Nevill Gonzalez Szwacki

ADDRESS:
Division of Condensed Matter Structure
Faculty of Physics
University of Warsaw
ul. Pasteura 5
PL-02-093 Warszawa, POLAND

Tel.: +48-22-5532797
E-mail: gonz@fuw.edu.pl
WWW: www.tsunano.org

LANGUAGES SPOKEN: English, Polish (native), Spanish (native)

EMPLOYMENT

- *2020-present* – **Assistant Professor**, Institute of Experimental Physics, Faculty of Physics, University of Warsaw
- *2010-2019* – **Assistant Professor**, Institute of Theoretical Physics, Faculty of Physics, University of Warsaw
- *2004-2009* – **Robert A. Welch Postdoctoral Fellow**
  - Dept. of Physics, Texas Southern University, Houston, Texas (2008-2009)
  - Dept. of Physics, Texas Tech University, Lubbock, Texas (2006-2008)
  - Dept. of Mechanical Engineering & Material Science, Rice University, Houston, Texas (2004-2006)
- *2003-2006* – **Assistant Professor**, Institute of Physics, Polish Academy of Sciences, Warsaw

EDUCATION

- 2019 – **Habilitation**, Faculty of Physics, University of Warsaw, Dissertation title: Investigation of the influence of transition metal impurities on the properties of classical semiconductors by using first principles calculations
- *1998-2003* – **Ph.D.**, Institute of Physics, Polish Academy of Sciences, Warsaw. Graduation Date: June 2003. Dissertation title: Structural, electronic and optical properties of $GaAs_{1-x}N_x$ and $Ga_{1-x}B_xAs$ alloys: calculations from first principles
- *1992-1998* – **M.S.**, Institute of Theoretical Physics, Faculty of Physics, University of Warsaw. Graduation Date: November 1998. Dissertation title: Three-dimensional tight-binding model accounting for the coupling between magnetic layers in EuTe/PbTe superlattices

RESEARCH INTEREST

- diluted magnetic semiconductors, spintronics
- impurities and native defects in semiconductors
- first-principles modeling of materials at the nanoscale

RESEARCH SUPPORT

- 06.22 – 02.27: **PRELUDIUM BIS 3, National Science Centre (Poland)**, **PI**, *Intrinsic and induced topological properties of two-dimensional boron and boron-related compounds*, 453 608 PLN
- 07.17-07.21: **OPUS 12, National Science Centre (Poland)**, **PI**, **"***Predicting the structure of boron and boron-related nanowires by using first-principles based evolutionary search algorithms*", 671 580 PLN
- 09.14-03.18: **OPUS 6, National Science Centre (Poland)**, **PI**, "*The structure and properties of two-dimensional boron and boron-related compounds*", 542 880 PLN

ACADEMIC AWARDS

- 08.11.22: Award of the Rector of the University of Warsaw (individual, third degree) for scientific achievements

RESEARCH ACHIEVEMENTS AND HIGHLIGHTS

- citations: **1612**, *h*-index: **18** (based on Google Scholar; as of: 13.11.2025)
- identification of a new family of inorganic fullerenes. The cages are made up entirely of boron atoms and one of them, B_{80}, is known in scientific news as the "**boron buckyball**"
- Phys. Rev. Lett. 98, 166804 (2007) was selected by the editors as the "Editors' Suggestion;" was selected to appear in the Virtual Journal of Nanoscale Science & Technology; attracted the attention of several online news media (Science Daily, Nanotechnology Now, PhysOrg.com)
- Phys. Rev. B 75, 035406 (2007) was selected to appear in the Virtual Journal of Nanoscale Science & Technology

PUBLICATIONS

Books and Book Chapters:

1. N. Gonzalez Szwacki and I. Matsuda, "*A historical review of theoretical boron allotropes in various dimensions*", in 2D Boron: Boraphene, Borophene, Boronene, edited by I. Matsuda and K. Wu (Springer Nature, Switzerland, 2021).
2. N. Gonzalez Szwacki and T. Szwacka, "*Basic Elements of Crystallography*" (Pan Stanford Publishing, **2nd edition**, 2016).
3. N. Gonzalez Szwacki and T. Szwacka, "*Basic Elements of Crystallography*" (Pan Stanford Publishing, **1st edition**, 2010).
4. Y. Lin, N. Gonzalez Szwacki, and B. I. Yakobson, "*Quasi-one-dimensional silicon nanostructures*", in Nanosilicon, edited by V. Kumar (Elsevier, Amsterdam, 2007).

