Doron Gazit – Curriculum Vitæ

Personal Details

Name	Doron Gazit
Nationality	Israeli (visa status – J-1)
Languages	Hebrew, English.
Position	Research Associate
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Academic Career

10.2007-	Research associate at the Institute for Nuclear Theory, University of Washington, Seattle, WA, USA.
7.2003-10.2007	The Hebrew University of Jerusalem. PhD. studies in physics on the subject of "Electro-weak interactions in light nuclei", under the supervision of Prof. Nir Barnea. **PhD. approved on October 23, 2007.**
11.2000-3.2003	The Hebrew University of Jerusalem. MSc. studies in physics, on the subject of "The neutral interaction ν+^{4}He in nuclear physics and astrophysics", under the supervision of Prof. Nir Barnea. **March 2003**, passed the screening test for a direct PhD. program. Final grade: **96**.
1997 – 2000	The Hebrew University of Jerusalem, in the distinguished program of "Talpiyot", BSc. **Magna cum laude** in physics and mathematics (two full degrees), final grade **94**.

Teaching Experience

During my MSc. and PhD. studies, I worked as a teacher assistant at The Hebrew University of Jerusalem:

2001-2006	Teacher assistant (TA) in "Statistical Mechanics A", a mandatory course for graduate physics students.
2004, 2005, 2006	TA in "Plasma Physics B: collective phenomena", a course for graduate physics students.
2006	TA in "Continuum mechanics", a course for undergraduate senior physics students.
2004. 2005	TA in "Phase transitions and critical phenomena", a course for advanced graduate physics students.
2003	TA in "Thermal Physics", a mandatory course for second year undergraduate physics students.
2001-2002	TA in "Physics lab", a mandatory course for undergraduate physics students.

Honors, Awards, Scholarships

11.2008	**Nuclear Physics A Young Scientist Award** for Best Oral Presentation at the "18th International Conference for Particles and Nuclei (PANIC08)".
11.2008	**Three** oral contributions at the "18th International Conference for Particles and Nuclei (PANIC08)".
2003-2006	Scholarship from The Hebrew University of Jerusalem.
2000-2002	Excellence scholarship for MSc. students, The Hebrew University of Jerusalem
1999	The Hebrew University of Jerusalem, Dean's prize, due to second year undergraduate achievements.
1998	The Hebrew University of Jerusalem, Dean's list, due to first year undergraduate achievements.

Fellowships and short term visits

10.2008	Visitor at TRIUMF, Vancouver, BC, Canada.
9.2007	Visitor at GSI, Darmstadt, Germany.
8.2006	Visitor fellow at the "Institute for Nuclear theory", University of Washington, Seattle, WA, USA.
6.2004-10.2004	Marie Curie fellow at "European centre for theoretical nuclear physics and related areas", Trento, Italy.

Army service

2000 – 2007	Scientific research officer in the Ministry of Defense.
1997 – 2000	The distinguished academic "Talpiyot" program.

Referee work

Physics Letters B, Nuclear Physics A, Physica A.

References

Prof. Nir Barnea (PhD advisor),
Racah Institute of Physics,
The Hebrew University, Jerusalem, Israel.

Prof. David Kaplan, Director,
Institute for Nuclear Theory,
University of Washington,
Seattle, WA, 98195.

Prof. Dam Thanh Son,
Institute for Nuclear Theory,
University of Washington,
Seattle, WA, 98195

Prof. Wick Haxton,
Institute for Nuclear Theory,
University of Washington,
Seattle, WA, 98195

Prof. Giuseppina Orlandini,
Dip. Fisica, Facolta di Scienze,
University of Trento,
Trento, Italy.

Prof. Achim Schwenk,
Theory Group, TRIUMF,
Vancouver, BC, Canada.

Prof. Eli Livne,
Racah Institute of Physics,
The Hebrew University, Jerusalem, Israel.

Publication List

1. Papers in Refereed Journals

1.1. "Correlation between charge inhomogeneities and structure in graphene and other electronic crystalline membranes", **D. Gazit**, Physical Review B (accepted for publication as Rapid Communication), [arXiv:0903.5012 [cond-mat]].

1.2. "Structure of physical crystalline membranes within the self-consistent screening approximation", **D. Gazit**, Physical Review E (accepted for publication), [arXiv: 0907.3718 [cond-mat]].

1.3. "Three-Nucleon Low-Energy Constants from the Consistency of Interactions and Currents in Chiral Effective Field Theory", **D. Gazit**, S. Quaglioni, P. Navratil, Physical Review Letters, **103**, 102502 (2009), [arXiv:0812.4444 [nucl-th]].

