

# Curriculum Vitae

25 March 2024

1. **Name:** Gediminas
2. **Surname** Juzeliūnas
3. **Date of birth:** 14 July 1958

## 4. Education:

Institution	Graduation year	Degree
Vilnius A. Vienuolio secondary school	1976	School graduation diploma
Vilnius University	1981	University diploma in Physics

## 5. Scientific degrees:

- PhD. – 1986, Department of Physics, Vilnius University (VU)
- Habil. dr. – 2000, Institute of Theoretical Physics and Astronomy (ITPA)

## 6. Employment

Data (from – to)	Institution	Position
1986 – 1990	Institute of Physics, Lithuanian Acad. Sci.	Research Fellow
1990 – 1992	Institute of Theor. Physics and Astronomy (ITPA)	Senior Research Fellow
1992 – 1994	University of East Anglia, Norwich, England	Senior Research Associate
1994 – 2000	Institute of Theor. Physics and Astronomy (ITPA)	Senior Research Fellow
2008 – 2012	Dept. Theor. Physics, Vilnius Pedagogical Univ.	Professor
2008 – 2013	ITPA, Vilnius University	Deputy Director
2013 – 2018	ITPA, Vilnius University	Director
2000 – present	ITPA, Vilnius University	Principal Research Fellow
2019 – present	Department of Physics, ITPA, Vilnius University	Distinguished Professor

## 7. Academic awards and other forms of distinction

National State Prize for Science of Lithuania (2007).

Vilnius University Rector's award (2010)

Jucys Prize for Theoretical Physics of Lithuanian Academy of Sciences (2014)

True member of the Lithuanian Academy of Sciences (since 2019)



## 8. Fellowships for research abroad

DAAD Fellowship (Ulm, Germany, 1996).  
Humboldt Fellowship (Ulm, Germany, 1997-1998).  
Fulbright Fellowship (Oregon University, USA, 2000-2001).  
Royal Society Fellowships (University of East Anglia – 1991;  
St. Andrews University – 2003; York University – 2004; Strathclyde University –  
2006; Heriot-Watt University – 2007).  
Edinburgh Royal Society Fellowship (Heriot-Watt University, 2009).  
Regular visiting Fellow at the National Center for Theoretical Sciences, Hsinchu,  
Taiwan, 2016 – present.  
JILA Visiting Fellow, JILA - University of Colorado, Boulder, USA, August-  
September 2018.

## 9. Leading of Research Projects

### *A. International Projects*

Research project “Coherent control of linear and non-linear propagation of slow polaritons in atomic gases” supported by the Alexander von Humboldt Foundation for collaboration between the Institute of Theoretical Physics and Astronomy of Vilnius University and University of Kaiserslautern (2004 - 2007). Project leaders – Gediminas Juzeliūnas (VU TFAI) and Michael Fleischhauer (Kaiserslautern Technical University).  
ES FP7 STREP project NAMEQUAM “Nanodesigning of atomic and molecular quantum matter” (2010-2012). Project leader of the Lithuanian side – Gediminas Juzeliūnas.  
ES FP7 IRSES project COLIMA - Coherent manipulation of light and matter via interferences of laser-dressed states” (2011-2015). Project leader of the Lithuanian side – Gediminas Juzeliūnas.  
COST action CA16221 project “Quantum Technologies with Ultra-Cold Atoms” (AtomQTech) (2017-2021). Project Coordinator in Lithuania – Gediminas Juzeliūnas.

### *B. National Projects*

Research project „Interaction of the light carrying an orbital angular momentum with atomic gases“ supported by the Lithuanian Science and Studies Foundation (2004). Project leader – Gediminas Juzeliūnas.  
Research project “Light-induced gauge potentials in ultra-cold atoms“ supported by the Lithuanian Research Council (LRC) for the scientific collaboration between Lithuanian and French scientists (2009-2011). Project leader – Gediminas Juzeliūnas.  
Research project “Electronic, Transport and Electromagnetic Properties of Graphene Layers and Nanoribbons” supported by the LRC (2010-2011). Project leader – Gediminas Juzeliūnas.  
Research project “Engineering and control of artificial magnetic field and spin-orbit coupling for ultracold atoms” supported by the LRC for the scientific



collaboration between Lithuanian and US scientists (2012-2014). Project leader – Gediminas Juzeliūnas.

