polonia, 17 – 21 February 2013, **invited lecture**
- E 62. **Ileana Rău**, M. Mîndroiu, G. Tihan, M.L. Mircea, H. C. Leite de Oliveira, A. Pawlicka, F. Kajzar, *Application of deoxyribonucleic acid (DNA) in electronics and in photonics*, International Workshop on Nano and Bio-Photonics (IWNBP), French-Korean Meeting on Functional Material for Organic Optics, Electronics, and Devices (FUNMOOD), Biarritz, France, 3-8 November 2013, **invited lecture**
- E 63. A. C. Mitus, G. Pawlik, W. Radosz, J. Mysliwiec, A. Miniewicz, F. Kajzar, **Ileana Rau**, *Grating inscription in DR1:DNA-CTMA thin films: experiment, MONTE CARLO simulation and theory*, RICCCCE XVIII, Sinaia, Romania, 4 – 7 September, 2013
- E 64. J. Mysliwiec, K. Cyprych, L. Sznitko, A. Miniewicz, F. Kajzar, **Ileana Rau**, *Dye doped biopolymeric matrix as a medium for lasing and random lasing*, RICCCCE XVIII, Sinaia, Romania, 4 – 7 September, 2013
- E 65. **Ileana Rău**, A. Țane, A. Meghea, F. Kajzar, A. Petriș, T. Bazaru, V. I. Vlad, *Biomaterials with enhanced properties for electro-optics applications*, International Conference of Physical Chemistry – ROMPHYSICHEM, Bucharest, Romania, 11 – 13 September 2013, **invited lecture**

- E 66. **Ileana Rău**, G. Tihan, M. Mindroiu, R. Zgarian, F. Kajzar, H. Cunha Leite de Oliveira, A. Pawlicka, *DNA based materials for application in electro-optics*, XII ICFPAM, Auckland, New Zealand, 8 – 13 December, 2013, **invited lecture**
- E 67. **Ileana Rau**, G. Tihan, M. Mandroiu, R. Zgarian, F. Kajzar, *Biopolymer conformations and dopant aggregation in DNA-based complexes for photonics application*, Photonics West 2014 - Organic Photonic Materials and Devices XVI, San Francisco, SUA, February, 2014, **invited lecture**
- E 68. R. Grykien, B. Luszczynska, I. Glowacki, J. Ulanski, **Ileana Rau**, R. Zgarian, F. Kajzar, *On deoxyribonucleic acid (DNA) based BIOLEDs* Photonics West 2014 - Organic Photonic Materials and Devices XVI, San Francisco, SUA, February, 2014, **invited lecture**
- E 69. **Ileana Rau**, G. Tihan, M. Mindroiu, R. Zgarian, F. Kajzar, L. Marinho Nobrega de Assis, F. Sentanin, A. Pawlicka, *Electrochemical properties of some DNA based materials*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VII, San Diego, USA, August, 2014, **invited lecture**
- E 70. F. Kajzar, A.-M. Manea, V. I. Vlad, A. Petris, T. Bazaru Rujoiu, A. Tane, **Ileana Rau**, *Nonlinear optical properties of chromophore functionalized DNAsurfactant complexes*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VII, San Diego, USA, August, 2014, **invited lecture**
- E 71. A. C. Mitus, G. Pawlik, J. Mysliwicz, L. Sznitko, K. Cyprych, A. Szukalski, A. Miniewicz, F. Kajzar, **Ileana Rau**, *Random lasing in dye doped bio-organic based systems: experimental and stochastic approach*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VII, San Diego, USA, August, 2014, **invited lecture**
- E 72. **Ileana Rau**, A.-M. Manea, V. I. Vlad, A. Petris, T. Bazaru Rujoiu, A. Tane, F. Kajzar, *Functionalization and photo-physical properties of DNA-surfactant complexes*, Fourth International Workshop on Advanced, Nano- and Biomaterials and Their Applications joint with Fourth French-Romanian Topical Meeting on Nano and Biomaterials, 17 - 21 September 2014, Iași, Romania, **invited lecture**
- E 73. J. Mysliwicz, L. Sznitko, K. Cyprych, A. Szukalski, A. Miniewicz, A. C. Mitus, G. Pawlik, F. Kajzar, **Ileana Rau** *Mechanisms of light amplification in organic hybrid systems*, Fourth International Workshop on Advanced, Nano- and Biomaterials and Their Applications joint with Fourth French-Romanian Topical Meeting on Nano and Biomaterials, 17 - 21 September 2014, Iași, Romania, **invited lecture**
- E 74. A. Meghea, F. Kajzar, A.-M. Manea, M. Gonța, **Ileana Rău**, *All-bio nanomaterials based on DNA and natural chromophors for electronic applications*, Fourth International Workshop on Advanced, Nano- and Biomaterials and Their Applications joint with Fourth French-Romanian Topical Meeting on Nano and Biomaterials, 17 - 21 September 2014, Iași, Romania, **invited lecture**
- E 75. M. Gonța, G. Duca, A. Gonța, **Ileana Rău**, A. Meghea, Cr. Savga, *Study the process of inhibition of cancerogen N-nitroso compounds by dihydroxyfumaric acid - DNA copolymer*, Fourth International Workshop on Advanced, Nano- and Biomaterials and Their Applications joint with Fourth French-Romanian Topical Meeting on Nano and Biomaterials, 17 - 21 September 2014, Iași, Romania, **invited lecture**