1.4. "The weak structure of the nucleon from muon capture on 3He". **D. Gazit**, Nuclear Physics A, **827**, 408c (2009), [arXiv:0901.0575 [nucl-th]].
Talk presented at "18th International Conference on Particles And Nuclei (PANIC08)", Eilat, Israel, 9-14 November, 2008.

1.5. "6He beta-decay rate and the suppression of the axial constant in nuclear matter", S. Vaintraub, N. Barnea, and **D. Gazit**, Phys. Rev. C, **79**, 065501 (2009) [arXiv:0903.1048 [nucl-th]].

1.6. "Theory of the Spontaneous Buckling of Doped Graphene", **D. Gazit**, Phys. Rev. B **79**, 113411 (2009) [arXiv:0810.1062 [cond-mat.mtrl-sci]].

1.7. "Weak-Interacting Holographic QCD", **D. Gazit** and H. U. Yee, Phys. Lett. B **670**, 154 (2008) [arXiv:0807.0607 [hep-th]].

1.8. "Muon Capture on ^{3}He and the Weak Structure of the Nucleon", **D. Gazit**, Phys. Lett. B **666**, 472 (2008) [arXiv:0803.0036 [nucl-th]].

1.9. "Inelastic neutrino reactions with light nuclei in a core-collapse supernova", N. Barnea and **D. Gazit**, Few Body Syst. **43**, 1 (2008).
Presented at 20th European Few-Body Conference on Problems in Physics (EFB 20), Pisa, Italy, September 2007.

1.10. "Few body Calculation of Neutrino Neutral Inelastic scattering on ^{4}He", **D. Gazit** and N. Barnea, Nucl. Phys. A **790**, 356c (2007) [arXiv:0706.4200 [nucl-

th]]. *Presented at "18 International IUPAP Conf. on Few-Body problems in physics (FB18)", Santos, Brazil, August 21-26, 2006.*

1.11. "Neutrino Breakup of A=3 Nuclei in Supernovae", E. O'Connor, **D. Gazit**, C. J. Horowitz, A. Schwenk and N. Barnea, Phys. Rev. C **75**, 055803 (2007) [arXiv:nucl-th/0702044].

1.12. "Low-Energy Inelastic Neutrino Reactions on ^{4}He", **D. Gazit** and N. Barnea, Phys. Rev. Lett. **98**, 192501 (2007) [arXiv:nucl-th/0701028].

1.13. "Photonuclear sum rules and the tetrahedral configuration of ^{4}He", **D. Gazit**, N. Barnea, S. Bacca, W. Leidemann and G. Orlandini, Phys. Rev. C **74**, 061001 (2006) [arXiv:nucl-th/0610025].

1.14. "Photoabsorption on ^{4}He with a realistic nuclear force", **D. Gazit**, S. Bacca, N. Barnea, W. Leidemann and G. Orlandini, Phys. Rev. Lett. **96**, 112301 (2006) [arXiv:nucl-th/0512038].

1.15. "Neutrino neutral reaction on ^{4}He, effects of final state interaction and realistic NN force", **D. Gazit** and N. Barnea, Phys. Rev. C **70**, 048801 (2004) [arXiv:nucl-th/0402077].

2. Doctorate Thesis

"Electro-Weak Interactions in Light Nuclei". Approved by the Hebrew University of Jerusalem, October 2007. Under the supervision of Prof. Nir Barnea.
Available online: arXiv:0807.0216 [nucl-th]

3. In Preparation

3.1. "Large-order behavior of the ε expansion for a unitary Fermi gas and mass critical nonlinear Schrodinger equation", Y. Nishida, **D. Gazit**.

4. Conference Proceedings

4.1. "Weak reactions with light nuclei - 6He beta-decay as a test case for the nuclear weak current ", S. Vaintraub, N. Barnea, **D. Gazit**, arXiv:0901.2670 [nucl-th], Presented at "18th International Conference on Particles And Nuclei (PANIC08)", Eilat, Israel, 9-14 November, 2008. INT-PUB-09-006.

4.2. "Weak Interaction in Holographic QCD", **D. Gazit**, Ho-Ung Yee, arXiv:0901.0563 [hep-th], Presented at "18th International Conference on Particles And Nuclei (PANIC08)", Eilat, Israel, 9-14 November, 2008. INT-PUB-08-59.

4.3. "^{4}He photodisintegration with a realistic nuclear force", S. Bacca, **D. Gazit**, N. Barnea, W. Leidemann, G. Orlandini, "Theoretical Nuclear Physics in Italy: Proceedings of the 11th Conference on Problems in Theoretical Physics", edited by A. Covello, S. Rosati, L. E. Marcucci.
Presented at the XI Convegno su Problemi di Fisica Nucleare Teorica, October 2006.