Research project “Coherent manipulation of matter by light and light by matter” supported by the LRC for the scientific collaboration between Lithuanian, Latvian and Taiwanese scientists (2012-2014). Project leader – Gediminas Juzeliūnas.

Research project “Novel optical lattices” supported by the LRC for the scientific collaboration between Lithuanian and US scientists (2015-2018). Project leader – Gediminas Juzeliūnas.

Research project “Optical control of ultracold atoms” supported by the LRC (2020-2022). Project leader – Gediminas Juzeliūnas.

Research project “Spin-orbit coupling for the generation of non-trivial quantum correlations in ultra-cold atomic systems” supported by the LRC (2021-2024).

Project leader – Gediminas Juzeliūnas.

Research project “Coherent Optical Control of Atomic Systems ” supported by the LRC for the scientific collaboration between Lithuanian, Latvian and Taiwanese scientists (2022-2024). Project leader – Gediminas Juzeliūnas.

## **10. Supervision of Postdoctoral Fellowships**

Postdoctoral Fellowship by Dr. A. Mekys “Propagation and storing of light in atomic gases” supported by the Lithuanian Research Council (LRC) and supervised by Gediminas Juzeliūnas (2008-2010).

Postdoctoral Fellowship by Dr. V. Kudriašov “Dynamics and control of slow and stationary polaritons” supported by the LRC and supervised by Gediminas Juzeliūnas (2009-2011).

Postdoctoral Fellowship by Dr. J. Ruseckas “Multicomponent slow polaritons in cold atomic gases” supported by the LRC and supervised by Gediminas Juzeliūnas (2010-2012).

Postdoctoral Fellowship by Dr. R. Juršėnas “Spin-orbit coupling in ultracold atomic gases” supported by the LRC and supervised by Gediminas Juzeliūnas (2012-2014).

ES Marie Curie Horizon 2020 programme Postdoctoral fellowship by Dr. J. Armaitis “Spin Transport in Interacting Spin-Orbit Coupled Systems” supervised by Gediminas Juzeliūnas (2016-2018).

Postdoctoral Fellowship by Dr. V. Novičenko “Topological properties of periodically driven systems” supported by the LRC and supervised by Gediminas Juzeliūnas (2017-2019).

Postdoctoral Fellowship by Dr. Hamid Reza Hamedi “Spatially inhomogeneous atom-light interaction phenomena” supported by the LRC and supervised by Gediminas Juzeliūnas (2020-2022).

Postdoctoral Fellowship by Dr. Mažena Mackoit-Sinkevičienė “Non-classical spin states in ultracold atomic gases”, supported by the LRC and advised by Gediminas Juzeliūnas (2021-2023).

## **11. Supervision of PhD Students**



Edvinas Gvozdiovas PhD studies “Quantum gases in random magnetic field” supervised by Gediminas Juzeliūnas (2022-2026).

Hamid Reza Hamedi PhD studies “Linear and Non-linear phenomena for slow light” supported by LRC and supervised by Gediminas Juzeliūnas (2013-2017).

Tomas Andrijauskas PhD studies “Artificial Magnetic Field for Cold Atoms in Optical Lattices” supervised by Gediminas Juzeliūnas (2013-2017).

## 12. Supervision of Master Students

Diploma work by Edvinas Gvozdiovas “Optical Control of Ultracold Atoms in Subwavelength Lattices” supervised by Gediminas Juzeliūnas (2022).

Diploma work by Tomas Andrijauskas “Topological Properties of Band Structure of Complex Optical Lattices” supervised by Gediminas Juzeliūnas (2013).