Papers in Refereed Journals and Conference Papers:

1. N. Gonzalez Szwacki, *Coordination-driven design principles for boron fullerenes and borophenes: a predictive framework linking theory and experiment*, **2D Mater. 12**, 045024 (2025).
2. S. Rakshit, F. Sun, N. Gonzalez Szwacki, and B. I. Yakobson, *α-Borophene Nanoribbons: Edge-Dependent Metallic and Magnetic Properties for Low-Dimensional Nanoelectronics*, **Molecules 30**, 4177 (2025).

3. P. Mishra and N. Gonzalez Szwacki, *Raman and Infrared Signatures of Layered Boron Nitride Polytypes: A First-Principles Study*, **Nanomaterials 15**, 1567 (2025).
4. N. Gonzalez Szwacki, P. Fabrykiewicz, I. Sosnowska, F. Fauth, E. Suard, and R. Przeniosło, *"Reply to 'Comment on "Orthorhombic Symmetry and Anisotropic Properties of Rutile TiO_2"'",* **J. Phys. Chem. C 129**, 13678 (2025).
5. N. Gonzalez Szwacki, *"Development of Boron-Based Materials",* **Materials 18**, 2247 (2025).
6. N. Nawaz, S. Perveen, K. Ramalingam, K. Bieńkowski, P. Wróbel, M. Pisarek, S. Prabhakaran, N. Gonzalez Szwacki, S. Pitchaimuthu, and R. Solarska, *"Insights of $Cu_2O/Zn_5(OH)_8Cl_2$ photocathode architecture for an efficient photoelectrochemical CO_2 reduction to multi-carbon products",* **Chem. Eng. J. 475**, 162272 (2025).
7. D. Sztenkiel, K. Gas, N. Gonzalez Szwacki, M. Foltyn, C. Śliwa, T. Wojciechowski, J. Z. Domagala, D. Hommel, M. Sawicki, and T. Dietl, *"Electric-field manipulation of magnetization in an insulating dilute ferromagnet through piezoelectromagnetic coupling",* **Commun. Mater. 6**, 11 (2025).
8. S. Perveen and N. Gonzalez Szwacki, *"Structural, Electronic, and Magnetic Properties of Neutral Borometallic Molecular Wheel Clusters",* **Materials 18**, 459 (2025).
9. S. Rakshit and N. Gonzalez Szwacki, *"Exploring the structure and properties of α-sheet based bilayer borophenes",* **Sci. Rep. 15**, 82972 (2025).
10. I. M. Arias-Camacho and N. Gonzalez Szwacki, *"Borophene sheets as potential candidates for the detection and removal of harmful gas molecules",* **Solid State Commun. 389**, 115905 (2025).
11. I. M. Arias-Camacho and N. Gonzalez Szwacki, *"Exposure of MBenes to environmentally hazardous molecules",* **Surf. Interfaces 45**, 105665 (2025).
12. S. Obrębowski, K. Ćwik, S. Srivatsa, T. Uhl, J. Jagielski, A. Wolska, M. Klepka, Z. Khosravizadeh, R. Jakieła, M. Trzyna-Sowa, T. Wojciechowski, N. Gonzalez Szwacki, W. Marynowski, J. Lewiński, R. Zybała, and M. A. Borysiewicz, *"Ion implanted MXene electrodes for selective VOC sensors",* **Appl. Mater. Today 34**, 102343 (2024).
13. P. Fabrykiewicz, R. Przeniosło, N. Gonzalez Szwacki, I. Sosnowska, E. Suard, and F. Fauth, *"Orthorhombic Symmetry and Anisotropic Properties of Rutile TiO_2"*, **J. Phys. Chem. C 127**, 19845 (2023).
14. I. M. Arias-Camacho and N. Gonzalez Szwacki, "*Exploring the Structural, Electronic, Magnetic, and Transport Properties of 2D Cr, Fe, and Zr Monoborides*", **Materials 16**, 5104 (2023).
15. T. Tarkowski and N. Gonzalez Szwacki, "*The structure of thin boron nanowires predicted using evolutionary computations*", **Solid State Sci. 142**, 107241 (2023).
16. T. Tarkowski and N. Gonzalez Szwacki, *"Boron Nanotube Structure Explored by Evolutionary Computations*", **Crystals 13**, 19 (2023).
17. T. Tarkowski, N. Gonzalez Szwacki, and M. Marchwiany, "*Structure of porous two-dimensional boron crystals*", **Phys. Rev. B 104**, 195423 (2021).
18. P. Fabrykiewicz, R. Przeniosło, N. Gonzalez Szwacki, I. Sosnowska, E. Suard, and F. Fauth, "*Orthorhombic symmetry and anisotropic properties of β-PbO_2*", **Phys. Rev. B 103**, 064109 (2021).
19. M. Gryglas-Borysiewicz, A. Kwiatkowski, P. Juszyński, Z. Ogorzałek, K. Puźniak, M. Tokarczyk, G. Kowalski, M. Baj, D. Wasik, N. Gonzalez Szwacki, J. Przybytek, J. Sadowski, M. Sawicki, P. Dziawa, and J. Z. Domagala, "*Hydrostatic pressure influence on T_C in (Ga,Mn)As*", **Phys. Rev. B 101**, 054413 (2020).

