

Curriculum Vitae

Nicolas Douguet, PhD
Assistant Professor

• CONTACT INFORMATION

University of Central Florida
Department of Physics
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• HIGHER EDUCATION HISTORY

- Nov 2010: PhD in Physics, double-degree: Université Paris-Sud, France & University of Central Florida (UCF), Orlando, FL, Thesis: “*Symmetry in the dissociative recombination of polyatomic ions and in ultra-cold few body collisions*” — Advisors: Drs. Maurice Raoult and Viatcheslav Kokouline
- Sep 2006: Master of Sciences, Fundamental Physics, Université Paris-Sud, France
- May 2005: Bachelor of Science, Fundamental Physics, Université Paris-Sud, France
- May 2003: Pass entrance exam to the Engineering Schools “*Ecole des Ponts ParisTech*” and “*Télécom ParisTech*”
- Sep 2000 – Jun 2003: Scientific preparatory school, Lycée Pasteur, France.
- June 1999: Baccalaureate, Speciality Mathematics

• EMPLOYMENT HISTORY

- Aug 2023 – Present: Assistant Professor, University of Central Florida, Orlando, FL
- Aug 2019 – Jul 2023: Assistant Professor, Kennesaw State University, Marietta, GA
- Jul 2017 – Jul 2019: Research Associate, University of Central Florida, Orlando, FL. Advisor: Dr. Luca Argenti
- June 2015 – June 2017: Postdoctoral fellow, Drake University, Des Moines, IA. Advisor: Dr. Klaus Bartschat
- Jan 2011 – May 2015: Postdoctoral fellow, University of California, Davis, CA. Advisor: Dr. Ann Orel
- Sep 2009 – Mar 2010: Visiting research assistant, Laboratoire Aimé Cotton (CNRS), Orsay, France
- Jan 2007 – Nov 2010: Graduate Research Assistant, University of Central Florida

• HONORS AND AWARDS

- Mar 2023: Outstanding Early Career Faculty award of the University, Kennesaw State University, Marietta, GA
- Jan 2023: Outstanding Early Career Faculty award of the College of Sciences, Kennesaw State University, Marietta, GA
- Mar 2014: Nominated for *Excellence in Postdoctoral Research*, UC Davis, Davis, CA

- TEACHING EXPERIENCE

- Aug 2023 – Present: Assistant Professor, University of Central Florida, Orlando, FL
PHY 3220, *Mechanics I*, Fall 2023;
- Aug 2019 – Jul 2023: Assistant Professor, Kennesaw State University, Marietta, GA
PHY 3260, *Mathematical Physics*, Spring 2023;
PHY 4270K, *Computational Physics II*, Fall 2022;
PHY 3500K, *Computational Physics I*, Spring 2020 & Spring 2021;
PHY 2212, *Principles of Physics II*, Fall 2019, Fall 2020, Fall 2021, & Spring 2022;
PHY 2212L, *Physics II Laboratory*, Spring/Fall 2020, Spring/Fall 2021, & Spring 2023
- Aug 2015 – Dec 2016: Postdoc Lecturer, Drake University, Des Moines, IA
FYS 030, *First year seminar: Energy for future presidents*, Fall 2016
PHY 122, *Electromagnetic Theory*, Spring 2016
PHY 059, *Advanced Laboratory I*, Fall 2015
- Jan 2015 – April 2015: Postdoc Lecturer, University of California, Davis, CA
EME 115, *Introduction to Numerical Methods and Analysis*

- STUDENT SUPERVISION AND MENTORING

- Aug 2023 – Present: Mentor four students at UCF:
Undergraduate students: Sarah Gallego, Braeden Larson, and Jonathan Sar-Shalom.
Graduate student: Davis Robinson.
- Jan 2020 – May 2023: Mentor three undergraduate students at KSU:
Undergraduate students: Trevor Walsh, Taylor Moon, and Michael Dodson.
This works lead to two peer-reviewed publications in *Phys. Rev. A* ([Publication I](#) and [Publication II](#)), a recently submitted paper available in [arXiv](#), and one more paper in preparation. Taylor presented his work at two conferences [V01.00032](#) and [N01.00138](#), and Trevor will present his work at two conferences this spring.
- Sep 2017– Aug 2018: Co-Mentor two undergraduate students at UCF:
Undergraduate students: Bejan Ghomashi and Jeremy Ponsot.
Co-supervise (member of the jury) the undergraduate thesis of Bejan Ghomashi on “*Resonant anisotropic emission in RABBITT spectroscopy*” (2019). The work with Bejan Ghomashi lead to two peer-reviewed publications in *Phys. Rev. Lett.* and *Phys. Rev. A*, and two conference posters, [M01.00045](#) and [M01.00046](#).
- Sep 2015 – June 2017: Mentor one undergraduate student at Drake University.
Undergraduate student: Joel Venzke.
This work lead to three peer-reviewed scientific publications ([Publication I](#), [Publication II](#), and [Publication III](#)) and one conference presentation at DUCURS.