Diploma work by Tauvydas Jeronimas Maceina “Propagation and Refraction of Radiation in Layered Structures” supervised by Gediminas Juzeliūnas (2010)..

Diploma work by Viktor Novičenko „Influence of Artificial Magnetic Field on Cold Atoms “ supervised by Gediminas Juzeliūnas (2009).

Diploma work by Jonas Marcinkevičius „Propagation of Radiation at Interfaces with Left-handed Materials“ supervised by Gediminas Juzeliūnas (2009).

Diploma work by Tomas Sabonis „Propagation and Focussing of Radiation in Left-handed Materials“ supervised by Gediminas Juzeliūnas (2008).

Diploma work by Marius Mašalas „Absorption by Fermionic Atoms in Traps“ supervised by Gediminas Juzeliūnas (2002).

## 13. Invited, Keynote and Plenary Talks at International Conferences and Schools

1. Invited talk at the Conference „Polish-French Symposium II : Advances in the physics of ultracold matter“ (Paris, 31 May 2023 - 02 June 2023).
2. Invited talk at the Workshop „Strongly-correlated phenomena in ultracold gases: From superfluids and supersolids to ferromagnetic states of matter“ (Warsaw, 20-22 September 2023).
3. Invited talk at the International Workshop “Topology and non-equilibrium dynamics in engineered quantum systems” (Dresden, Germany, 10 – 14 October 2022).
4. Invited talk at the Conference “VIII International School and Conference on Photonics – Photonica” (Belgrade, Serbia, 23 – 27 August 2021).
5. Invited talk at the Conference “Physics of Quantum Electronics PQE-2020” (Snowbird, USA, 5 – 10 January 2020).
6. Invited talk at the AtomQT workshop “Quantum coherent effects with ultracold atoms” (Belgrade, Serbia, 29 – 30 August 2019).
7. Invited talk at the Conference “International Symposium on Quantum Computing and Quantum Optics II” (Hangzhou, China, 24 – 26 May 2019).
8. Invited talk at the Workshop “Emergent phenomena in ultracold atoms: Merging topology, interaction, and dynamics (Beijing, China, 3 – 22 June 2019).



9. Keynote talk at the Conference “SPIE Optics & Photonics” (San Diego, USA, 19 – 23 August 2018).
10. Invited talk at the Conference “International Symposium on Quantum Computing and Quantum Optics” (Hangzhou, China, 23 – 25 May 2018)
11. Invited talk at the Conference “Floquet Theory Workshop” (Kyoto, Japan, 14 – 18 April 2018).
12. Invited talk at the Conference “American Physical Society March Meeting” (Los Angeles, USA, 5 – 9 March 2018).
13. Invited talk at the Conference “Physics of Quantum Electronics PQE-2018” (Snowbird, USA, 8 – 12 January 2018).
14. Invited talk at the Conference “International Conference on Quantum & Atom Optics (ICQAO–2018)” (Patna, India, 16 – 18 December 2018).
15. Invited talk at the Conference “International Workshop on Quantum Information, Quantum Control And Quantum Devices” (Bilbao, Spain, 28 – 29 September 2017).
16. Invited talk at the Conference „ Quantum Optics IX” (Gdańsk, Poland, 17 – 23 September 2017).
17. Three invited lectures at the 57th Cracow School of Theoretical Physics „Entanglement and Dynamics” (Zakopane, Poland, 13 – 21 June 2017).
18. Invited talk at the Conference „ Quantum science approaches to strongly correlated systems: from ultracold atoms to high-energy and condensed matter physics” (Florence, Italy, 29 May – 2 June 2017).
19. Invited talk at the Conference „12<sup>th</sup> European Conference on Atoms molecules and Photons (ECAMP 12)” (Frankfurt, Germany, 5 – 9 September 2016).
20. Invited talk at the Conference „Many-body Physics in Synthetic Quantum Systems” (Stellenbosch, South Africa, 4 – 8 April 2016).
21. Invited talk at the Conference „Beyond Standard Quantum Gases” (Qin-Huang-Dao, China, 5 – 7 August 2016).
22. Invited talk at the Conference „Topological Phases in Condensed Matter and Cold Atomic Systems” (Hong Kong, 11 – 19 December 2016).
23. Invited talk at the Conference „Topological effects and synthetic gauge/magnetic fields for atoms and photons” (Zagreb, Croatia, 29 September – 1 October 2015).
24. Invited talk at the Conference „Pushing the Boundaries with Cold Atoms” (Stockholm, Sweden, 21 January - 15 February 2013).
25. Invited talk at the Conference „2012 Taiwan International Workshop on Ultracold atoms and molecules” (Sun Moon Lake, Taiwan, 18 - 20 May 2012).
26. Invited talk at the Conference „Complex Light and Optical Forces VI” (San Francisco, CA, USA, 21 – 26 January 2012).
27. Plenary talk at the Conference „Quantum Technologies Conference II: Manipulating photons, atoms, and molecules” (Krakow, Poland, 30 August – 4 September 2011).
28. Invited talk at the American Physical Society Conference „DAMOP” (Atlanta, Georgia, USA, 13 – 17 June 2011).