20. A. Kaleta, S. Kret, K. Gas, B. Kurowska, S. B. Kryvyi, B. Rutkowski, N. Gonzalez Szwacki, M. Sawicki, and J. Sadowski, "*Enhanced Ferromagnetism in Cylindrically Confined MnAs Nanocrystals Embedded in Wurtzite GaAs Nanowire Shells*", **Nano Lett. 19**, 7324 (2019).
21. I. A. Kowalik, N. Gonzalez Szwacki, M. A. Niño, F. J. Luque, and D. Arvanitis, "*Stable antiferromagnetic nanocrystals for room temperature applications: the case of iron nitride*", **J. Mater. Chem. C 7**, 9474 (2019).
22. M. Birowska, J. Urban, M. Baranowski, D. K. Maude, P. Płochocka, and N. Gonzalez Szwacki, "*The impact of hexagonal boron nitride encapsulation on the structural and vibrational properties of few layer black phosphorus*", **Nanotechnology 30**, 195201 (2019).
23. D. Kysylychyn, J. Suffczyński, T. Woźniak, N. Gonzalez Szwacki, and A. Bonanni, "*Resonant excitation of infrared emission in GaN:(Mn,Mg)*", **Phys. Rev. B 97**, 245311 (2018).
24. T. Tarkowski, J. A. Majewski, and N. Gonzalez Szwacki, "*Energy decomposition analysis of neutral and negatively charged borophenes*", **FlatChem 7**, 42 (2018).
25. N. Gonzalez Szwacki, "*Structural and electronic properties of silicon carbide polytypes as predicted by exact exchange calculations*", **Comput. Condens. Matter 13**, 55 (2017).
26. N. Gonzalez Szwacki, "*The structure and hardness of the highest boride of tungsten, a borophene-based compound*", **Sci. Rep. 7**, 4082 (2017).
27. N. Gonzalez Szwacki, "*Formation of Mn-Si_n complexes in GaN: A first principles investigation*", **Solid State Commun. 259**, 16 (2017).
28. N. Gonzalez Szwacki and J. A. Majewski, "*Ab initio studies of $Co_2FeAl_{1-x}Si_x$ Heusler alloys*", **J. Magn. Magn. Mater. 409**, 62 (2016).
29. N. Gonzalez Szwacki, T. Tarkowski, and J. A. Majewski, "*Structure and Energetics of Fragments of the Planar alpha and beta Boron Sheets*", **Acta Phys. Polon. A 129**, A148 (2016).
30. M. Rovezzi, W. Schlögelhofer, T. Devillers, N. Gonzalez Szwacki, T. Li, R. Adhikari, P. Glatzel, and A. Bonanni, "*Incorporation of Mn in $Al_xGa_{1-x}N$ probed by x-ray absorption and emission spectroscopy, high-resolution microscopy, x-ray diffraction, and first-principles calculations*", **Phys. Rev. B 92**, 115308 (2015).
31. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*(Ga,Mn)As under pressure: A first-principles investigation*", **Phys. Rev. B 91**, 184409 (2015).
32. N. Gonzalez Szwacki, "*2D B_xC_{1-x} Layers as Predicted by the Cluster-Expansion Approach*", **Acta Phys. Polon. A 126**, 1215 (2014).
33. T. Devillers, M. Rovezzi, N. Gonzalez Szwacki, S. Dobkowska, W. Stefanowicz, D. Sztenkiel, A. Grois, J. Suffczyński, A. Navarro-Quezada, B. Faina, T. Li, P. Glatzel, F. d'Acapito, R. Jakieła, M. Sawicki, J. A. Majewski, T. Dietl, and A. Bonanni, "*Manipulating Mn-Mg_k cation complexes to control the charge- and spin-state of Mn in GaN*", **Sci. Rep. 2**, 722 (2012).
34. N. Gonzalez Szwacki and C. J. Tymczak, "*$B_{12}H_n$ and $B_{12}F_n$: Planar vs Icosahedral Structures*", **Nanoscale Res. Lett. 7**, 236 (2012).
35. Navarro-Quezada, N. Gonzalez Szwacki, W. Stefanowicz, Tian Li, A. Grois, T. Devillers, M. Rovezzi, R. Jakieła, B. Faina, J. A. Majewski, M. Sawicki, T. Dietl, and A. Baonanni, "*Fe-Mg interplay and the effect of deposition mode in (Ga,Fe)N doped with Mg*", **Phys. Rev. B 84**, 155321 (2011).
36. N. Gonzalez Szwacki and J. A. Majewski, "*Quantum Monte Carlo vs. Density Functional Methods for the Prediction of Relative Energies of Small Si-C Clusters*", **Acta Phys. Polon. A 120**, 964 (2011).

37. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Aggregation and magnetism of Cr, Mn, and Fe cations in GaN*", **Phys. Rev. B 83**, 184417 (2011).
38. N. Gonzalez Szwacki and C. J. Tymczak, "*The symmetry of the boron buckyball and a related boron nanotube*", **Chem. Phys. Lett. 494**, 80 (2010).
39. N. Gonzalez Szwacki, V. Weber, and C. J. Tymczak, "*Aromatic Borozene*", **Nanoscale Res. Lett. 4**, 1085 (2009).
40. N. Gonzalez Szwacki, M. Sanati, and S. K. Estreicher, "*Two FeH pairs in n-type Si and their implications: A theoretical study*", **Phys. Rev. B 78**, 113202 (2008).
41. S. K. Estreicher, M. Sanati, and N. Gonzalez Szwacki, "*Iron in silicon: Interactions with radiation defects, carbon, and oxygen*", **Phys. Rev. B 77**, 125214 (2008).
42. N. Gonzalez Szwacki, "*Boron Fullerenes: A First-Principles Study*", **Nanoscale Res. Lett. 3**, 49 (2008).
43. S. K. Estreicher, M. Sanati, and N. Gonzalez Szwacki, "*Fundamental Interactions of Fe in silicon: First-Principles Theory*", **Solid State Phenomena 131-133**, 233 (2008).
44. N. Gonzalez Szwacki, A. Sadrzadeh, and B. I. Yakobson, "*Erratum: B80 Fullerene: An Ab Initio Prediction of Geometry, Stability, and Electronic Structure [Phys. Rev. Lett. 98, 166804 (2007)]*", **Phys. Rev. Lett. 100**, 159901(E) (2008).
45. N. Gonzalez Szwacki and S. K. Estreicher, "*First-principles investigations of Fe-H interactions in silicon*", **Physica B 401-402**, 171 (2007).
46. M. Sanati, N. Gonzalez Szwacki, and S. K. Estreicher, "*Interstitial Fe in Si: Interactions with hydrogen and shallow dopants*", **Phys. Rev. B 76**, 125204, (2007).
47. N. Gonzalez Szwacki, A. Sadrzadeh, and B. I. Yakobson, "B_{80} *Fullerene: An Ab Initio Prediction of Geometry, Stability, and Electronic Structure*", **Phys. Rev. Lett. 98**, 166804 (2007).
48. N. Gonzalez Szwacki and B. I. Yakobson, "*Energy decomposition analysis of metal silicide nanowires from first principles*", **Phys. Rev. B 75**, 035406 (2007).
49. P. Bogusławski, N. Gonzalez Szwacki, and J. Bernholc, "*Interfacial segregation and electrodiffusion of dopants in AlN/GaN superlattices*", **Phys. Rev. Lett. 96**, 185501 (2006).
50. P. Djemia, Y. Roussigné, A. Stashkevich, W. Szuszkiewicz, N. Gonzalez Szwacki, E. Dynowska, E. Janik, B. J. Kowalski, G. Karczewski, P. Bogusławski, M. Jouanne, and J. F. Morhange, "*Elastic properties of zinc blende MnTe*", **Acta Phys. Polon. A 106**, 239 (2004).
51. N. Gonzalez Szwacki, E. Przeździecka, E. Dynowska, P. Bogusławski, and J. Kossut, "*Structural properties of MnTe, ZnTe, and ZnMnTe*", **Acta Phys. Polon. A 106**, 233 (2004).
52. N. E. Christensen, I. Gorczyca, A. Svane, N. Gonzalez Szwacki, and P. Bogusławski, "*Theoretical Studies of Semiconductors, with and without Defects, under Pressure*", **Phys. Stat. Sol. (b) 235**, 374 (2003).
53. N. Gonzalez Szwacki, P. Bogusławski, I. Gorczyca, N. E. Christensen, and A. Svane, "*Electronic structure and optical properties of* $GaAs_{1-x}N_x$ *and* $Ga_{1-x}B_xAs$ *alloys*", **Acta Phys. Polon. A 102**, 633 (2002).
54. N. Gonzalez Szwacki and P. Bogusławski, "*GaAs:N vs GaAs:B: Symmetry-induced effects*", **Phys. Rev. B 64**, R161201 (2001).