- E 76. J. Mysliwiec, L. Sznitko, K. Cyprych, A. Szukalski, A. Miniewicz, G. Pawlik, A. C. Mitus, F. Kajzar, **Ileana Rau**, *Biopolymeric lasers*, SPIE Europe Optics & Photonics in Security and Defense, Optical Materials in Defense Systems Technology, Optical Materials and Biomaterials in Security and Defence Systems Technology XI, Amsterdam, Olanda, Sept. 2014, **keynote lecture**
- E 77. A.-M. Manea, **Ileana Rau**, F. Kajzar, *Linear and NLO properties of DNA-CTMA-SBE complexes*, SPIE Europe Optics & Photonics in Security and Defense, Optical Materials in Defense Systems Technology, Optical Materials and Biomaterials in Security and Defence Systems Technology XI, Amsterdam, Olanda, Sept. 2014, **invited lecture**
- E 78. **Ileana Rau**, M. Mihaly, C. Lazar, A. Meghea, F. Kajzar *DNA Rare earth- materials for application in electronics* Photonics West 2015 - Organic Photonic Materials and Devices XVII, San Francisco, SUA, February, 2015, **invited lecture**
- E 79. F. Kajzar, M. Mindroiu, G. Tihan, A.-M. Manea, **Ileana Rau**, *DNA-based membranes: development and applications*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VIII, San Diego, USA, August, 2015, **invited lecture**
- E 80. J. Mysliwiec, K. Cyprych, L. Sznitko, A. Szukalski, K. Parafiniuk, A. Miniewicz, M. Samoc, P. Hanczyc, A. C. Mitus, G. Pawlik, F. Kajzar, **Ileana Rau**, *Biological matrices for light amplification (Keynote Presentation)*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VIII, San Diego, USA, August, 2015, **invited lecture**
- E 81. A. C. Mitus, K. Lankowski, P. Stopa, W. Zaklukiewicz, G. Pawlik, J. Mysliwiec, F. Kajzar, **Ileana Rau**, *Towards modeling of random lasing in dye doped bio-organic based systems: ray-tracing and cellular automaton analysis*, SPIE Optics & Photonics, Nanoscience and Engineering, Nanobiosystems: Processing, Characterization, and Applications VIII, San Diego, USA, August, 2015, **invited lecture**
- E 82. A. Meghea, A.-M. Manea, F. Kajzar, **Ileana Rau**, *Green nanomaterials based on DNA functionalized with natural chromophors for optoelectronic applications*, 11th International Conference, Micro- to Nano-Photonics IV- ROMOPTO 2015, Bucuresti, septembrie 2015, **invited lecture**
- E 83. **Ileana Rau**, M. Mindroiu, G. Tihan, R. Zgarian, A. Pawlicka, F. Kajzar, *Electrochromic characterisation of some DNA based materials*, 11th International Conference, Micro- to Nano-Photonics IV- ROMOPTO 2015, Bucuresti, septembrie 2015, **invited lecture**
- E 84. F. Kajzar, A.-M. Manea, A. Meghea, **Ileana Rau**, *Interest of deoxyribonucleic acid for application in photonics*, 11th International Conference, Micro- to Nano-Photonics IV- ROMOPTO 2015, Bucuresti, septembrie 2015, **invited lecture**
- E 85. A. Petris, P. Gheorghe, V. I. Vlad, **Ileana Rau**, F. Kajzar, *Interferometric method for the study of spatial phase modulation induced by light in dyedoped DNA complexes*, 11th International Conference, Micro- to Nano-Photonics IV- ROMOPTO 2015, Bucuresti, septembrie 2015, **invited lecture**
- E 86. **Ileana Rău**, *DNA based materials doped with lanthanide nanoparticle*, 13 ICFPAM, aprilie 2015, Marrakesh, Maroc, **Keynote lecture**

