Curriculum vitae (short version)

Last Name: BARNA First Name: Valentin

DOB: 1980 (41 years old), Bucharest (Romania). Nationality: Romanian.

Education

* 1999 - 2003 Faculty of Physics, University of Bucharest.

Diploma of Graduation – Summa cum Laude 2003 from Polymers\ Liquid Crystals Department (University of Bucharest).

Valedictorian of Physics Faculty (1999-2003 class) and Award for Best Student (University of Bucharest).

* 2007 PhD Diploma in Physics (Summa cum Laude) at University of Calabria (UNICAL) – Italy. Also coordinated young PhDs in various scientific projects.

* 2006 - invited PhD researcher at Case Western Reserve University (Cleveland - USA).

* 2007 - 2008 Post-Doctoral Studies in Physics at Case Western Reserve University (Cleveland - USA). Also coordinated PhDs and master students in various scientific projects.

Professional Positions

* 2009 - 2013 - Assistant Professor at the University of Bucharest, Faculty of Physics.

* 2013 - 2019 - Associate Professor at the University of Bucharest, Faculty of Physics.

* 2019 - present - Professor at the University of Bucharest (RO), Faculty of Physics.

----- Teaching activities consisting in Soft Matter Courses and Laboratories (Liquid Crystals, Polymers, Nanotechnologies), Optics & Photonics and Mechanics. In addition, coordinated and supervised students for graduation preparations & diploma theses, master students and also PhDs in various scientific projects. Team leader of various national and faculty projects while coordinating teams of scientists at the Faculty of Physics – University of Bucharest.

Awards, Distinctions and Honors. The visibility of the scientific contributions (selection).

High scientific visibility and also autonomy demonstrated by various aspects and reflected in the published ISI articles (over 55 ISI papers), 6 published books/chapters, 2 research international patents, more than 150 participations & contributions (plenary, invited talks and posters) at national/international conferences and scientific meetings and several prestigious awards for the

scientific and research activity. Main author of many of the ISI published papers (main author in NATURE Physics, Applied Physics Letters, Optics Express, Nanotechnology, Polymers etc), where he had the main research conceptual idea, proposed the best scientific approach, while also performing the main experiments and data interpretation. Total number of citations up-to-date for the scientific papers is over 850 (over 650 citations without self-citations) and the value for the Hirsch Index = 15, denoting a high visibility of the proposed research topics in a relatively short period of time (since most of the articles were published after 2006).

(Scientific Awards - selection -)

* Romanian Academy Award in Sciences for scientific research activity in 2005.
* Romanian National Council of Research - „IN HOC SIGNO VINCES" Award 2010 for Outstanding Reasearch Activity in the last years.
* Romanian Ministry of Education and Research --- „Best Young Researcher" Award 2010.
* "Workshop on Optics and Photonics 2006" OSA , Ancona, Italy, 2006. "Experimental Investigations of Random Laser Action in Dye Doped Nematics" - Received the Award of Best Presentation IWOP & Optical Society of America (OSA) 2006.

Papers (selection):

1. "Fast electro-optic switching in nematic liqiud crystals". A.L.Ionescu, A.Ionescu, E.S.Barna, V. Barna, N. Scaramuzza. Applied Physics Letters Vol 84(1) pp. 40-42., (2004).
2. "Molecular simulation of the free surface order in NLC samples",N. Scaramuzza, C.Berlic, E.S.Barna, G.Strangi, V. Barna, A.Ionescu, Journal of Physical Chemistry B, 108(10), 3207, (2004).
3."Role of delocalized electrons in polyaniline - nematogen cyanobiphenyls interaction", A.L.Ionescu, A.Ionescu, E.S.Barna, V.Barna, N. Scaramuzza. Journal of Physical Chemistry B, 108(26), 8894-8899, (2004).
4. "Color Tunable Distributed Feedback Organic Micro-Cavity Laser", G. Strangi, V. Barna, et al. Physical Review Letters 94, 063903, (2005).
5. "Band-Edge and Defect Modes Lasing Due to Confinement of Helixed Liquid Crystals in Cylindrical Microcavities", Barna V. et al. in Applied Physics Letters 87, 221108 (2005)
6. "Distributed FeedbackMicro-Laser Array: Helixed Liquid Crystals Embedded in Holographically Sculptured Polymeric Microcavities", Barna V., et al. Optics Express, Vol.14, 7, pp 2695, (2006).

