Turker Topcu

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EDUCATION

Doctor of Philosophy in Theoretical Atomic Physics
Auburn University, Department of Physics

Summa cum Laude
August 2002 - August 2007

Dissertation: Time-Dependent Studies of Fundamental Atomic Processes in Rydberg Atoms

Advisor: Prof. Francis Robicheaux

Master of Science in Physics (non-thesis)
Auburn University, Department of Physics

August 2002 - August 2005

Advisor: Prof. Francis Robicheaux

Bachelor of Science (Honours) in Physics
Marmara University, Department of Physics, Istanbul, Turkiye

Summa cum Laude
August 1998 - August 2002

ACADEMIC EXPERIENCE

Visiting Assistant Professor
Virginia Polytechnic Institute and State University, Department of Mathematics

2019 - Present

Docent in Physics
Title conferred by the Council of Higher Education of Turkiye,
which is the equivalent of Associate Professor in the US

2016

Teaching Faculty
University of Nevada, Reno, Department of Mathematics and Statistics

August 2015 - May 2019

Volunteer Research Scholar
University of Nevada, Reno, Department of Physics

August 2015 - January 2017

Visiting Research Fellow
Institute for Theoretical Atomic, Molecular and Optical Physics (ITAMP),
and Department of Physics, Harvard University

August 2014 - December 2014

Project: Entangling gate for improving clock stability in divalent optical lattice clocks

Description: Developed a protocol for creating a fully entangled GHZ state of neutral divalent atoms in optical atomic clocks utilizing dipole-dipole interactions between Rydberg excitations.

Postdoctoral Scholar
University of Nevada, Reno, Department of Physics

September 2012 - July 2015

Project: Quantum Information Processing with neutral divalent atoms

Description: Developed novel schemes of quantum information processing with Rydberg states of alkaline earth atoms to overcome decoherence liming the fidelity of experiments using the Rydberg blockade mechanism.

Postdoctoral Research Fellow
Auburn University, Department of Physics

September 2009 - September 2012

Project: Simulations of Rydberg atoms informed by phase space dynamics

Description: Studied multiphoton excitation and ionization of Rydberg atoms in weak and strong field regimes using *ab-initio* simulations, and dynamics in classical and quantum phase space.

Postdoctoral Research Associate

Kansas State University, Department of Physics   August 2007 - August 2008

    Project: High-order harmonic generation from macroscopic gas targets

    Description: Developed codes for solving Maxwell equations to obtain macrocopic response in high-order harmonic generation. Studied phase matching conditions in various settings such as in ensembles of mixed He/Ne gas

Graduate Research Assistant

Auburn University, Department of Physics   August 2002 - August 2007

    Project: Quantum simulations of one- and two-electron processes in Rydberg atoms

    Description: Investigated atomic processes in Rydberg atoms, such as Rydberg-Rydberg interactions, electron impact ionization, double photoionization, and cascade/excitation/ionization in static and time-dependent fields using *ab-initio* simulations. Studied classical-quantum correspondence and chaos in these systems.

TEACHING EXPERIENCE

Virginia Polytechnic Institute and State University

3. **Math 4564: Operational Methods - Instructor**   Fall 2021, 2022, 2023

    Senior level course on integral transforms for ODEs and separable PDEs for sections of approximately 40 students. I integrated Mathematica codes for animating Fourier Series and solutions to PDEs like the wave equation.

2. **Math 3214: Calculus of Several Variables - Instructor**   Spring 2020-2024

    Incorporated project-based learning using Kepler's third law of planetary motion and prepared lecture materials for sections of approximately 30 students. The main goal is the three integral theorems; Green's, Stokes', and the Gauss' theorem, where I incorporated applications from electrostatics.

1. **Math 2204: Intro to Multivariable Calculus - Instructor**   Fall/Spring 2019-2024

    Prepared lecture materials both in-person and online instruction due to Covid-19 pandemic restrictions including video content, and maintained a Canvas page for dissemination of course material and grading of assignments. I contributed questions to the common final exam.

University of Nevada, Reno

3. **Math 285: Differential Equations - Instructor**   Fall 2016 and Summer 2019

    Taught in a large section setting of approximately 60 students where I incorporated python codes to assess the behavior of solutions in addition to covering standard topics in introductory ODEs.

2. **Math 283: Multivariable Calculus - Instructor**   Fall/Spring 2015-2019

    Responsible for preparing lecture materials and delivering material to 2 to 3 sections of approximately 40 students each, managing undergraduate graders, grading, and proctoring. Prepared online homework on WebAssign.