29. Invited talk at the Conference „Newspin2“ (College Station, TX, USA, 12 – 18 December 2011).
30. Plenary talk at the Conference „Quantum Technologies Conference: Manipulating photons, atoms, and molecules” (Toruń, Poland, 29 August – 3 September 2010).
31. Invited talk at the Conference „International Conference on Optical Orbital Angular Momentum“ (York, United Kingdom, 23 - 25 March 2010).
32. Invited talk at the Conference „The ICREA Workshop on Quantum Gauge Theories and Ultra-cold Atoms“ (Sant Benet, Spain, 1 - 4 September 2009).
33. Invited talk at the Conference „The 1st Bilateral Estonian-German Workshop on Strong Nonlinear Vibronic and Electronic Interactions in Solids“ (Tartu, Estonia, 30 April – 2 May 2008).
34. Invited talk at the Conference „Xth International Conference on Quantum Optics“ (Minsk, Belarus, 30 May – 3 June 2004).

#### **14. Invited Talks at Foreign Institutions (2010-2023):**

1. Virtual talk at Kharkiv Quantum Seminar (Kharkiv, Ukraine, December 2023).
2. Talk at the Okinawa Institute of Science and Technology (Okinawa, Japan, November, 2023).
3. Talk at the National Central University (Taoyuan, Taiwan, November, 2023).
4. Talk at the Okinawa Institute of Science and Technology (Okinawa, Japan, December, 2022).
5. Talk at the National Tsing-Hua University (Hsinchu, Taiwan, November, 2022).
6. Talk at the Institute of Physics, Polish Academy of Science (Warsaw, Poland, October 2022).
7. Virtual talk at the Institute of Physics, Polish Academy of Science (Warsaw, Poland, April 2022).
8. Talk at the Jagiellonian University (Krakow, Poland, September 2021).
9. Virtual talk at the Institute of Physics, Polish Academy of Science (Warsaw, Poland, December 2020).
10. Talk at the National Tsing-Hua University (Hsinchu, Taiwan, November 2019).
11. Talk at the Max Planck Institute for Complex Systems (Dresden, Germany, January 2019).
12. Talk at the JILA / Colorado University (Boulder, US, September 2018).
13. Talk at the Peking University (Beijing, China, May 2018).
14. Talk at the National Center for Theoretical Sciences (Hsinchu, Taiwan, April 2018).
15. Talk at the Yukawa Institute for Theoretical Physics (Kyoto, Japan, April 2018).
16. Talk at the MIT (Boston, USA, March 2018).
17. Talk at the University of Chicago (Chicago, USA, March 2018).
18. Talk at the Hamburg University (Hamburg, Germany, February 2017).



