Curriculum Vitae

Hrvoje Buljan
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DATE OF BIRTH

October 17th 1972

POSITIONS

- Professor; Department of Physics, University of Zagreb, Croatia, (2013-)
- Associate Professor; Department of Physics, University of Zagreb, Croatia, (2009-2013)
- Assistant Professor; Department of Physics, University of Zagreb, Croatia, (2004-2008)
- Postdoctoral Fellow; Technion, Israel Institute of Technology, Israel, (2002-2004)

EDUCATION

- University of Zagreb, Croatia , Ph.D. in Physics, (August, 2002);
  PhD thesis title: "*Topological properties and measures of chaotic maps with the restricted domain*";
  Supervisor: Prof. V. Paar
- University of Zagreb, Croatia, undergraduate education;
  Thesis title: "*Application of Base with a Core in the Interacting Boson-Fermion Model*";
  Supervisor: Prof. V. Paar
- High-school:
  Senior year: South Lyon High, South Lyon, Michigan, USA
  Freshmen-Junior: MIOC, Zagreb, Croatia

AWARDS AND HONORS

- The Annual State Award for Science; awarded by the Croatian parliament in 2010.
- Hrvoje Buljan co-authored the most cited Phys. Rev. B paper published in 2009 (according to WoS).

- Rector's Award; awarded by the Rector of the University of Zagreb for the best student work entitled "Principles of quantum mechanics in double barrier resonant tunneling" (1995), mentor Prof.dr.sc. Marijan Šunjić

RESEARCH PROJECTS

- 2017 – **Principal Investigator of the 5MEUR project funded by the European Structural and Investment Funds**; the project is conducted within the Scientific Center of Excellence for Quantum and Complex Systems and Representations of the Lie Algebra
- 2017 – Principal Investigator of the project Synthetic Magnetic Fields With Interactions and Anyons (http://www.phy.pmf.unizg.hr/~hbuljan/hrzz.html) funded by the Croatian Science Foundation (HRZZ)
- 2015 - **Leader of the Scientific Center of Excellence for Quantum and Complex Systems and Representations of the Lie Algebra – QuantiXLie**
- 2016-2018 Principal Investigator of a Croatian-Serbian bilateral project (in collaboration with Dr. Ivana Vasić, Institute of Physics, Belgrade, Serbia)
- **2013-2015 Principal Investigator of a project *Pseudomagnetic forces and fields for atoms and photons* funded by the Unity through Knowledge Fund (UKF, www.ukf.hr)**; this was a joint project with MIT, Cambridge with Marin Soljačić; I was a visiting scientist at MIT for a period in 2014
- 2013-2014 Principal Investigator of a project *Optics and photonics in new materials and plasma* funded by the University of Zagreb (www.unizg.hr, project related to graphene)
- **2007-2013 Principal Investigator of a project *Nonlinear phenomena and wave dynamics in photonic systems* (119-0000000-1015) funded by the Ministry of Science in Croatia (MZOŠ, www.mzos.hr)**
- 2007-2009 Principal Investigator of a Croatian-German bilateral project (in collaboration with Dr. Thomas Gasenzer, Institut for Theoretical Physics, Heidelberg) funded by MZOŠ and DAAD
- 2008-2010 Principal Investigator of a Croatian-Israeli bilateral project (in collaboration with Prof Dr. Mordechai Segev, Technion, Israel Institute of Technology) funded by MZOŠ and Ministry of Science of the State of Israel
- 2009-2012 Collaborator in a FP7 grant SOLeNeMaR (*Strenghtening the SOLid-state research capacities in Zagreb by the introduction of Nuclear Magnetic Resonance method*) PI: Prof.dr.sc. Miroslav Požek

Before 2007 I participated in several project at the Technion, Israel Institute of Technology, with Prof. Mordechai Segev as the PI, and before that period I participated in projects lead by Prof.dr.sc. Vladimir Paar during my PhD period.