PRESENTATIONS AT CONFERENCES AND SEMINARS

1. N. Gonzalez Szwacki, *"The Boron Buckyball—A Milestone in Fullerene Chemistry and Nanomaterials Science"*, 10th European Conferences on Boron Chemistry (EUROBORON), Łódź, Poland, July 6-10, 2025.

2. N. Gonzalez Szwacki, *"Boron Fullerenes: A New Class of Carbon-Free Hollow Nanostructures"*, Graphene 2025 – the 15th European Conference & Exhibition on Graphene and 2D Materials, San Sebastian, Spain, June 25-28, 2025.
3. N. Gonzalez Szwacki, *"Boron fullerenes and beyond: unveiling new dimensions of boron nanostructures"*, 53rd "Jaszowiec 2025" International School and Conference on the Physics of Semiconductors, Szczyrk, Poland, June 7-13, 2025.
4. N. Gonzalez Szwacki, *"Crystal structure and properties of thin 1D boron structures"*, 52nd "Jaszowiec 2024" International School and Conference on the Physics of Semiconductors, Szczyrk, Poland, June 15-21, 2024. (poster)
5. N. Gonzalez Szwacki, *"Struktura krystaliczna i właściwości cienkich nanodrutów borowych*", VIII Ogólnopolskie Seminarium "Postępy w chemii boru" Radziejowice, 7-9 czerwca, 2024. (invited talk)
6. N. Gonzalez Szwacki, *"Breakthroughs in the discovery of new forms of boron"*, NOMATEN Workshop: Advanced materials for nuclear and other applications under extreme conditions, Otwock, Poland, August 8-9, 2023. (invited talk)
7. N. Gonzalez Szwacki and T. Tarkowski, "*Crystal structure prediction of thin 1D boron structures using evolutionary computations*", 21st International Symposium on Boron, Borides and Related Materials (ISBB 2022), Paris, France, September 5-9, 2022.
8. N. Gonzalez Szwacki, "*Borophene, a new wonder 2D material*", 6th Polish Conference Graphene and other 2D materials, Wrocław, Poland, September 13-15, 2021. (invited talk)
9. N. Gonzalez Szwacki, T. Tarkowski, and M. Marchwiany, "*The structure of sparse 2D boron sheets*", 20th International Symposium on Boron, Borides and Related Materials (ISBB 2019), Niigata, Japan, September 22-27, 2019. (invited talk)
10. N. Gonzalez Szwacki, T. Tarkowski, and M. Marchwiany, "*Borophene, a polymorphic 2D material*", 48th International School & Conference on the Physics of Semiconductors "Jaszowiec 2019", Szczyrk, Poland, June 8-14, 2019. (poster)
11. T. Tarkowski and N. Gonzalez Szwacki, "*Borofen rywalem dla grafenu*", IV Ogólnopolska Konferencja Zaawansowane Materiały i Nanotechnologia, Warsaw, Poland, May 18-19, 2019.
12. N. Gonzalez Szwacki, "*Structure and properties of 2D borocarbonitrides as predicted by first-principles calculations*", Materials Science & Technology 2018, Columbus, USA, October 14–18, 2018. (invited talk)
13. T. Woźniak, A. Siklitskaya, M. Birowska, and N. Gonzalez Szwacki, "*Stability and properties of nitrogen-rich carbon nitride 1D nanostructures*", European Materials Research Society Fall Meeting, (E-MRS), Warszawa, Poland, September 17-20, 2018. (poster)
14. N. Gonzalez Szwacki, I. A. Kowalik, M. A. Niño, F. J. Luque, and D. Arvanitis, "*Room temperature antiferromagnetism in FeN and Fe_2N nanocrystals on GaN*", European Materials Research Society Fall Meeting, (E-MRS), Warszawa, Poland, September 17-20, 2018.
15. N. Gonzalez Szwacki, "*Boron, the most multi-structure material ever: a first principles study*", The 4th EMN Meeting on Computation and Theory, San Sebastian, Spain, September 3-7, 2018. (invited talk)
16. N. Gonzalez Szwacki, "*Theoretical studies using DFT-based methods of one-, two-, and three-dimensional systems*", XII Symposium of the Institute of Theoretical Physics, Faculty of Physics, University of Warsaw, Poland, December 8-9, 2017.
17. N. Gonzalez Szwacki, "*Bor – najbardziej wielopostaciowym materiałem dotychczas poznanym*", 44 Zjazd Fizyków Polskich, Politechnika Wrocławska, Wrocław, Polska, 10-15 września 2017. (poster)
18. N. Gonzalez Szwacki, "*Borophene in its multiple forms: structure, properties, and possible applications*", Materials Science & Technology 2017, Pitchburg, Pennsylvania, USA, October 8-