19. Talk at the National Center for Theoretical Sciences (Hsinchu, Taiwan, March 2017).
20. Talk at the Heidelberg University (Heidelberg, Germany, January 2016).
21. Talk at the Institute of Physics, Chinese Academy of Sciences (Beijing, China: May 2016).
22. Talk at the Liaoning University (Shenyang, China, May 2016).
23. Talk at the Shanxi University (Taiyuan, China, May 2016).
24. Talk at the National Tsing-Hua University (Hsinchu, Taiwan: April 2016).
25. Talk at the Trento University (Trento, Italy, July 2016).
26. Talk at the Max Planck Quantum Optics Institute (Garching, Germany, September 2016).
27. Talk at the KACST, Riyadh (Riyadh, Saudi Arabia, March 2015).
28. Talk at the National Tsing-Hua University (Hsinchu, Taiwan: March 2015).
29. Talk at the Institute of Physics, Chinese Academy of Sciences (Beijing, China: April 2015).
30. Talk at the National Institute of Science and Technology (NIST, Gaithersburg, USA, November 2015).
31. Talk at the Leiden Lorentz centre (Leiden, The Netherlands, February 2014).
32. Talk at the Institute of Physics, Chinese Academy of Sciences (Beijing, China: April 2014).
33. Talk at the Harvard University / MIT (Boston, USA, May 2014).
34. Talk at the Rice University (Houston, USA, May 2014).
35. Talk at the Institute of Physics, Chinese Academy of Sciences (Beijing, China: October 2014).
36. Talk at the Hannover University (Hannover, Germany, March 2013).
37. Talk at the Institute of Physics, Chinese Academy of Sciences (Beijing, China: April 2013).
38. Talk at the Capital Normal University (Beijing, China, April 2013).
39. Talk at the National Tsing-Hua University (Hsinchu, Taiwan: October 2013).
40. Talk at the Institute of Physics, Chinese Academy of Sciences (Beijing, China: October 2013).
41. Talk at the Max Planck Quantum Optics Institute (Garching, Germany, February 2012).
42. Talk at the Ulm University (Ulm, Germany, February 2012).
43. Talk at the National Tsing-Hua University (Hsinchu, Taiwan: May 2012).
44. Talk at the National Tsing-Hua University (Hsinchu, Taiwan: October 2012).
45. Talk at the Max Planck Institute for Complex Systems (Dresden, Germany, January 2011).
46. Talk at the National Institute of Science and Technology (NIST, Gaithersburg, USA, February 2011).
47. Talk at the Southampton University (Southampton, Great Britain, November 2011).



48. Talk at the Institute of Photonic Sciences (Barcelona, Spain, January 2010).
49. Talk at the Liudvig Maximillian University (Munich, Germany, May 2010).
50. Talk at the Kaiserslautern Technical University (Kaiserslautern, Germany, May 2010).
51. Talk at the South Paris University (Orsay, France, November 2010).
52. Talk at the University of California Santa Barbara (Santa Barbara, USA, November 2010).
53. Talk at the École Normale Supérieure (Lyon, France, November 2010).

### 15A. Organisation of International Conferences and Workshops

Chairman of the International Conference: Humboldt Kolleg “Synthetic quantum matter” (Vilnius, 2-6 July 2023); <http://www.hk23.ff.vu.lt>

Chairman of the 2nd TLL Workshop on Coherent Optical Control of Atomic Systems (Vilnius, 6-8 July 2023); [www.tll23.ff.vu.lt](http://www.tll23.ff.vu.lt).

Chairman of the Organizing Committee of the 14<sup>th</sup> European Conference on Atoms Molecules and Photons ECAMP14 (Vilnius, July 24-29, 2022, Lithuania); [www.ecamp14.org](http://www.ecamp14.org)

Member of the Programme committee of the International Conference „Advanced Technologies and Materials“ (Palanga, Lithuania, 2006-2020).

Scientific Advisor of the KITP Program “Revealing Emergent Many-Body Phenomena with Spatiotemporal Control” (KITP, UCSB, Santa Barbara, June-August 2020) (postponed due to the coronavirus pandemic).