4.4. "Modern nuclear force predictions for the total ^{4}He photoabsorption cross-section", **D. Gazit**, N. Barnea, W. Leidemann, G. Orlandini, AIP Conf. Proc. 768, 141 (2005). *Presented at 19th European Few-Body Conference on Problems in Physics (EFB 19), Groningen, The Netherlands, 23-27 August 2004.*

4.5. "A microscopic calculation of neutrino neutral reaction on ^{4}He", **D. Gazit** and N. Barnea, AIP Conf. Proc. 768, 129 (2005) [arXiv:nucl-th/0410019].
Presented at 19th European Few-Body Conference on Problems in Physics (EFB 19), Groningen, The Netherlands, 23-27 August 2004.

5. Oral Presentations

5.1. "Weak structure of the nucleon", invited plenary talk at the "19th International IUPAP Conference on Few-Body Problems in Physics", Bonn, Germany, September 1, 2009.

5.2. "The structure of crystalline membranes and graphene", Presented at "From Femtoscience to Nanoscience: nuclei, quantum dots, and nanostructures", Institute for nuclear theory, Seattle, WA, USA, August 20, 2009.

5.3. "The curious case of graphene as an electronic crystalline membrane", INT/NT seminar, University of Washington, Seattle, WA, USA, May 2009.

5.4. "Pragmatic lessons from ChiPT on low-energy weak currents in nuclei",

Presented at "Effective Field Theories and the Many-Body Problem", Institute for nuclear theory, Seattle, WA, USA, April 3, 2009.

5.5. "Electro-weak reactions on light systems: from QCD to astrophysics", theory seminar, JLab, VA, USA, February 23, 2009.

5.6. "Three-Nucleon Low-Energy Constants from the Consistency of Interactions and Currents in Chiral Effective Field Theory", TRIUMF theory group seminar, TRIUMF, Vancouver, BC, Canada, December 2, 2008.

5.7. "Spontaneous buckling of hole doped Graphene?", HUJI condensed matter seminar, Hebrew University, Jerusalem, Israel, November, 2008.

5.8. "Muon capture on 3He and the weak structure of the nucleon", Presented at "18th International Conference on Particles And Nuclei (PANIC08)", Eilat, Israel, 9-14 November, 2008. **Awarded with Nuclear Physics A Young Scientist Award for Best Oral Presentation**.

5.9. "Weak Interacting holographic QCD", Presented at "18th International Conference on Particles And Nuclei (PANIC08)", Eilat, Israel, 9-14 November 2008.

5.10. "Electro-weak reactions on light nuclei: from QCD to astrophysics", TRIUMF seminar, TRIUMF, Vancouver, BC, Canada, October 29, 2008.

5.11. "Muon Capture on ^{3}He and the weak structure of the nucleon", INT/NT seminar, University of Washington, Seattle, WA, USA, June 17, 2008.

5.12. "Electro-weak interactions in light nuclei", Nuclear physics seminar, Hebrew University of Jerusalem, Israel, March 14, 2007.

5.13. "Electro-weak interactions in light nuclei", Institute for nuclear theory, University of Washington, Seattle, WA, USA, January 3, 2007.

5.14. "A microscopic calculation of neutrino neutral reaction on ^{4}He", Presented at "18 International IUPAP Conf. on Few-Body problems in physics (FB18)", Santos, Brazil, August 21-26, 2006.

5.15. "Neutrino scattering on ^{4}He", Presented at "Neutrino response functions from threshold to 10 GeV", Institute for nuclear theory, Seattle, WA, USA, August 2006.

5.16. "*ab-initio* calculation of ν neutral reaction on ^{4}He", Presented at "Physics and astrophysics of supernova neutrinos", Santa Fe, NM, USA, July 2005.

5.17. "A microscopic calculation of neutrino neutral reaction on ^{4}He", Presented at "19th European Few-Body Conference on Problems in Physics (EFB 19)",

Groningen, The Netherlands, 23-27 August 2004.

6. Poster Presentations

6.1. "Photoabsorption on ^{4}He with a realistic nuclear force", D. Gazit, S. Bacca, N. Barnea, W. Leidemann, G. Orlandini, Presented at "18 International IUPAP Conf. on Few-Body problems in physics (FB18)", Santos, Brazil, August 21-26, 2006.

6.2. "Modern nuclear force predictions for the total ^{4}He photoabsorption cross-section", D. Gazit, N. Barnea, W. Leidemann, G. Orlandini, Presented at 19th European Few-Body Conference on Problems in Physics (EFB 19), Groningen, The Netherlands, 23-27 Aug 2004.