PROFESSIONAL ACTIVITIES

- Referee for:
  - Physical Review Letters
  - Physical Review A
  - Physical Review B
  - Physical Review E

    - Nature Photonics
    - Nature Nanotechnology
    - Nature Materials
    - Nature Communications
    - Light, Science and Applications
    - Scientific Reports
    - Optics Letters
    - Optics Express
    - Optics Communications
    - Journal of the Optical Society of America
    - Physics Letters A
    - Europhysics Letters
    - Laser and Photonics Reviews
    - Journal of the American Chemical Society
    - New Journal of Physics
    - Nonlinearity
- Referee for grant proposals (EU funding agencies + EU countries, Croatian Ministry of Science, ISF)

INSTITUTIONAL RESPONSIBILITIES

- Vice-dean for Science 2016 - 2018, Faculty of Science, University of Zagreb
- Chairman of the Department 2014 - 2016, Department of Physics, Faculty of Science, University of Zagreb
- Deputy Chairman of the Department 2012 - 2014, Department of Physics, Faculty of Science, University of Zagreb

ORGANIZATIONAL ACTIVITIES

- Organizer of the Workshop on Topological effects and synthetic gauge/magnetic fields for atoms and photons (synthetic.ifs.hr), 29.9.-1.10.2015. Zagreb, Croatia (international event)
- Organizing Committee for The European Workshop on Epitaxial Graphene
- and 2D Materials, Primošten, 2014 (international event)
- Organizing Committee and Program Committee for the 6th Meeting of the Croatian Physical Society, Primošten, 2009 (home event)
- Organizing Committee, 7th International Simposium on Ultrafast Surface Dynamics, Brijuni, 2010 (international event)
- Academic and Organizing Committees, 41st International Physics Olympiad, Zagreb, 2010 (international event)

TEACHING

2011 - Classical electrodynamics (3rd year of undergraduate studies)
2015 - Theoretical Atomic and Molecular Physics
2006 – 2012 Nonlinear phenomena (3rd year of undergraduate studies)
2007 – 2016 Electromagnetic waves and optics (4th year of undergraduate studies)
2004 – 2016 Nonlinear optics (Postgraduate)
2006 - Nonlinear continua (Postgraduate).

MENTORSHIP

- Mentor of Dario Jukić who defended his PhD Thesis in February 2012 (Thesis title: *Nonequilibrium dynamics of exactly solvable one-dimensional many-body Bose systems*)
- Mentor of Marinko Jablan who defended his PhD Thesis in March 2012 (Thesis title: *Electrodynamic properties of graphene and their technological applications*)
- Mentor of Karlo Lelas who defended his PhD Thesis in July 2012 (Thesis title: *Correlations in strongly-interacting one-dimensional many-body systems*).
- Mentor of Tena Dubček, current PhD student, defense expected in 2017
- Mentor of Marija Todorić, current PhD student
- Mentor of Nikola Drpić, current PhD student
- Mentor for more than 28 diploma theses
- Mentor of the student work for which Marinko Jablan was awarded Science award (2008) awarded annually for one student publication in all natural sciences by the Croatian National Foundation for Science
- Mentor of the student work for which Dario Jukić was awarded Science award (2009)
- Mentor of the student work for which Ozana Čelan was awarded Rectors award (2009)
- Mentor of the student work for which Tena Dubček was awarded L'Oreal UNESCO Award for Women in Science in Croatia (2016)

SCIENTIOMETRIC DATA

H. Buljan has **65** publications with more than **2350** citations (WoS), h-index **22**, more than **40** invited talks at workshops, conferences, and scientific institutes and universities, mentored **4** PhD thesis (4 were defended, 2 are underway), more than **30** diploma thesis, leads/lead **8** grants and participated in others. Referee for more than **20** international journals.