1. **Math 176: Calculus for Business and Social Sciences - Instructor**   Fall 2015

    Single-variable differential and integral calculus with an emphasis on modeling applications.

Auburn University

2. **Phys 1600: Engineering Physics I - Instructor**   Fall 2011

    Calculus based intoductory course of approximately 80 students on mechanics where I combined lectures with practical activities augmented by laboratory sessions where I managed a team of two GTAs.

1. **Phys 1600: Engineering Physics Lab. I - GTA**   Fall 2002

    I was the sole graduate teaching assistant for one laboratory section of approximately 20 students where I was also responsible for setting up experiments for each group and grading lab reports submitted each week.

Mentorship

Undergraduate Research

3. **Virginia Tech**, Department of Mathematics   since August 2023

   Mentored 7 undergraduate students on research projects on simulating the time-dependent Schrodinger equation where the students developed their codes to study high-order harmonic generation from macrospoic gas targets which included parallel computing. Mentored 2 undergraduate student in coding classical dynamics of Rydberg electrons. There are currently 3 undergradute students in my research group.

2. **University of Nevada, Reno**, Department of Physics   since August 2023

   Mentored two undergraduate students where they developed codes to study Rydberg atoms in optical lattices.

1. **Auburn University**, Department of Physics   2009-2012

   Helped mentor two students on a research project where they performed simulations of selective field ionization in strong magnetic fields. Also helped mentor an REU student during the initial phase of his project.

Graduate Student Mentoring

2. **University of Nevada, Reno**, Department of Physics   2012-2014

   Helped mentor one graduate student in my group who worked on quantum optics applications in AMO physics, and another in developing basic computer codes.

1. **Marmara University**, Department of Physics   2008-2012

   Advised a Ph.D. student in a research topic and provided the student with a specific project. Guided the student in developing his own computer codes for his research. These projects resulted in a series of publications and constituted half of his dissertation. The student secured a postdoc position in the US following his graduation.

Faculty Mentoring

2. **Virginia Tech**, Department of Mathematics   since August 2023

   Advise new teaching faculty on course preparation, effective course policies and best teaching practices. Perform teaching observations and prepare letters involving suggestions.

1. **Marmara University**, Department of Physics   2017-2019

   Suggested a research direction to a new faculty member and provided a concrete project. The faculty member secured internal funding for this project and used it to purchase a computational server for his research.

Publications

Graduate students are underlined for publications resulted from research I directed. The undergraduate* students further carry an asterisk.

In Preparation

3. **Topcu, T.**, Eshraghi, S.*, Bhaumik, P.*, and Roh, H.*, *Ab-initio simulations of high-order harmonic generation from endofullerenes: the macroscopic response from $Ar@C_{60}$ gas*,

2. **Topcu, T.**, *Multiphoton excitations in a non-twist system kicked by an impulsive pulse train*,

1. **Topcu, T.**, *Dipole blockade between symmetric combinations of Rydberg Stark states*,

Submitted

1. **Topcu, T.** and Derevianko, A., *Rydberg blockade with multivalent atoms: engineering van der Waals interactions*, Submitted to Phys. Rev. A, arXiv:1505.07152 [physics.atom-ph] (2022)

Published

27. **Topcu, T.**, Bleda, E. A., Altun, Z., *Drastically enhanced high-order harmonic generation from endofullerenes*, Phys. Rev. A 100, 063421 (2019)

26. Kómar, P., **Topcu, T.**, Kessler, E. M., Derevianko, A., Vuletić, V., Ye, J., Lukin, M. D., *Quantum Network of Atom Clocks: A Possible Implementation with Neutral Atoms*, Phys. Rev. Lett. 117, 060506 (2016)

25. **Topcu, T.** and Derevianko, A., *Possibility of triple magic trapping of clock and Rydberg states of divalent atoms in optical lattices*, J. Phys. B 49, 144004 (2016)

24. Derevianko, A., Kómar, P., **Topcu, T.**, Kroeze, R. M., Lukin, M. D., *Effects of molecular resonances on Rydberg blockade*, Phys. Rev. A 92, 063419 (2015)

23. Orazymbetov, K., Bleda, E. A., Altun, Z., **Topcu, T.**, *High-order harmonic generation from confined Rydberg atoms*, Proceedings of XXIX International Conference on Photonic, Electronic, and Atomic Collisions (ICPEAC15), Journal of Physics: Conference Series 635, 092125 (2015)