- PUBLICATIONS (Citations: 1608, h-index: 21 — *Google Scholar*, April, 2024)

61. T. Moon, K. Bartschat, and N. Douquet, *submitted* (2024), arXiv:2401.15181 [Strong-Field Ionization Phenomena Revealed by Quantum Trajectories](#)

60. A. T. Bondy, S. Saha, J. C. del Valle, A. Harth, N. Douguet, K. R. Hamilton, K. Bartschat, Phys. Rev. A *accepted* (2024), arXiv:2311.03677 *High-Order Harmonic Generation in Helium: A Comparison Study*
59. K. R. Hamilton, K. Bartschat, N. Douguet, S. V. Pamidighantam, and B. I. Schneider, Computing in Science & Engineering **25** 68 (2023) *Simulation for All: The Atomic, Molecular, and Optical Science Gateway*
58. K. Finger, D. Atri-Schuller, N. Douguet, K. Bartschat, and K. R. Hamilton, Phys. Rev. A **106** 063113 (2022) *High-order harmonic generation in the water window from mid-IR laser sources*
57. N. Douguet and K. Bartschat, Phys. Rev. A **106** 053112 (2022) *Photoelectron momentum distributions in the strong-field ionization of atomic hydrogen by few-cycle elliptically polarized optical pulses*
56. B.P. Acharya, S. Dubey, K.L. Romans, A.H.N.C. De Silva, K. Foster, O. Russ, K. Bartschat, N. Douguet, D. Fischer, Phys. Rev. A **106** 023113 (2022) *Two-path interference in resonance-enhanced few-photon ionization of Li atoms*
55. E. V. Gryzlova, P. Carpeggiani, M. M. Popova, M. D. Kiselev, N. Douguet *et al.*, Phys. Rev. Research **4** 033231 (2022) *Influence of an atomic resonance on the coherent control of the photoionization process*
54. N. Saito, N. Douguet, H. Sannohe, N. Ishii, T. Kanai, Y. Wu, A. Chew, S. Han, B. I. Schneider, J. Olsen, L. Argenti, Z. Chang, and J. Itatani, Phys. Rev. Research **3** 043222 (2021) *Attosecond electronic dynamics of core-excited states of N₂O in the soft X-ray region*
53. B. Ghomashi, N. Douguet, and L. Argenti, Phys. Rev. Lett. **127** 203201 (2021) *Attosecond intramolecular scattering and vibronic delays*
52. B. P. Acharya, M. Dodson, S. Dubey, K. L. Romans, A. H. N. C. De Silva, K. Foster, O. Russ, K. Bartschat, N. Douguet, and D. Fischer, Phys. Rev. A **104** 053103 (2021) *Magnetic dichroism in few-photon ionization of polarized atoms*
51. A. De Silva, T. Moon, K.L. Romans, B.P. Acharya, S. Dubey, K. Foster, O. Russ, C. Rischbieter, N. Douguet, K. Bartschat, D. Fischer, Phys. Rev. A **103** 053125 (2021) *Circular dichroism in atomic resonance-enhanced few-photon ionization*
50. S. Meister, A. Bondy, K. Schnorr, S. Augustin, H. Lindenblatt, F. Trost, X. Xie, M. Braune, R. Treusch, B. Manschwetus, N. Schirmel, H. Redlin, N. Douguet, T. Pfeifer, K. Bartschat, and R. Moshhammer, Eur. Phys. J. D **75** 205 (2021) *Linear dichroism in few-photon ionization of laser-dressed helium*
49. H. Gharibnejad, N. Douguet, B. I. Schneider, J. Olsen, and L. Argenti, Comput. Phys. Commun. **263** 107889 (2021) *A multi-center quadrature scheme for the molecular continuum*
48. J. Fuchs, N. Douguet, S. Donsa, F. Martín, J. Burgdörfer, L. Argenti, L. Cattaneo, and U. Keller, Phys. Rev. Research **3** 013195 (2021) *Towards the complete phase profiling of attosecond wave packets*
47. D. Bharti, D. Atri-Schuller, G. Menning, K. R. Hamilton, R. Moshhammer, T. Pfeifer, N. Douguet, K. Bartschat, and A. Harth, Phys. Rev. A **103** 022834 (2021) *Decomposition of the transition phase in multi-sideband RABBIT schemes*