SELECTED TEN PUBLICATIONS / RESULTS

The selected ten publications are organized in two groups:

(i) optics and (nano)photonics
(ii) ultracold atomic gases

Optics and (nano)photonics

Plasmonic excitations in graphene

[1] M. Jablan, **H. Buljan**, M. Soljačić, *Plasmonics in graphene at infrared frequencies*, **Phys. Rev. B 80, 245435 (2009).**

Solitons, nonlinear optics

[2] **H. Buljan**, A. Šiber, M. Soljačić, M. Segev, "Propagation of incoherent white light and modulation instability in noninstantaneous nonlinear media," **Phys. Rev. E 66, (R)035601 (2002)**.
[3] **H. Buljan**, M. Segev, M. Soljačić, N.K. Efremidis, D.N. Christodoulides, "White-light solitons," **Opt. Lett. 28, 1239 (2003)**.

Nonlinear photonic lattices
[4] **H. Buljan**, O. Cohen, J.W. Fleischer, T. Schwartz, M. Segev, Z.H. Musslimani, N.K. Efremidis, and D.N. Christodoulides, **Phys. Rev. Lett. 92, 223901 (2004)**
[5] O. Cohen, G. Bartal, **H. Buljan**, T. Carmon, J.W. Fleischer, M. Segev, and D.N. Christodoulides, **Nature (London) 433, 500 (2005)**

Ultracold atomic gases

Proposal for the realization of Weyl points
[6] Tena Dubček, Colin J. Kennedy, Ling Lu, Wolfgang Ketterle, Marin Soljačić, and **Hrvoje Buljan**, Weyl Points in Three-Dimensional Optical Lattices: Synthetic Magnetic Monopoles in Momentum Space, **Phys. Rev. Lett. 114, 225301 (2015).**

One-dimensional interacting Bose gases out of equilibrium
[7] R. Pezer and **H. Buljan**, *Momentum distribution dynamics of a Tonks-Girardeau gas: Bragg reflections of a quantum many-body wave packet*, **Phys. Rev. Lett. 98, 240403 (2007)**
[8] **H. Buljan**, R. Pezer, T. Gasenzer, **Phys. Rev. Lett. 100, 080406 (2008)**;
[9] D. Jukic, R. Pezer, T. Gasenzer, and **H. Buljan**, "Free expansion of a Lieb-Liniger gas: Asymptotic form of the wave functions" **Phys. Rev. A 78, 053602 (2008).**
[10] H. Buljan, M. Segev, and A. Vardi, **Phys. Rev. Lett. 95, 180401 (2005).**

LIST OF PUBLICATIONS
Links can be reached from
https://scholar.google.hr/citations?hl=hr&user=OCydLWsAAAAJ&view_op=list_works&sortby=pubdate

(66) Georgia T. Papadakis, Prineha Narang, Ravishankar Sundararaman, Nicholas Rivera, Hrvoje Buljan, Nader Engheta, and Marin Soljačić, Ultra-light Å-scale Optimal Optical Reflectors, ACS Photonics, accepted for publication (2017).

(65) Ognjen Ilic, Ido Kaminer, Bo Zhen, Owen D. Miller, Hrvoje Buljan and Marin Soljacic, Topologically enabled optical nanomotors, Science Advances, Vol.2, e1602738 (2017); see also http://news.mit.edu/2017/tiny-motors-driven-by-light-0630

(64) N. Šantić, T. Dubček, D. Aumiler, H. Buljan, T. Ban, Synthetic Lorentz force in an expanding cold atomic gas, JOSA B 34 (6), 1264-1269 (2017).

(63) X. Lin, I. Kaminer, X. Shi, F. Gao, Z. Yang, Z. Gao, H. Buljan, J.D. Joannopoulos, M. Soljačić, H. Chen, B. Zhang, Splashing transients of 2D plasmons launched by swift electrons, Science Advances 3 (1), e1601192 (2017).

(62) K Lelas, N Drpić, T Dubček, D Jukić, R Pezer, H Buljan, Laser assisted tunneling in a Tonks–Girardeau gas, New Journal of Physics 18 (9), 095002 (2016).