22. Arakelyan, A., **Topcu, T.**, Robicheaux, F., Gallagher, T. F., *Spectrum of quasistable states in a strong microwave field*, Phys. Rev. A 90, 013413 (2014)

21. Yavuz, I., Bleda, E. A., Altun, Z., **Topcu, T.**, *Phase-dependent interference fringes in the wavelength scaling of harmonic efficiency*, Phys. Rev. A 89, 055801 (2014)

20. **Topcu, T.** and Derevianko, A., *Divalent Rydberg atoms in optical lattices: intensity landscape and magic trapping*, Phys. Rev. A 89, 023411 (2014)

19. **Topcu, T.** and Derevianko, A., *Tune-out wavelengths and landscape-modulated polarizabilities of alkali-metal Rydberg atoms in infrared optical lattices*, Phys. Rev. A 88, 053406 (2013)

18. Bleda, E. A., Yavuz, I., Altun, Z., **Topcu, T.**, *High-order-harmonic generation from Rydberg states at fixed Keldysh parameter*, Phys. Rev. A 88, 043417 (2013)

17. **Topcu, T.** and Derevianko, A., *Dynamic polarizability of Rydberg atoms: Applicability of the near free-electron approximation, gauge invariance, and the Dirac sea*, Phys. Rev. A 88, 042510 (2013)

16. **Topcu, T.** and Derevianko, A., *Intensity landscape and the possibility of magic trapping of alkali Rydberg atoms in infrared optical lattices*, Phys. Rev. A 88, 043407 (2013)

15. Yavuz, I., Altun, Z., **Topcu, T.**, *Wavelength scaling of high-order-harmonic-generation efficiency by few-cycle laser pulses: Influence of carrier-envelope phase*, Phys. Rev. A 86, 043836 (2012)

14. **Topcu, T.** and Robicheaux, F., *Dichotomy between tunneling and multiphoton ionization in atomic photoionization: Keldysh parameter γ versus scaled frequency Ω*, Phys. Rev. A 86, 053407 (2012)

13. Yavuz, I., Bleda, E. A., Altun, Z., **Topcu, T.**, *Generation of a broadband xuv continuum in high-order-harmonic generation by spatially inhomogeneous fields*, Phys. Rev. A 85, 013416 (2012)

12. **Topcu, T.** and Robicheaux, F., *Multiphoton population transfer in systems violating classical twist condition: a comparative study of separatrix crossing in phase space*, Phys. Rev. E 83, 046607 (2011)

11. Yavuz, I., Altun, Z., **Topcu, T.**, *Enhancement of high-order harmonic generation in the presence of noise*, J. Phys. B 44, 135403 (2011)

10. Donnan, P. H., Niffenegger, K., **Topcu, T.**, Robicheaux, F., *Calculation of State Selective Field Ionization of hydrogen atoms in a strong magnetic field*, J. Phys. B 44, 184003 (2011)

9. **Topcu, T.** and Robicheaux, F., *Multiphoton population transfer in HF: adiabatic rapid passage in a diatomic molecule*, J. Phys. B 43, 205101 (2010)

8. **Topcu, T.** and Robicheaux, F., *Multiphoton population transfer in a kicked Rydberg atom: adiabatic rapid passage by separatrix crossing*, J. Phys. B 43, 115003 (2010)

7. **Topcu, T.** and Robicheaux, F., *Multiphoton adiabatic rapid passage: classical transition induced by separatrix crossing*, J. Phys. B 42, 044014 (2009)

6. **Topcu, T.** and Robicheaux, F., *Chaotic ionization of a highly excited hydrogen atom in parallel electric and magnetic fields*, J. Phys. B 40, 1925 (2007)

5. Pindzola, M. S., Robicheaux, F., Loch, S. D., Berengut, J. C., **Topcu, T.**, Colgan, J., Foster, M., Griffin, D. C., Ballance, C. P., Schultz, R., Minami, T., Badnell, N. R., Witthoeft, M. C., Plante, D. R., Mitnik, D. M., Ludlow, J., Kleiman, U., *The time-dependent close-coupling method for atomic and molecular collision processes*, J. Phys. B 40, R39 (2007)

4. **Topcu, T.**, Pindzola, M. S., Ballance, C. P., Griffin, D. C., Robicheaux, F., *Electron impact ionization of highly excited hydrogen-like ions in a collinear s-wave model*, Phys. Rev. A 74, 062708 (2006)