7. "Random Lasing and Weak Localization of Light in Dye-Doped Nematic Liquid Crystals",Strangi G.,Ferjani S., Barna V.,et al. Optics Express, 14, 17, 7737-7744 (2006).

8. "Nanoscale alignment and optical nanoimaging of a birefringent liquid", Barna V., De Luca A., Rosenblatt C. Nanotechnology 19, 32, 325709 (2008).

9. "Optical nanotomography of anisotropic fluids", De Luca A., Barna V., Atherton T., Carbone G., Sousa M., Rosenblatt C.; Nature Physics, 4, 869 (2008).

10. "Direct measurement of surface-induced orientational order parameter profile above the nematic – isotropic phase transition temperature", Lee J-H., Atherton T., Barna V.,et al. Physical Review Letters 102, 167801 (2009).

11. "Monte Carlo simulation of the molecular distribution and optical properties of a nematic liquid crystal system with periodic surface gratings", C. Berlic and V. Barna. Optics Express, 18, 23, 23646 (2010).

12. "Periodic and aperiodic liquid crystal-polymer composite structures realized via spatial light modulator direct holography" Infusino, M; De Luca, A; Barna, V; et al. Optics Express, 20, 21 , 23138-23143 (2012).

13. "Representative longitudinal optical phonon modes in polar semiconductor quantum dots" Cheche, T.O., Barna, V., Stamatin, I. , Chemical Physics, 400, 207 (2012)

14. "Investigations on the nucleation processes in frustrated polymeric systems"; Berlic, C., Barna, V., Manolescu, B., Mahler, B., Staicu, D.; Digest Journal of Nanomaterials and Biostructures 9 (3), pp. 919-928 (2014).

15. "Mirrorless dye doped ionic liquid lasers", V. Barna, L. De Cola, Optics Express 23, 9, 11936 (2015).

16. "Morphological and Structural Analysis of Polyaniline and Poly(o-anisidine) Layers Generated in a DC Glow Discharge Plasma by Using an Oblique Angle Electrode Deposition Configuration", Butoi, B., Groza, A., Dinca, P., Balan, A. and Barna, V, Polymers, 9(12), 732 (2017).

17. "Biolasing from individual cells in a low-Q resonator enables spectral fingerprinting", D. Genovese, V. Barna et al., Advanced Optical Materials, 8, 1901573 (2020).

International Patents :

1."Transient interface charged layer effect (TICLE) on the relaxation of electro-optic switching in nematic liquid crystals to build electro-optical devices" V. Barna et al., DF03 A 0002376, 2003.

2. "Random Lasing Photo-Curable Composition for Use as Random Lasing Gain Medium", L. De Cola, D. Genovese, V. Barna, Patent 16305467.9 -1556, 2016.

*** Invited scientific interviews in various research news journals such as Optics & Photonics Focus, UPI Science News, Laser Focus World etc.

*** Scientific Reviewer for various International Research Journals (Optics Communications (ISSN 0030-4018) ; Optical Materials Express (ISSN 2159-3930); Physical Sciences Research International ; Optics Express (ISSN 1094-4087) etc).

----- Foreign Languages: English (excellent), Italian (excellent), French (good), German (average), Romanian (native). ----- Others: Computer literacy – Windows, MS Office, Origin, Hardware etc.

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(https://www-scopus-com.am.e-nformation.ro/authid/detail.uri?authorId=6602621306&origin=cto)

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BrainMap ID U-1700-031J-1916

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