(61) N. Rivera, C.W. Hsu, B. Zhen, H. Buljan, J.D. Joannopoulos, M. Soljačić, Controlling directionality and dimensionality of radiation by perturbing separable bound states in the continuum, Scientific Reports 6 (2016).

(60) Ido Kaminer, Janna Katan, Hrvoje Buljan, Yichen Shen, Ognjen Ilic, Josue Lopez, Liang Wong, John Joannopoulos, and Marin Soljačić, Quantum Čerenkov Effect from Hot Carriers in Graphene, Nature Communications 7, ncomms11880 (2016).

(59) O. Ilic, I. Kaminer, Y. Lahini, H. Buljan, M. Soljačić, Exploiting Optical Asymmetry for Controlled Guiding of Particles with Light, ACS Photonics 3, 197 (2016).

(58) Tena Dubček, Karlo Lelas, Dario Jukić, Robert Pezer, Marin Soljačić and Hrvoje Buljan, The Harper–Hofstadter Hamiltonian and conical diffraction in photonic lattices with grating assisted tunneling, New J. Phys. 17, 125002 (2015).

(57) N. Šantić, T. Dubček, D. Aumiler, H. Buljan, T. Ban, Experimental Demonstration of a Synthetic Lorentz Force by Using Radiation Pressure, Scientific Reports 5, **13485** (2015)

(56) Jorge Bravo-Abad, Ling Lu, Liang Fu, Hrvoje Buljan and Marin Soljačić, Weyl points in photonic-crystal superlattices, 2D Mater. **2**, 034013 (2015).

(55) Tena Dubček, Colin J. Kennedy, Ling Lu, Wolfgang Ketterle, Marin Soljačić, and Hrvoje Buljan, Weyl Points in Three-Dimensional Optical Lattices: Synthetic Magnetic Monopoles in Momentum Space, Phys. Rev. Lett. 114, 225301 (2015)

(54) T. Dubček, N. Šantić, D. Jukić, D. Aumiler, T. Ban, and H. Buljan, "Synthetic Lorentz force in classical atomic gases via Doppler effect and radiation pressure", Phys. Rev. A **89**, 063415 (2014).

(53) G. Kregar, N. Šantić, D. Aumiler, H. Buljan, and T. Ban, "Frequency-comb-induced radiative force on cold rubidium atoms", Phys. Rev. A **89**, 053421 (2014).

(52) M. Jablan, M. Soljačić, H. Buljan, "Effects of screening on the optical absorption in graphene and in metallic monolayers", Phys. Rev. B **89**, 085415 (2014)

(51) H. Buljan, M. Jablan, and M. Soljačić, "*Damping of Plasmons in Graphene*", Nature Photonics **7**, 346 (2013), N&V article.

(50) M. Jablan. M. Soljačić, and H. Buljan, "*Plasmons in graphene: Fundamental properties and potential applications*" Proceedings of the IEEE **101**, 1689 (2013), invited review article.

(49) D. Jukić and H. Buljan, "Four-dimensional photonic lattices and discrete tesseract solitons," Phys. Rev. E 87, 013814 (2013).

(48) D. Jukić, H. Buljan, D.H. Lee, J.D. Joannopolous, M. Soljačić, Flat photonic surface bands pinned between Dirac points, Opt. Lett. 37, 5262 (2012).

(47) K. Lelas, T. Ševa, H. Buljan, and J. Goold, "The pinning quantum phase transition in a Tonks Girardeau gas: diagnostics by ground state fidelity and the Loschmidt echo," Phys. Rev. A **86**, 033620 (2012).

(46) Ognjen Ilic, Marinko Jablan, John D. Joannopoulos, Ivan Celanovic, Hrvoje Buljan, and Marin Soljačić, "Near-field thermal radiation transfer controlled by plasmons in graphene," Phys. Rev. B **85**, 155422 (2012).