3. **Topcu, T.** and Robicheaux, F., *Radiative cascade of highly excited hydrogen atoms in strong magnetic fields*, Phys. Rev. A 73, 043405 (2006)

2. Kleiman, U., **Topcu, T.**, Pindzola, M. S., Robicheaux, F., *The search for oscillations in the near threshold photo-double ionization cross section of helium*, J. Phys. B 39, L61 (2006)

1. Robicheaux, F., Hernandez, J. V., **Topcu, T.**, Noordam, L. D., *Simulation of Coherent interactions between Rydberg Atoms*, Phys. Rev. A 70, 042703 (2004)

News Coverage

2. **Method to entangle thousands of atoms could lead to record clock stability**, *Featured on Phys.org*, http://phys.org/news/2016-08-method-entangle-thousands-atoms-clock.html (2016)

1. **Multiphoton population transfer in a kicked Rydberg atom**, **Turker Topcu** and Francis Robicheaux., *Europhysics News 41/4*, (2010)

Grants and Proposals

Undergraduate students are underlined.

3. **Topcu, T.**, *High-order harmonic generation from endofullerenes*, Computational resource allocation, Virginia Tech Advanced Research Computing (ARC) (2020-2024)

2. Bodily, R.*, **Topcu, T.**, *Multiphoton excitation of cold Rydberg atoms in optical lattices*, Submitted for Spring 2019 Nevada Undergraduate Research Award (2018)

1. Ballance, C. P., Lee, T. G., **Topcu, T.**, Loch, S. D., Pindzola, M. S., Robicheaux, F. J., Yu, W., Colgan, J. P., Fontes, C. J., Badnell, N. R., and McLaughlin, B. M., *Large-scale computational atomic and molecular collision calculations*, Awarded 8 million processor hours in Extreme Science and Engineering Discovery Environment (XSEDE) to run on Kraken CRAY XT5 at Oak Ridge National Laboratory. Grant Number PHY090083 (2012)

Conference Presentations and Posters

Conference Talks

21. *Enhancement of high-order harmonic generation from endohedrally confined atoms*, Online Meeting of the APS Division of Atomic, Molecular and Optical Physics, June 1-5 (2020)

20. *Multiphoton population transfer in a kicked Rydberg atom: adiabatic rapid passage by separatrix crossing*, 41st Meeting of the APS Division of Atomic, Molecular and Optical Physics, Rice University, Houston, TX, May 25-29, (2010)

19. *Multiphoton population transfer in a kicked Rydberg atom*, Winter Workshop on Atomic Physics, Callaway Gardens, Pine Mountain, GA, Jan 11-14, (2010)

18. *Multiphoton adiabatic population transfer in Rydberg atoms: Classical versus Quantum picture*, 39th Meeting of the Division of Atomic, Molecular and Optical Physics of APS, Penn State, State College, PA, May 27-31, (2008)

17. *Ionization of a highly excited hydrogen atom in parallel electric and magnetic fields*, 37th Meeting of the Division of Atomic, Molecular and Optical Physics of APS, University of Tennessee, Knoxville, TN, May 16-20, (2006)

16. *Electron-impact ionization of hydrogen-like ions in line-land model*, 36th Meeting of the APS Division of Atomic, Molecular and Optical Physics, University of Nebraska, Lincoln, NE, May 17-21, (2005)

15. *Double photoionization cross section of helium near threshold*, Winter Workshop on Atomic Physics, Rollins College, Winter Park, FL, January 10-14, (2005)

Poster Presentations

14. Roh, H.*, Bhaumik, P.*, **Topcu, T.**, *Enhanced high-harmonic generation from endofullerenes: $Ar@C_{60}$*, Undergraduate Research Mixer, Virginia Tech, Blacksburg, VA, March 27 (2024)

13. **Topcu, T.**, Bleda, E. A., Altun, Z., *High-order harmonic spectra in different gauges can disagree when there is confinement*, APS March Meeting (Virtual), March 15-19 (2021)

12. **Topcu, T.**, *Computational approach to quantum gate evaluation and design*, Undergraduate Research Mixer, Virginia Tech, Blacksburg, VA, *Presented this poster on two separate occasions on* October 16 (2019) *and* March 23 (2023)