Chairman of the International Conference: Humboldt Kolleg “Controlling quantum matter: From ultracold atoms to solids” (Vilnius, 2018); <http://www.hk18.ff.vu.lt>

Coordinator of the International Conference “Quantum Simulations and Numerical Studies in Many-Body Physics” (National Center for Theoretical Sciences of Taiwan, Hsinchu, Taiwan, 2016).

Member of the Organising committee of the International Workshop “Spin-orbit coupled quantum gases” (Kavli Institute for Theoretical Physics China, Beijing, 2016).

Member of the Organising committee of the International Conference “Synthetic Topological Quantum Matter” (Kavli Institute for Theoretical Physics China, Beijing, 2016).

Member of the Organising and Programme committees of the International Conference „Science & Society in Modern Europe“ (Vilnius, Lithuania 2010).

Chairman of the International Humboldt Workshop „Cold Atomic Gases and Interaction of Light with Matter“ (Vilnius, Lithuania, 2006).

### 15B. Organisation of National Conferences

Chairman of the Programme and Organising committees of the 42nd Lithuanian Physics Conference (Vilnius, Lithuania, 2017).





## 16. Expert Activities

### a) Membership on editorial / advisory boards of peer-reviewed scientific journals:

- Guest editor of Topical issue of European Journal of Physics D (EPJ D):  
Topological Ultracold Atoms and Photonic Systems (2020):  
<https://epjd.epj.org/component/toc/?task=topic&id=1230>

### b) Membership in science organisations

- Board member of Division of Atomic, Molecular and Optical Physics of European Physical Society (2019-2022);
- Board member of Lithuanian Physical Society (2022 - present)

### c) Participation in the Defence Committees

1. Member of the PhD Defence Committee by Darius Abramavičius (2002, Institute of Physics, supervisor – L. Valkūnas).
2. Member of the PhD Defence Committee by Miglius Alaburda (2002, Institute of Theoretical Physics and Astronomy, supervisor – B. Kaulakys).
3. Member of the PhD Defence Committee by Viktoras Pyragas (2005, Institute of Semiconductor Physics, supervisor – K. Pyragas).
4. Member of the Habilitation Committee by Vygintas Gontis (2007, Institute of Theoretical Physics and Astronomy).
5. Member of the Habilitation Committee by Virgilijus Vaičaitis (2008 m., VU).
6. Member of the Habilitation Committee by Egidijus Norvaišas (2008 m., Institute of Theoretical Physics and Astronomy).
7. Member of the PhD Defence Committee by Vytautas Petrauskas (2008, Institute of Semiconductor Physics, supervisor – E. Tornau).
8. President of the PhD Defence Committee by Anna Kubasiak (2011, Institute of Photonic Sciences – ICFO, Barcelona, Spain, supervisor – M. Lewenstein).
9. Member of the PhD Defence Committee by Vytautas Jukna (2012, VU, supervisor – G. Valiulis).
10. Member of the PhD Defence Committee by Donatas Majus (2014, VU, supervisor – A. Dubietis).
11. Member of the PhD Defence Committee by Justinas Galinis (2014, VU, supervisor – G. Tamošauskas).
12. Chairman of the PhD Defence Committee by Viktor Novičenko (2014, Centre for Physical Sciences and Technology, supervisor – K. Pyragas).
13. Member of the PhD Defence Committee by Šarūnas Masys (2014 m., VU, supervisor – V. Jonauskas).
14. President of the PhD Defence Committee by Alejandro Zamora (2014, Institute of Photonic Sciences – ICFO, Barcelona, Spain, supervisor – M. Lewenstein).
15. Member of the PhD Defence Committee by Andris Bērziņš (2016, University of Latvia, Riga, Latvia, supervisor – M. Auziņš)
16. Chairman of the PhD Defence Committee by Valdas Juknevičius (2017, VU, supervisor – B. Kaulakys).