(45) K. Lelas, T. Ševa, H. Buljan, "Loschmidt echo in one-dimensional interacting Bose gases", Phys. Rev. A **84**, 063601 (2011).

(44) D. Čapeta, J. Radić, A. Szameit, M. Segev, and H. Buljan, "Anderson localization of partially incoherent light," Phys. Rev. A 84, 011801 (2011) (R).

(43) M. Jablan, M. Soljacic, and H. Buljan, "Unconventional plasmon-phonon coupling in graphene,"
Phys. Rev. B 81, 161409(R) (2011).

(42) Siber and H. Buljan, "Theoretical and experimental analysis of a thin elastic cylindrical tube acting as a non-Hookean spring," Phys. Rev. E 83, 067601 (2011).

(41) M. Jablan, H. Buljan, and M. Soljacic, "Transverse electric plasmons in bilayer graphene," Optics Express 19, 11236 (2011).

(40) D. Jukic, S. Galic, R. Pezer, and H. Buljan, "Lieb-Liniger gas in a constant-force potential," arXiv:1005.3660v1 [cond-mat.quant-gas] (2010), Phys. Rev. A 82, 023606 (2010).

(39) O. Bahat-Treidel, O. Peleg, H. Buljan, and M. Segev, "Breakdown of Dirac dynamics in honeycomb lattices due to nonlinear interactions," arXiv:1004.1913v2 [physics.optics] (2010), Phys. Rev. A 82, 013830 (2010).

(38) J. Radic, V. Bacic, D. Jukic, M. Segev, and H. Buljan, "Anderson localization of a Tonks-Girardeau gas in potentials with controlled disorder," Phys Rev A 82, 063639 (2010).

(37) D. Jukic and H. Buljan, "Reflection of a Lieb-Liniger wave packet from the hard-wall potential," arXiv:0911.0260v1 [cond-mat.quant-gas] (2009); New Journal of Physics 12, 055010 (2010).

(36) M. Jablan, H. Buljan, and M. Soljacic
"Plasmonics in graphene at infra-red frequencies,"
Phys. Rev. B 80, 245435 (2009);

selected for the January 11, 2010 issue of Virtual Journal of Nanoscale Science & Technology.

(35) K. Lelas, D. Jukic, and H. Buljan,
"Ground state properties of a one-dimensional strongly-interacting Bose-Fermi mixture in a double-well potential,"
Phys. Rev. A 80, 053617 (2009);
selected for the December 2009 issue of Virtual Journal of Atomic Quantum Fluids.

(34) R. Pezer, T. Gasenzer, and H. Buljan,
"Single-particle density matrix for a time-dependent strongly interacting one-dimensional Bose gas,"
Phys. Rev. A 80, 053616 (2009);
selected for the December 2009 issue of Virtual Journal of Atomic Quantum Fluids.

(33) D. Jukic, B. Klajn, and H. Buljan,
"Momentum distribution of a freely expanding Lieb-Liniger gas,"
Phys. Rev. A 79, 033612 (2009).

(32) D. Jukic, R. Pezer, T. Gasenzer, and H. Buljan,
"Free expansion of a Lieb-Liniger gas: Asymptotic form of the wave functions"
Phys. Rev. A 78, 053602 (2008).

(31) B. Gumhalter, A. Siber, H. Buljan, and T. Fauster,
"Nonadiabatic dynamics of electron scattering from adsorbates in surface bands"
Phys. Rev. B 78, 155410 (2008).

(30) L. Levi, T. Schwartz, O. Manela, M. Segev, and H. Buljan,
"Spontaneous pattern formation upon incoherent waves: From modulation-instability to steady-state"
Optics Express 16, 7818 (2008).

(29) H. Buljan, R. Pezer, and T. Gasenzer,
"Fermi-Bose transformation for a time-dependent Lieb-Liniger gas"
arXiv:0907.1444 [cond-mat] (2007); Phys. Rev. Lett. 100, 080406 (2008).