46. A. De Silva, D. Atri-Schuller, S. Dubey, B.P. Acharya, K.L. Romans, K. Foster, O. Russ, K. Compton, C. Rischbieter, N. Douguet, K. Bartschat, and D. Fischer, Phys. Rev. Lett. **126** 023201 (2021) *Using circular dichroism to control energy transfer in multi-photon ionization*
45. N. Douguet, S. Fonseca dos Santos and T. N. Rescigno, Phys. Rev. A **101** 033411 (2020) *Inner-shell photodetachment of C_n^- ions*
44. S. Meister, A. Bondy, K. Schnorr, S. Augustin, H. Lindenblatt, F. Trost, X. Xie, M. Braune, R. Treusch, N. Douguet, T. Pfeifer, K. Bartschat, and R. Moshhammer, Phys. Rev. A **102** 062809 (2020) *Photoelectron spectroscopy of laser-dressed atomic helium*
43. T. Pauly, A. Bondy, K. R. Hamilton, N. Douguet, X.-M. Tong, D. Chetty, and K. Bartschat, Phys. Rev. A **102** 013116 (2020) *Ellipticity Dependence of Excitation and Ionization of Argon Atoms by Short-Pulse Infrared Radiation*
42. D. Chetty, R. D. Glover, B. A. deHarak, X.-M. Tong, H. Xu, T. Pauly, N. Smith, K. R. Hamilton, K. Bartschat, J. P. Ziegel, N. Douguet, A. N. Luiten, P. S. Light, I. V. Litvinyuk, and R. T. Sang, Phys. Rev. A **101** 053402 (2020) *Observation of Dynamic Stark Resonances in Strong-Field Excitation*
41. J. Fuchs, N. Douguet, S. Donsa, F. Martín, J. Burgdörfer, L. Argenti, L. Cattaneo, and U. Keller, Optica **7** 154 (2020) *Time delays from one-photon transitions in the continuum*
40. N. Douguet and K. Bartschat, Phys. Rev. A **99** 023417 (2019) *Attoclock setup with negative ions: A possibility for experimental validation*,
39. E. V. Gryzlova, M. M. Popova, A. N. Grum-Grzhimailo, E. I. Staroselskaya, N. Douguet, and K. Bartschat, Phys. Rev. A **100** 063417 (2019) *Coherent control of the photoelectron angular distribution in ionization of neon by a circularly polarized bichromatic field in the resonance region*
38. Z. Mezei, K. Chakrabarti, M. Epee Epee, O. Motapon, Y. Chi, A. Mehdi, N. Douguet, S. Fonseca dos Santos, V. Kokoouline, and I. Schneider, ACS Earth Space Chem **3** 2376 (2019) *Electron-induced excitation, recombination and dissociation of molecular ions initiating the formation of complex organic molecules*
37. S. Donsa, N. Douguet, J. Burgdörfer, I. Brezinová, and L. Argenti, Phys. Rev. Lett. **123**, 133203 (2019) *Circular holographic ionization-phase meter*
36. A. N. Grum-Grzhimailo, N. Douguet, M. Meyer, and K. Bartschat, Phys. Rev. A **100** 033404 (2019) *Two-color XUV+NIR multi-photon near-threshold ionization of the helium ion by circularly polarized light in the region of the 3p resonance*
35. U. Satya Sainadh, H. Xu, X. Wang, A.-T. Noor, W. C. Wallace, N. Douguet, A. W. Bray, I. Ivanov, K. Bartschat, A. Kheifets, R. T. Sang, and I. V. Litvinyuk, Nature **567** 75 (2019) *Attosecond angular streaking and tunnelling time in atomic hydrogen*
34. C. H. Yuen, N. Douguet, S. Fonseca dos Santos, A. E. Orel, and V. Kokoouline, Phys. Rev. A **99** 032701 (2019) *Simplified model to treat the electron attachment of complex molecules: Application to H_2CN and the quest for CN^- formation mechanism*
33. B. Ghomashi, N. Douguet, and L. Argenti, Phys. Rev. A **99** 053407 (2019), *Resonant anisotropic emission in RABBITT spectroscopy*