11. Derevianko, A., Komar, P., **Topcu, T.**, Kroeze, R., Lukin, M., *Detrimental effects of molecular resonances on Rydberg blockade*, 47th Meeting of the Division of Atomic, Molecular and Optical Physics of APS, Providence, RI, May 23-27 (2016)

10. Komar, P., Kessler, E., **Topcu, T.**, Derevianko, A., Lukin, M., *Entangled optical clocks via Rydberg blockade*, 46th Meeting of the Division of Atomic, Molecular and Optical Physics of APS, Columbus, OH, June 8-12 (2015)

9. Orazymbetov, K., Bleda, E. A., Altun, Z., **Topcu, T.**, *High-order harmonic generation from confined Rydberg atoms*, XXIX International Conference on Photonic, Electronic, and Atomic Collisions (ICPEAC15), Toledo, Spain, July 22-28, Proceedings: Journal of Physics: Conference Series 635, 092125 (2015)

8. **Topcu, T.** and Derevianko, A., *Intensity-modulated polarizabilities and magic trapping of alkali-metal and divalent Rydberg atoms in infrared optical lattices*, 45th Meeting of the Division of Atomic, Molecular and Optical Physics of APS, Madison, WI, June 2-6 (2014)

7. **Topcu, T.** and Derevianko, A., *Long wavelength magic trapping of alkali-metal Rydberg atoms in optical lattices*, The 21st International Conference on Laser Spectroscopy (ICOLS 2013), University of California, Berkeley CA, June 9-14 (2013)

6. Arakelyan, A., **Topcu, T.**, Robicheaux, F., Gallagher, T. F., *Metastable states in microwave ionization*, 2013 Joint Meeting of the APS Division of Atomic, Molecular and Optical Physics and the CAP Division of Atomic, Molecular and Optical Physics, Quebec City, Quebec, Canada, June 3-7 (2013)

5. Bleda, E. A., Yavuz, I., Altun, Z., **Topcu, T.**, *Exploring the high-order harmonic generation from Rydberg states with a fixed Keldysh parameter*, 43rd Meeting of the Division of Atomic, Molecular and Optical Physics of APS, Orange County, California, June 4-8 (2012)

4. **Topcu, T.** and Robicheaux, F., *An assessment of tunneling-multiphoton dichotomy in atomic photo-ionization: Keldysh parameter versus scaled frequency*, 43rd Meeting of the Division of Atomic, Molecular and Optical Physics of APS, Orange County, California, June 4-8 (2012)

3. **Topcu, T.** and Robicheaux, F., *Multiphoton population transfer between rovibrational states of HF: adiabatic rapid passage in a diatomic molecule*, 42nd Meeting of the Division of Atomic, Molecular and Optical Physics of APS, Atlanta, GA, June 13-17 (2011)

2. Kleiman, U., **Topcu, T.**, Pindzola, M. S., Robicheaux, F., *The search for oscillations in the near-threshold double photoionization cross section of helium*, Spring Meeting of the German Physical Society, Frankfurt, Germany, March 13-17 (2006)

1. Kleiman, U., **Topcu, T.**, Pindzola, M. S., Robicheaux, F., *Double photoionization cross section of helium near threshold*, 37th EGAS Conference, Dublin City University, Dublin, Ireland, August 3-6 (2005)

Campus Presentations and Colloquia

12. Quantum network of entangled atoms: neutral atom quantum information processing, *Colloquium, SUNY Polytechnic Institute, Utica, NY*, (2019)

11. Quantum network of entangled atoms: Rydberg physics in quantum information processing, *Colloquium, Western Illinois University, Macomb, IL*, (2017)

10. Entangling gates using divalent atoms for distributed entanglement, *Atomic lunch series, University of Nevada, Reno, Reno, NV*, (2015)

9. Generation of maximally entangled GHZ states of divalent atoms, *ITAMP Topical Lunch Seminar, Institute for Theoretical Atomic, Molecular and Optical Physics (ITAMP), Boston, MA*, (2014)

8. Generation of maximally entangled GHZ states of divalent atoms, *Lukin Group Meeting, Harvard University, Boston, MA*, (2014)

7. Generation of maximally entangled GHZ states of divalent atoms, *Atomic lunch series, University of Nevada, Reno, Reno, NV*, (2014)

6. Maximally entangled GHZ states for increased Atomic clock precision, *Atomic lunch series, University of Nevada, Reno, Reno, NV*, (2013)