(28) H. Buljan, K. Lelas, R. Pezer, and M. Jablan,
"Single-particle density matrix and the momentum distribution of dark "solitons" in a Tonks-Girardeau gas"
Phys. Rev. A 76, 043609 (2007).

(27) R. Pezer and H. Buljan,
"Momentum distribution dynamics of a Tonks-Girardeau gas: Bragg reflections of a quantum many-body wave packet"
Phys. Rev. Lett. 98, 240403 (2007).

(26) M. Jablan, H. Buljan, O. Manela, G. Bartal, and M. Segev,
"Incoherent modulation instability in a nonlinear photonic lattice"
Optics Express 15, 4623 (2007).

(25) H. Buljan, O. Manela, R. Pezer, A. Vardi, and M. Segev,
"Dark stationary matter waves via parity-selective filtering in a Tonks-Girardeau gas"
Phys. Rev. A 74, 043610 (2006).

(24) O. Manela, G. Bartal, M. Segev, and H. Buljan,
"Spatial supercontinuum generation in nonlinear photonic lattices"
Opt. Lett. 31, 2320 (2006).

(23) R. Pezer, H. Buljan, G. Bartal, M. Segev, and J.W. Fleischer,
"Incoherent white-light solitons in nonlinear periodic lattices"
Phys. Rev. E 73, 056608 (2006).

(22) O. Cohen, H. Buljan, T. Schwartz, J.W. Fleischer, and M. Segev,
"Incoherent solitons in instantaneous nonlocal nonlinear media"
Phys. Rev. E 73, 015601(R), (2006).

(21) G. Bartal, O. Cohen, O. Manela, M. Segev, J.W. Fleischer, R. Pezer, and H. Buljan, "Observation of random-phase gap solitons in photonic lattices"
Opt. Lett. 31, 483 (2006).

(20) H. Buljan, M. Segev, and A. Vardi
"Incoherent matter-wave solitons and pairing instability in an attracivelly interacting Bose-Einstein condensate"
Phys. Rev. Lett. 95, 180401 (2005).

(19) R. Pezer, H. Buljan, J.W. Fleischer, G. Bartal, O. Cohen, M. Segev, "Gap random-phase lattice solitons,"
Optics Express 13, 5013 (2005).

(18) H. Buljan, G. Bartal, O. Cohen, T. Schwartz, O. Manela, T. Carmon, M. Segev, J.W. Fleischer, D.N. Christodoulides,
"Partially coherent waves in nonlinear periodic lattices"
Stud. Appl. Math. 115, 173 (2005).
**Invited paper

(17) G. Bartal, O. Cohen, H. Buljan, J.W. Fleischer, O. Manela, M. Segev,
"Brillouin zone spectroscopy of nonlinear photonic lattices"
Phys. Rev. Lett. 94, 163902 (2005).
**See commentary on this article in the Physics Update section of Physics Today, May 2005 issue.

(16) J.W. Fleischer, G. Bartal, O. Cohen, T. Schwartz, O. Manela, B. Freedman, M. Segev, H. Buljan, N.K. Efremidis,
"Spatial photonics in nonlinear waveguide arrays"
Optics Express 13, 1780 (2005).

(15) O. Cohen, G. Bartal, H. Buljan, T. Carmon, J.W. Fleischer, M. Segev, and D.N. Christodoulides,
"Observation of random-phase lattice solitons"
Nature (London) 433, 500 (2005).

(14) T. Schwartz, T. Carmon, H. Buljan, and M. Segev,
"Spontaneous pattern formation with incoherent white light"
Phys. Rev. Lett. 93, 223901 (2004).
**See commentary on this article in the Physics Update section of Physics Today, December 2004 issue.

(13) T. Schwartz, J.W. Fleischer, O. Cohen, T. Carmon, H. Buljan, and M. Segev,
J. Opt. Soc. Am. B 21, 2197 (2004).