- E 87. **Ileana Rău**, *Bioabsorbable plant extracts for dentine treatment*, The 5th Annual Symposium of Drug Delivery Systems, 20-22 Oct. 2015 Beijing, China, **invited lecture**
- E 88. **Ileana Rău**, *DNA Based Materials With Electrochromic Properties*, 3rd International Workshop on Nano and Bio-Photonics & French-Korean Meeting on Functional Material for Organic Optics, Electronics, and Devices, 6 - 11.12.2015, Cabourg, France, **invited lecture**
- E 89. **Ileana Rău**, *DNA Based Materials for Electrochromic Applications*, International Workshop on Photonics Polymer for Innovation (IWPPPI), Nasu Highland, Japan, October 11 -14, 2016, **invited lecture**
- E 90. **Ileana Rau**, F. Kajzar, M. Mindroiu, G. T. Tihan, A.-M. Manea, A. Pawlicka, C. Pirvu, *DNA-based membranes for multiple applications*, Photonics West 2016 - Organic Photonic Materials and Devices XVIII, San Francisco, SUA, February, 2016, **invited lecture**
- E 91. F. Kajzar, A.-M. Manea, M.-L. Mircea, **Ileana Rau**, *Tuning THG susceptibility in a DNA based functionalized complex*, Optics + Photonics, Nanobiosystems: Processing, Characterization and Applications IX, San Diego, SUA, August - September 2016, **invited lecture**
- E 92. **Ileana Rău**, *Collagen based biomaterials for different applications*, ICFPAM, Oct - Nov, 2016, Daejon, South Korea, **keynote lecture**
- E 93. **Ileana Rau**, C. A. Lazar, A. C. Mitus, G. Pawlik, F. Kajzar, *Chromophore influence on DNA compactisation*, Photonics West 2017 - Organic Photonic Materials and Devices XIX, San Francisco, SUA, January - February, 2017
- E 94. **Ileana Rau**, *Biomaterials for Photonics Applications*, 4th International Workshop on Nano and Bio-Photonics & French-Korean Meeting on Functional Material for Organic Optics, Electronics, and Devices, sept.2017, Vogue, France, **invited lecture**
- E 95. F. Kajzar, C. A. Lazar, A.-M. Manea, **Ileana Rau**, *Enhanced NLO response of lanthanides in DNA matrix*, Optics + Photonics, Nanobiosystems: Processing, Characterization and Applications X, San Diego, SUA, August 2017, **invited lecture**
- E 96. **Ileana Rau**, F. Kajzar, C. Marin, A.-M. Manea, *Biopolymer influence on fluorescent efficiency of luminophores*, Photonics West 2018 - Organic Photonic Materials and Devices XX, San Francisco, SUA, January - February, 2018
- E 97. F. Kajzar, L. Puntus, **Ileana Rau**, *Recent advances with electro-optic polymers* Optics + Photonics, Organic and Hybrid Sensors and Bioelectronics XI, San Diego, SUA, August 2018, **invited lecture**
- E 98. **Ileana Rău**, F. Kajzar, M. Anton, A. Simion, C. Simion, *Natural extracts – potential chromophores for optoelectronic application*, International Workshop on Photonics Polymer for Innovation (IWPPPI2018), Suwa, Japonia, octombrie 2018, **invited lecture**
- E 99. **Ileana Rău**, F. Kajzar, M. Anton, A. Simion, C. Simion, *Natural extracts – potential chromophores for multiple applications* Photonics West 2019 - Organic Photonic Materials and Devices XXI, San Francisco, SUA, February, 2019, **invited lecture**

- E 100. **Ileana Rau**, M. Anton, C. Paduretu, M. Apetroaei, F. Kajzar, *Photoresponsive Natural Materials*, 15 International Conference on Frontiers of Polymers and Advanced Materials, Penang, Malaiezia, June 2019, **keynote lecture**
- E 101. **Ileana Rau**, M. Anton, F. Kajzar, C. Paduretu, M. Apetroaei, *All-Bio materials with different Applications*, 5th International Workshops on Nano and Bio-Photonics, St. Nectaire, Franta, septembrie, 2019, **invited lecture**