17. External examiner of the PhD project by Jose Carlos Pelayo (2021, Okinawa Institute of Science and Technology, Japan, supervisor – Th. Busch).
18. Chairman of the PhD Defence Committee by Darius Urbonas (2022, FTMC, Vilnius, supervisor – R. Petruškevičius).

#### **d) Evaluation of Research Proposals and Nominations**

1. Refereeing of the ES FP7 projects.
2. Evaluation of a number of nominations for the Lithuanian State Prize.
3. Evaluation of research proposal submitted to the State funding agencies of the Netherlands and Croatia.
4. Evaluation of research proposal for Central Academic Advisory Committee of Academia Sinica in Taiwan.

**e) Refereeing of the manuscript submitted to the ISI journals** – Science, Nature Physics, Nature Communications, Science Advances, Physical Review Letters, Reports on Progress in Physics, Nature Reviews Physics, Advanced Quantum Technologies, Physical Review (parts A ir B), Europhysics Letters, Journal of Physics (parts A, B ir D), Physica D, Annals of Physics, Physics Letters A, New Journal of Physics, Journal of Optical Society of America B, Journal of Optics, European Physical Journal D, Journal of Chemical Physics, npj Quantum Information, SciPost Physics, Optics Communications, Natural Science Review, Lithuanian Journal of Physics.

#### **17. Webpage**

Personal page: <http://web.vu.lt/ff/g.juzeliunas/>

Group page: <http://www.itpa.lt/quantumgroup/>

#### **18. Languages:**

Lithuanian, English, French, Polish, German, Russian

#### **19. Publications and their citations**

(According to Web of Science)

Number of ISI publications: 132

Total number citations: 6938 (without self-citations – 6407).

Average citations per item 52.56

Citation h-index: 39.

*Nine most cited publications:*

1. J. Dalibard, F. Gerbier, G. Juzeliūnas and P. Öhberg, Colloquium: Artificial gauge potentials for neutral atoms, Rev. Mod. Phys. **83**,1523 (2011); **1516** citations.
2. N. Goldman, G. Juzeliūnas, P. Öhberg and I. B. Spielman, Light-induced gauge fields for ultracold atoms, Rep. Prog. Phys. **77**,126401 (2014); **781** citations.
3. J. Ruseckas, G. Juzeliūnas, P. Öhberg, and M. Fleischhauer, Non-Abelian Gauge Potentials for Ultracold Atoms with Degenerate Dark States, Phys. Rev. Lett. **95**, 010404 (2005); **437** citations.



4. A. Celi, P. Massignan, J. Ruseckas, N. Goldman, I. B. Spielman, G. Juzeliūnas, and M. Lewenstein, Synthetic Gauge Fields in Synthetic Dimensions, *Phys. Rev. Lett.* **112**, 043001 (2014); **424** citations.
5. D. L. Campbell, G. Juzeliūnas and I. B. Spielman, Realistic Rashba and Dresselhaus spin-orbit coupling for neutral atoms, *Phys. Rev. A* **84**, 025602 (2011); **23** citations.
6. B. M. Anderson, G. Juzeliūnas, V. M. Galitski, and I. B. Spielman, Synthetic 3D Spin-Orbit Coupling, *Phys. Rev. Lett.* **108**, 235301 (2012); **166** citations.
7. G. Juzeliūnas and P. Öhberg, Slow light in Degenerate Fermi gases, *Phys. Rev. Lett.* **93**, 033602 (2004); **160** citations.
8. B. M. Anderson, I. B. Spielman, and G. Juzeliūnas, Magnetically Generated Spin-Orbit Coupling for Ultracold Atoms, *Phys. Rev. Lett.* **111**, 125301 (2013); **156** citations.
9. G. Juzeliūnas, J. Ruseckas, and J. Dalibard, Generalized Rashba-Dresselhaus spin-orbit coupling for cold atoms, *Phys. Rev. A* **81**, 053403 (2010); **151** citations.