(12) T. Carmon, H. Buljan, and M. Segev,
"Spontaneous pattern formation in a cavity with incoherent light"
Opt. Express 12, 3481 (2004).

(11) H. Buljan, O. Cohen, J.W. Fleischer, T. Schwartz, M. Segev, Z.H. Musslimani, N.K. Efremidis, and D.N. Christodoulides,
"Random-phase solitons in nonlinear periodic lattices"
Phys. Rev. Lett. 92, 223901 (2004).

(10) H. Buljan, T. Schwartz, M. Segev, M. Soljačić, D.N. Christodoulides,
"Polychromatic partially spatially incoherent solitons in noninstantaneous Kerr nonlinear medium"
J. Opt. Soc. Am. B 21, 397 (2004).

(9) H. Buljan, A. Šiber, M. Soljačić, T. Schwartz, M. Segev, and D.N. Christodoulides,
"Incoherent white light solitons in logartihmically saturable noninstantaneous nonlinear medium"
Phys. Rev. E 68, 036607 (2003)

(8) H. Buljan, M. Soljačić, T. Carmon, and M. Segev
"Cavity pattern formation with incoherent light"
Phys. Rev. E 68, 016616 (2003)

(7) H. Buljan, M. Segev, M. Soljačić, N.K. Efremidis, D.N. Christodoulides,
"White-light solitons"
Opt. Lett. 28, 1239 (2003).

(6) H. Buljan and V. Paar,
"Parry measure and the topological entropy of chaotic repellers embedded within chaotic attractors"
Physica D 172, 111 (2002).

(5) H. Buljan, A. Šiber, M. Soljačić, M. Segev,
"Propagation of incoherent white light and modulation instability in noninstantaneous nonlinear media"
Phys. Rev. E 66, R035601 (2002).

(4) A. Šiber and H. Buljan
"Quantum states and specific heat of low density He gas adsorbed within carbon

nanotube interstitial channels: Band-structure effects and potential dependence"
Phys. Rev. B 66, 075415 (2002).

(3) H. Buljan and V. Paar,
"Naturally invariant measure of chaotic attractors and the contitionally invariant measure of embedded chaotic repellers"
Phys. Rev. E 65, 036218 (2002).

(2) H. Buljan and V. Paar,
"Many hole interactions and the average lifetimes of chaotic transients that precede controlled periodic motion"
Phys. Rev. E 63, 066205 (2001).

(1) V. Paar and H. Buljan
"Bursts in the chaotic trajectory lifetimes preceding controlled periodic motion"
Phys. Rev. E 62, 4869 (2000).

Other publications:

(2) G. Bartal, O. Cohen, H. Buljan, O. Manela, J.W. Fleischer, and M. Segev,
"Brillouin zone spectroscopy of photonic lattices"
Optics and Photonics News, Special December Issue, (2005).

(1) T. Carmon, H. Buljan, M. Soljačić and M. Segev,
Optics and Photonics News, Special December Issue, (2003).

SELECTED INVITED TALKS

(1) "Partially coherent waves in nonlinear systems,"
Workshop on Mathematical Study of Multi-Scale problems,
13-14 July 2004, Rehovot, Weizmann, Israel.

(2) "Random-phase lattice solitons,"
International Simposium: Topical Problems of Nonlinear Wave Physics,
2-9 August 2005, St. Petersburg - N. Novgorod, Russia.

(3) "Incoherent matter-wave solitons,"
Minerva Workshop on Quantum Atom Optics,
Oct 30 - Nov 3, 2005, Eilat, Israel.

(4) "Partially coherent optical- and matter-waves in periodic lattices,"
Nonlinear Dynamics of Acoustic Modes in Finite Lattices: Localization, Equipartition, Transport,
5-8 December 2006, Dresden, Germany.

(5) "Partially coherent optical- and matter-waves in photonic structures/optically induced potentials,"
Coherent Nonlinear Optics of Artificial Media,
14-16 December 2006, Lisabon, Portugal.