12, 2017. (invited talk)

19. T. Tarkowski, A. Dudek, and N. Gonzalez Szwacki, "*Will borophene outperform graphene?*", 9th International conference on Advanced Nanomaterials, University of Aveiro, Portugal, July 19-21, 2017.
20. T. Tarkowski, J. A. Majewski, and N. Gonzalez Szwacki "*Energy Decomposition Analysis of 2D Boron Crystals from First Principles*", Materials Science & Technology 2016, Salt Lake City, Utah, USA, October 23-27, 2016.
21. N. Gonzalez Szwacki "*Effects of Static Charging on the Stability and Properties of Layered Boron Crystals*", Materials Science & Technology 2015, Columbus, USA, October 4-8, 2015.
22. N. Gonzalez Szwacki, T. Tarkowski and J. A. Majewski, "*2D Boron Allotropes: Structure, Properties, and Computational Hints Towards an Experimental Realization on a Large Scale*", 44th "Jaszowiec" International School and Conference on the Physics of Semiconductors, Wisła, Poland, June 20th - 25th, 2015. (poster)
23. N. Gonzalez Szwacki and J. A. Majewski, "*Structural, Electronic, and Magnetic Properties of the Two-Dimensional Graphene-BN System Studied by First-Principles Simulations*", 44th "Jaszowiec" International School and Conference on the Physics of Semiconductors, Wisła, Poland, June 20th - 25th, 2015. (poster)
24. N. Gonzalez Szwacki, and J. A. Majewski, "*2D $B_xC_yN_z$ layers as predicted by the cluster-expansion approach*", 43rd "Jaszowiec" International School and Conference on the Physics of Semiconductors, Wisła, Poland, June 7th - 12th, 2014. (poster)
25. N. Gonzalez Szwacki, and J. A. Majewski, "*2D $B_xC_yN_z$ layers as predicted by the cluster-expansion approach*", (E-MRS), Warsaw, Poland, September 15-18, 2014.
26. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Pressure induced room temperature ferromagnetism of (Ga,Mn)As: a first-principle investigation*", 42nd "Jaszowiec" International School and Conference on the Physics of Semiconductors, Wisła, Poland, June 22nd - 27th, 2013. (poster)
27. N. Gonzalez Szwacki and J. A. Majewski, "*Structural and electronic properties of the silicon carbide allotropes as predicted by exact exchange calculations*", European Materials Research Society Fall Meeting, (E-MRS), Warsaw, Poland, September 17-21, 2012.
28. N. Gonzalez Szwacki and J. A. Majewski, "*Ab initio sdudies of $Co_2FeAl_{1-x}Si_x$ Heusler alloys*", 6th Joint European Magnetic Symposia, (JEMS 2012), Parma, Italy, September 9 -14, 2012. (poster)
29. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Properties of TM pairs at the surface of GaN and GaN:Si,Mg*", 31st International Conference on the Physics of Semiconductors, (ICPS 2012), Zürich, Switzerland, July 29 – August 3, 2012. (poster)
30. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*The influence of Si and Mg codoping on the magnetism of (Ga,Mn)N and (Ga,Fe)N*", 41th "Jaszowiec" International School and Conference on the Physics of Semiconductors, Krynica, Poland, June 8th - July 15th, 2012.
31. N. Gonzalez Szwacki and J. A. Majewski, "*Structural and electronic properties of the silicon carbide allotropes as predicted by exact exchange calculations*", 41th "Jaszowiec" International School and Conference on the Physics of Semiconductors, Krynica, Poland, June 8th - July 15th, 2012. (poster)
32. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Properties of transition metal pairs at the surface of GaN and GaN:Si,Mg*", Joint Polish-Japanese Workshop, Spintronics-from New Materials to Applications, Warsaw, Poland, November 15-18, 2011.

33. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Properties of TM pairs in the bulk and at the surface of GaN and GaN:Si,Mg*", 6th International School and Conference on Spintronics and Quantum Information Technology (SPINTECH6), Matsue, Japan, August 1-5, 2011. (poster)
34. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Properties of TM pairs in the bulk and at the surface of GaN with and without Si or Mg codoping*", 40th "Jaszowiec" International School and Conference on the Physics of Semiconductors, Krynica, Poland, June 25th - July 1st, 2011.
35. N. Gonzalez Szwacki and J. A. Majewski, "*Quantum Monte Carlo vs. Density Functional Methods for the prediction of relative energies of small Si-C clusters*", 40th "Jaszowiec" International School and Conference on the Physics of Semiconductors, Krynica, Poland, June 25th - July 1st, 2011. (poster)
36. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Clustering of magnetic ions in GaN*", European Materials Research Society Fall Meeting, (E-MRS), Warsaw, Poland, September 13-17, 2010.
37. N. Gonzalez Szwacki, J. A. Majewski, and T. Dietl, "*Clustering of magnetic ions in GaN*", 39th "Jaszowiec" International School and Conference on the Physics of Semiconductors, Krynica, Poland, June 19-24, 2010.
38. N. Gonzalez Szwacki, "*Boron Nanoclusters and Nanotubes*", invited seminar presented at the University of Szczecin, Szczecin, Poland, January 6, 2010.
39. N. Gonzalez Szwacki, V. Weber, and C. J. Tymczak, "*Borozene: A Building Block of Boron Nanostructures*", Joint Fall 2009 Meeting of the Texas Sections of the APS, AAPT, and SPS, San Marcos, Texas, USA, October 22-24, 2009.
40. N. Gonzalez Szwacki, V. Weber, and C. J. Tymczak, "*Aromatic Borozene*", 2009 South West Theoretical Chemistry Conference, Houston, Texas, USA, October 16-17, 2009.
41. N. Gonzalez Szwacki, V. Weber, and C. J. Tymczak, "*Borozene: the boron hydride analog of benzene*", 2009 NSTI Nanotechnology Conference and Expo, Houston, Texas, USA, May 3-7, 2009. (poster)
42. N. Gonzalez Szwacki, "*First-principles modeling of materials at the atomic scale*", invited seminar presented at Texas Southern University, Houston, Texas, USA, March 3, 2008.
43. N. Gonzalez Szwacki, "*Boron Fullerenes and Nanotubes: An Ab Initio Study*", 2007 Virtual Conference on Nanoscale Science and Technology, VC-NST-2007, Fayetteville, Arkansas, USA, October 21-25, 2007.
44. N. Gonzalez Szwacki and S. K. Estreicher, "*First-principles investigations of Fe-H interactions in silicon*", 24th International Conference on Defects in Semiconductors, Albuquerque, New Mexico, USA, July 22-27, 2007. (poster)
45. N. Gonzalez Szwacki and Boris I. Yakobson, "*Energy Decomposition Analysis of Metal Silicide Nanowires*", Spring Meeting of the Materials Research Society, San Francisco, California, USA, April 17-21, 2006. (poster)
46. N. Gonzalez Szwacki, "*Determination of electronic, crystal, and magnetic properties of Ga(As,N) and (Mn,Zn)Te compounds by ab initio calculations*", invited seminar presented at the University of Modena and Reggio Emilia, Modena, Italy, November 21, 2004.
47. N. Gonzalez Szwacki and P. Bogusławski, "*Structural properties of MnTe, ZnTe, and ZnO, and phase stability of $Mn_xZn_{1-x}Te$ alloy*", European Materials Research Society Fall Meeting, (E-MRS), Warsaw, Poland, September 6-10, 2004.
48. N. Gonzalez Szwacki, "*Ab initio study of the electronic, magnetic, and crystal properties of Ga(As,N), (Ga,B)As, and (Mn,Zn)Te compounds*", invited seminar presented at the University of Los Andes, Merida, Venezuela, July 27, 2004.