## List of all scientific publications by Gediminas Juzeliūnas

### a) Review articles in book chapters

1. G. Juzeliūnas and D. L. Andrews, *Unified theory of radiative and radiationless energy transfer*. In: Resonance Energy Transfer, ed. D. L. Andrews and A. A. Demidov (Wiley, New York, 1999), pp. 65-107.
2. G. Juzeliūnas and D. L. Andrews, *Quantum Electrodynamics of Resonance Energy Transfer*. In: Advances in Chemical Physics, ed. I. Prigogine and S. A. Rice (Wiley, New York, 2000), v. 112, pp. 357-410.
3. G. Juzeliūnas and P. Öhberg, *Optical Manipulation of Ultracold Atoms*, In: Structured Light and its Applications, ed. D.L. Andrews (Elsevier, Amsterdam, 2008), pp. 295-333.
4. G. Juzeliūnas and P. Öhberg, *Optical Control of Ultracold Atoms and Artificial Electromagnetism*, In: *Photonics: Scientific Foundations, Technology and Applications, Volume II*, ed. D.L. Andrews (Wiley, Hoboken, New Jersey, 2015), pp. 371-399.
5. M. Fleischhauer and G. Juzeliūnas, *Slow, Stored and Stationary Light*, In: Optics in Our Time, ed. M.D. Al-Amri et al. (Springer, Heidelberg, 2016), pp. 359-383.

### b) Review articles in ISI journals

6. J. Dalibard, F. Gerbier, G. Juzeliūnas and P. Öhberg, *Colloquium: Artificial gauge potentials for neutral atoms*, *Rev. Mod. Phys.* **83**, 1523 (2011).
7. N. Goldman, G. Juzeliūnas, P. Öhberg and I. B. Spielman, *Light-induced gauge fields for ultracold atoms*, *Rep. Prog. Phys.* **77**, 126401 (2014).
8. V. Galitski, G. Juzeliūnas and I. B. Spielman, *Artificial gauge fields with ultracold atoms*, *Physics Today* **72**(1), 38 (2019).

### c) Articles in ISI journals



9. G. Juzeliūnas. *Exciton absorption spectra of optically excited linear molecular aggregates*, Z. Phys. D **8**, pp.379-384 (1988).
10. G. Juzeliūnas. *Fluorescence depolarisation due to exciton annihilation in molecular domains*, J. Luminescence, **46**, pp.201-207 (1990).
11. G. Juzeliūnas. *Time-dependent fluorescence depolarisation arising from exciton annihilation in confined molecular domains*, Chem. Phys., **151**, pp.169-179 (1991).
12. D. L. Andrews and G. Juzeliūnas. *The range-dependence of fluorescence anisotropy in molecular energy transfer*, J. Chem. Phys., **95**, pp.5513-5518 (1991).
13. D. L. Andrews and G. Juzeliūnas. *Intermolecular energy transfer: retardation effects* J. Chem. Phys., **96**, pp.6606-6612 (1992).
14. D. L. Andrews and G. Juzeliūnas. *A QED theory of intermolecular energy transfer in dielectric media*, J. Luminescence, **60&61**, pp.834-837(1994).
15. G. Juzeliūnas and D. L. Andrews. *Quantum electrodynamics of resonance energy transfer in condensed matter*, Phys. Rev. B, **49**, pp.8751-8763 (1994).
16. G. Juzeliūnas and D. L. Andrews. *Quantum electrodynamics of resonance energy transfer in condensed matter. II. Dynamical Aspects*, Phys. Rev. B, **50**, pp.13371-13378 (1994).
17. G. Juzeliūnas and D. L. Andrews. *Quantum electrodynamics of bimolecular multiphoton processes in the condensed phase*, Chem. Phys., **200**, pp.3-10 (1995).
18. G. Juzeliūnas. *Molecule-Radiation and Molecule-Molecule Processes in Condensed Media: A Microscopic QED Theory*, Chem. Phys. **198**, pp.145-158 (1995).
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