(6) "Momentum distribution dynamics of a Tonks-Girardeau gas: Bragg reflections of a quantum many-body wave packet,"
Ruperto Carola Simposion Ultracold Quantum Gases
18-20 July 2007, Heidelberg, Germany.

(7) "Quantum many-body dynamics in a Tonks-Girardeau gas,"
Laser Pulse Shaping and Coherent Control of Molecules,
26-31 August 2007, Brijuni, Croatia.

(8) "Quantum dynamics of a Tonks-Girardeau gas,"
5th Meeting of the Croatian Physical Society
05-08 October 2007, Primošten, Croatia.

(9) ‘‘Nonequilibrium dynamics of 1D Bose gases within the Lieb-Liniger and Tonks-Girardeau models”,
38th Winter Colloquium on The Physics of Quantum Electronics
06-10 January 2008, Snowbird, Utah, USA

(10) “Nonequilibrium dynamics of 1D interacting Bose gases within the framework of exactly solvable models”, Discrete Optics and Beyond, Bad Honnef, Germany May 2008.

(11) LASER Physics, Sarajevo 2011

(12) Croatian Physical Society Meeting, Meeting Primošten 2011

(13) Space Time and Matter, Brijuni, Croatia 27.08-31.08. 2012.

(14) “Uncovering Damping Mechanisms of Plasmons in Graphene”, Progress in Electromagnetics Research Symposium (PIERS), Stockholm, Sweden, 12-15 August 2013.

(15) “Screening effects on the optical absorption in graphene”, Nanotexnology, Thessaloniki, Greece, July 7-11, 2014.

(16) "Synthetic Lorentz force in a classical atomic gases, "Brijuni conference Self organizing matter and emergence, August 2014.

(17) Frontiers in Photonics workshop, Nankai University, Tianjin, China, July 2015.

(18) 19th Symposium on Condensed Matter Physics - SFKM 2015, Belgrade, Serbia, September 2015.

(19) Croatian Physical Society Meeting, Umag, Croatia, October 2015.

(20) Synthetic Topological Quantum Matter, Beijing, August 2016

(21) MRS Spring Meeting, Phoenix, Arizona, USA, April 2017

(22) Photonic Topological Insulators, Banff, Canada, September 2017

(23) Croatian Physical Society Meeting, Baška, otok Krk, Croatia, October 2017.

Invited seminars / colloquia (not all are shown)

(1) Institute of Physics, Zagreb, Croatia, 28. 10. 2004.

(2) Institute of Theoretical Physics, Heidelberg, Germany, 08. 02. 2006.

(3) Department of Mathematics, University of Zagreb, Zagreb, Croatia, 10. 04. 2006.

(4) Ben-Gurion University of the Negev, Beer-Sheva, Israel, 03. 01. 2007.

(5) Kirchof Institute of Physics, Heidelberg, Germany, 15. 02. 2007.

(6) Friedrich-Alexander-University of Erlangen-Nuremberg, February, 2007

(7) Max-Planck-Institut für Physik komplexer Systeme, Dresden, Germany, 19. 03. 2007.

(8) Institute of Physics, Zagreb, Croatia, May 2007.

(9) Physikalisches Institut, Universität Heidelberg, Germany, 25. 07. 2007. (colloquium)

(10) Journal Club at the Kirchof Institute of Physics, Heidelberg, Germany, February, (2008).

(11) Faculty of Science, Sarajevo, Bosnia and Hercegovina, December 2010.

(12) IFF and ITF Dresden, Germany, July 2012.

(13) Institut Jozef Stefan, Slovenija, June 2013.

(14) University of Massachusetts in Boston, Boston, USA, 2014

(15) University of Rijeka, May, 2014

(16) Massachusetts Institute of Technology, September, 2014

(17) Joint ICTP/SISSA Statistical Physics seminar: "Synthetic Magnetic Fields for Atoms and Photons" (2015)

(18) Institute Ruđer Bošković, April (2017).