5. Long wavelength magic trapping of alkali-metal Rydberg atoms in optical lattices for quantum gate operations, *Atomic lunch series, University of Nevada, Reno, Reno, NV*, (2013)

4. Quantum control and strong field physics with Rydberg atoms, *Colloquium, University of Nevada, Reno, Reno, NV*, (2012)

3. Ionization from Rydberg states in the strong field regime, *Atomic and molecular physics seminar, Auburn University, Auburn, AL*, (2012)

2. Propagation effects in high-order harmonic generation, *Atomic and molecular physics seminar, Auburn University, Auburn, AL*, (2009)

1. Propagation effects in high-order harmonic generation from macroscopic gas targets, *Atomic and molecular physics seminar, Kansas State University, Manhattan, KS*, (2008)

Professional Memberships

American Physical Society   since 2005

Alpha Theta Chi Collegiate Honor Society   since 2004

National Scholars Honor Society   since 2005

Professional Development

University Teaching

Completed workshops and coursework covering professional teaching skills   Virginia Tech

(a) Advancing Diversity Gathering (2023)

(b) Course Design Clinic (2022)

(c) Infusing Practical Harm Reduction Strategies in the University Science and Math Classroom (2022)

(d) Welcome Back Symposium 2022: Teaching Strategies for Increased Student Engagement

(e) Empowered Educator Series by *Cengage* (2020)

(f) An Introduction to Experiential Learning (2020)

Technical Development

Completed workshops on computational/research skills   Virginia Tech

(a) All About Faculty Writing Groups (2023)

(b) Funding Institutional training for Virginia Tech (2022)

(c) Computer Administrator Accounts (2022)

(d) Workshop: Mentoring Undergraduates in Research (2021, 2023)

(e) The Basics of Covidence (for literature review) (2021)

(f) Intro to ARC course: ARC4 Running Jobs with SLURM (2021)

(g) Literature Review Tricks & Tools (2021)

(h) Communicating your Work/Research: Talking to the Public (2020)

(i) Intro to Advanced Research Computing (ARC) at Virginia Tech (2020)

ACADEMIC AND UNIVERSITY SERVICE

Conference Organization

1. Local organizing committee, *18th International Conference on Spectral Line Shapes (ICSLS 2006), Auburn University*, June 2006

Peer Review

I have reviewed for the following journals

Physical Review A
Physical Review Letters
Journal of Physics B: Atomic, Molecular and Optical Physics
New Journal of Physics
Physica Scripta
Optics Express
Physics Letters A
Journal of European Optical Society

University Service & Outreach

7. **Faculty Mentor**, Department of Mathematics, Virginia Tech   since August 2023

6. **Services for Students with Disabilities (SSD) liaison**   since August 2022
   Department of Mathematics, Virginia Tech
   Serve as the primary contact between the department and SSD office, ensuring that accommodations and support are effectively provided to students with disabilities. Prepare educational material for the faculty regarding best practices in meeting each accommodation type.

5. **Diversity and Inclusion Commitee** (chair)   since August 2022
   Department of Mathematics, Virginia Tech

4. **Scholarship Commitee**, Department of Mathematics, Virginia Tech   since August 2020

3. **Undergraduate Honor System faculty hearing panel**, Virginia Tech   2021, 2022

2. **Referee in Virginia State Science and Engineering Fair**, (VSSEF)   April 2021
   Reported on a batch of 4 submitted projects in various mathematical modelling applications.

1. **Referee in Auburn University Regional Science Olympiad**   2006, 2007, 2011
   Judged in the robotics and electronics category where students competed individually or in small teams.

Scholarships, Awards, and Honors

4. Conferred the title of *Docent* (equivalent to Associate Professor in the US), *Council of Higher Education of Turkiye*, 2016

3. First place in the graduating class of the College of Science and Letters (GPA 91.45/100), *Marmara University*, 2002

2. Turkpetrol Foundation International Study Scholarship, *Marmara University*, 2001 – 2002

1. Turk Finance Foundation Scholarship, *Marmara University*, 1998 – 2002

Computer Experience

System administration

1. Responsible for managing and maintaining a computational Linux server for my research group, ensuring efficient day to day operations, *University of Nevada, Reno*, 2012 – 2015

Skills

Operating systems:	UNIX, Linux, MS-DOS/Windows, OSX, Solaris
Operating system tools:	UNIX shell scripting, awk, sed
Programming languages:	C/C++, Fortran, Python, IDL
Parallel programming:	MPI, openMP
Symbolic languages:	Mathematica