Prezentări orale la conferințe internaționale

- E 102. Maria Zaharescu, Maria Crisan, **Ileana Rău**, Andrei Jitianu, Aurelia Meghea, *“Composite SiO₂ – Iron Oxides Materials for Magnetically Intensified Adsorption”*, Meeting of American Chemical Society, Boston, MA, USA, 23 – 27 August 1998;
- E 103. Maria Zaharescu, Maria Crisan, Andrei Jitianu, Dorel Crisan Aurelia Meghea, **Ileana Rău**, *“SiO₂ – Oxides Composites Obtained by Sol – Gel Method”*, Sol - Gel 99 - 10th International Workshop on Glasses Ceramics, Hybrids and Nanocomposite from gels, Yokohama, Japonia, 19 – 24 Sept. 1999
- E 104. Aurelia Meghea, **Ileana Rău**, Maria Preda, *“Frites without Lead for Ceramic Colours”*, 13th Conference on Glass and Ceramics, Varna, Bulgaria, 29 Sept. – 01 Oct. 1999;
- E 105. I. Peleanu, M. Zaharescu, **Ileana Rău**, M. Crișan, A. Meghea, Andrei Jitianu, *“Composite SiO₂ – Iron Oxides Materials for Magnetically Intensified Adsorption”*, 8th International Conference SIS '99, Stara Lesna – High Tatras, Slovakia, 11 – 16 Sept. 1999;
- E 106. **Ileana Rău**, A. Gonzalo, M. Valiente, *“Arsenic Removal from Aqueous Solutions by Iron (III) Loaded Chelating Resin”*, 8th International Conference SIS '99, Stara Lesna – High Tatras, Slovakia, 11 – 16 Sept. 1999;
- E 107. **Ileana Rău**, Anna Gonzalo, Manuel Valiente, *“Selectivity of Arsenic (V) adsorption by immobilised iron mediation”*, The XIth Spanish – Italian Congress on Thermodynamics of Metal Complex, Valencia, Spania, 04 – 07 June 2000;
- E 108. **Ileana Rău**, M. Zaharescu, A. Meghea, M. Crișan, I. Peleanu, A. Jitianu, *“Magnetic Field Influence on the As (V) adsorption”* SIS'01, Bratislava, Slovakia, 5 – 10 June 2001
- E 109. Ion Peleanu, Maria Zaharescu, **Ileana Rău**, Maria Crisan, Andrei Jiteanu, Aurelia Meghea, *“Nanocomposite Materials for As(V) Removal by Magnetical Intensified Adsorption”*, 221st Am. Chem. Soc. National Meeting, San Diego, CA, USA, 01 – 05 April 2001, WOS:000179889200007
- E 110. **Ileana Rău**, Jose Antonio Munoz, Anna Gonzalo, Manuel Valiente, *“Iron (III) loaded sponge for the selective removal of arsenic (V)”*, PITTCON 2001, New Orleans, LA, USA, 04 – 09 March 2001
- E 111. Andrei Jitianu, Maria Crisan, Maria Zaharescu, **Ileana Rău**, Aurelia Meghea, *“Influence of the silica based matrix on the Fe₂O₃ crystallisation in the SiO₂ – Fe₂O₃ system, obtained by sol – gel method”*, Particles 2001, Orlando, FL, USA, 24 – 27 February 2001
- E 112. **Ileana Rău**, A. Meghea, A. Gonzalo, M. Valiente, I. Peleanu, M. Zaharescu, *“Modelling the Arsenic (V) and (III) Adsorption”*, 14th Radiochemical Conference, Mariánské Lázně, Czech Republic, 14 – 19 April 2002, WOS:000184406200021

- E 113. A. Emandi, M. Calinescu, M. Badea, E. Cristurean, D. Marinescu, R. Olar, A. Meghea, N. Iftimie, **Ileana Rau**, "*Electronic properties and the magnetic behaviour of hybride organic – inorganic advanced materials*", NATO Advanced Research Workshop, Organic & Nanophotonics, Aix en Provence, France, 25 – 29 August 2002
- E 114. A.L. Roy, A.J. Attias, B. Charleux, B. Chung, D. Kreher, M. Save, **Ileana Rau**, F. Kajzar, "*Synthesis of well Defined Nonlinear Optical Polymers by Controlled Radical Polymerization (RAFT Process)*", International Conference on Polymers and Advanced Materials, POLYMEX 2006, Huatulco, Mexico, 5 – 9 Nov. 2006
- E 115. A. Attias, D. Kreher, M. Save, B. Charleux, C. Bui, J. Buffet, F. Kajzar, **Ileana Rau**, "*Synthesis of well-defined NLO polymers by controlled radical polymerization (RAFT) process I*", Photonics West 2006 - Organic Photonic Materials and Devices VIII, San Jose, SUA, 21 – 26 Jan. 2006
- E 116. **Ileana Rau**, P.-A. Chollet, P. Armatys, F. Kajzar, G. Barbarella, L. Favaretto, S. Caria, E. Da Como, M. Muccini, M. Murgia, R. Zamboni, "*Efficient Second Harmonic Generation from a new class of V-shaped benzo-thiophene based organic molecules*", Photonics Europe 2006, Strasbourg, France, 3 – 7 April 2006
- E 117. J. Attias, F. Kajzar, D. Kreher, **Ileana Rau**, A.L. Roy, "*Synthesis of well-defined nonlinear optical polymers by controlled radical polymerization (RAFT process)*" II, Photonics North 2006 – New optical materials/optical memories, Quebec, Canada, 4 – 8 June 2006
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