49. N. Gonzalez Szwacki, E. Przeździecka, E. Dynowska, and P. Bogusławski, "*Elastic properties and structural stability of MnTe, ZnTe, ZnO, and ZnMnTe*", 33nd International School on the Physics of Semiconducting Compounds, Jaszowiec, Poland, May 28 - June 4, 2004. (poster)
50. N. Gonzalez Szwacki and P. Bogusławski, "*Segregation of dopants and defects in AlAs/GaAs heterostructures*", 32nd International School on the Physics of Semiconducting Compounds, Jaszowiec, Poland, May 30 - June 6, 2003. (poster)
51. N. Gonzalez Szwacki and P. Bogusławski, "*Electronic structure and optical properties of* $GaAs_{1-x}N_x$ *and* $Ga_{1-x}B_xAs$ *alloys*", 31st International School on the Physics of Semiconducting Compounds, Jaszowiec, Poland, June 7-14, 2002.
52. N. Gonzalez Szwacki and P. Bogusławski, "*Electronic Structure of* $GaAs_{1-x}N_x$ *and* $Ga1_{-x}B_xAs$ *Alloys*", 29th International School on the Physics of Semiconducting Compounds, Jaszowiec, Poland, June 2-9, 2000.

PARTICIPATION AT SCHOOLS AND WORKSHOPS

1. NOMATEN Workshop: Advanced materials for nuclear and other applications under extreme conditions, "*Breakthroughs in the discovery of new forms of boron*", Otwock, Poland, August 8-9, 2023. (invited talk)
2. XIX Workshop "Spin in Semiconductors – New Materials for Spintronics", Obory, Poland, April 12th, 2014.
3. XVIII Workshop "Spin in Semiconductors – New Materials for Spintronics", Obory, Poland, April 20th, 2013.
4. XVII Workshop "Spin in Semiconductors – New Materials for Spintronics", Obory, Poland, March 10th, 2012.
5. XVI Workshop "Spin in Semiconductors – New Materials for Spintronics", Obory, Poland, March 19th, 2011.
6. XV Workshop "Spin in semiconductors – New Materials for Spintronics", Obory, Poland, March 13th, 2010.
7. 5th Annual Nanotechnology Venture Forum, Hoston, USA, January 20, 2006.
8. Fall Meeting of the Materials Research Society, Boston, USA, November 28 – December 2, 2005.
9. 49th Robert A. Welch Foundation Conference on Chemical Research: "Charge Transfer at Electrodes and Biological Interfaces", Houston, USA, October 24-25, 2005.
10. 2005 Summer School on Computational Material Science, UIUC – Urbana-Champaign, USA, June 14–17, 2005.
11. European Materials Research Society Fall Meeting, (E-MRS), Warsaw, Poland, September 6-10, 2004.
12. 33nd International School on the Physics of Semiconducting Compounds, Jaszowiec, Poland, May 28 - June 4, 2004.
13. Hands-on Tutorial on the Plane-Wave Self-Consistent Field / First Principles Molecular Dynamics / Car-Parinello-Vanderbilt Package, CINECA – Bologna, Italy, March 1-5, 2004.
14. 32nd International School on the Physics of Semiconducting Compounds, Jaszowiec, Poland, May 30 - June 6, 2003.
15. 7th Workshop on the Physics of Diluted Magnetic Semiconductors, Obory, Poland, January 19, 2003.
16. 10th International Conference on Shallow Level Centers in Semiconductors, Warsaw, July 24-27, 2002.

17. 31st International School on the Physics of Semiconducitng Compounds, Jaszowiec, Poland, June 7-14, 2002.
18. 14th International Summer School of Condensed Matter Physics, Supraśl, Poland July 1-8, 2001.
19. 30th International School on the Physics of Semiconducitng Compounds, Jaszowiec, Poland, June 1-8, 2001.
20. 29th International School on the Physics of Semiconducitng Compounds, Jaszowiec, Poland, June 2-9, 2000.
21. 28th International School on the Physics of Semiconducitng Compounds, Jaszowiec, Poland, June 6-11, 1999.
22. 27th International School on the Physics of Semiconducitng Compounds, Jaszowiec, Poland, June 7-12, 1998.