32. A. Harth, N. Douguet, K. Bartschat, R. Moshhammer, and T. Pfeifer, Phys. Rev. A **99** 0233410 (2019) [Extracting phase information of continuum-continuum dipole transitions](#)
31. N. Douguet, B. I. Schneider, and L. Argenti, Phys. Rev. A **98** 023403 (2018) [Application of the complex Kohn variational method to attosecond spectroscopy](#)
30. A. Chew, N. Douguet, C. Cariker, J. Li, E. Lindroth, X. Ren, Y. Yin, L. Argenti, W. T. Hill, III, and Z. Chang, Phys. Rev. A (R) **97** 031407 (2018) [Attosecond transient absorption spectrum of argon at the \$L_{2,3}\$ edge](#)
29. E. V. Gryzlova, A. N. Grum-Grzhimailo, E. I. Staroselskaya, N. Douguet, and K. Bartschat, Phys. Rev. A **97** 013420 (2018) [Quantum coherent control of the photoelectron angular distribution in bichromatic ionization of atomic neon](#)
28. N. Douguet and K. Bartschat, Phys. Rev. A **97** 013402 (2018) [Dynamics of Tunneling Ionization using Bohmian Mechanics](#)
27. L. Giannessi, E. Allaria, K. C. Prince, C. Callegari, G. Sansone, K. Ueda, T. Morishita, C. Nan Liu, A. N. Grum-Grzhimailo, E. V. Gryzlova, S.I. Strakhova, N. Douguet and K. Bartschat, Sci. Rep., **8** 7774 (2018) [Soft x-ray coherent control schemes](#)
26. N. Douguet, K. Bartschat, E. V. Gryzlova, E. I. Staroselskaya, and A. N. Grum-Grzhimailo, Europ. J. Phys. D, **71** 105 (2017) [Photoelectron angular distribution in two-pathway ionization of Neon with femtosecond pulse](#)
25. M. Ilchen, N. Douguet, T. Mazza, A. J Rafipoor, C. Callegari, P. Finetti, O. Plekan, K. C. Prince, A. Demidovich, C. Grazioli, L. Avaldi, P. Bolognesi, M. Coreno, M. Di Fraia, M. Devetta, Y. Ovcharenko, S. Dusterer, K. Ueda, K. Bartschat, A. N. Grum-Grzhimailo, A. V. Bozhevolnov, A. K. Kazansky, N. M. Kabachnik, and M. Meyer, Phys. Rev. Lett. **118** 013002 (2017) [Circular dichroism in two-color resonant multi-photon ionization of oriented \$He^+\$ ions](#)
24. N. Douguet, A. N. Grum-Grzhimailo, and K. Bartschat, Phys. Rev. A **95** 013407 (2017) [Above threshold ionization in Neon induced by combining optical and bichromatic XUV femtosecond pulses](#)
23. M. Khamesian, N. Douguet, S. Fonseca dos Santos, O. Dulieu, M. Raoult, and V. Kokoouline, Europ. J. Phys. D **70** 240 (2016) [Study of radiative electron attachment and photodetachment processes for the \$C_2H/C_2H^-\$ and \$C_4H/C_4H^-\$ molecules](#)
22. M. Khamesian, N. Douguet, S. Fonseca dos Santos, O. Dulieu, M. Raoult, W. J. Brigg and V. Kokoouline, Phys. Rev. Lett. **117** 123001 (2016) [Formation of \$CN\$, \$C_3N\$, and \$C_5N^-\$ molecules by radiative electron attachment and their destruction by photodetachment](#)
21. N. Douguet, E. Assemat and V. Kokoouline, Europ. J. Phys. D **70** 228 (2016) [Complete symmetry characterization in collisions involving four identical atoms](#)
20. N. Douguet, A. N. Grum-Grzhimailo, E. V. Gryzlova, E. I. Staroselskaya, J Venzke and K. Bartschat, Phys. Rev. A **93** 033402 (2016) [Photoelectron angular distribution in bichromatic atomic ionization induced by circularly polarized VUV femtosecond pulses](#)
19. K. C. Prince, E. Allaria, C. Callegari, R. Cucini, G. De Ninno, S. Di Mitri, B. Diviacco, E. Ferrari, P. Finetti, D. Gauthier, L. Giannessi, N. Mahne, G. Penco, O. Plekan, L. Raimondi, P. Rebernik, E. Roussel, C. Svetina, M. Trov, M. Zangrando, M. Negro, P. Carpeggiani, M. Reduzzi, G. Sansone, A. N. Grum-Grzhimailo, E.V. Gryzlova,

- S.I. Strakhova, K. Bartschat, N. Douguet, J. Venzke, D. Iablonskyi, Y. Kumagai, T. Takanashi, K. Ueda, A. Fischer, M. Coreno, F. Stienkemeier, E. Ovcharenko, T. Mazza, M. Meyer, Nat. Photon. **10** 176 (2016) *Coherent control with a short-wavelength Free Electron Laser*
18. N. Douguet, D. S Slaughter, H. Adaniya, A. Belkacem, A. E. Orel and T. N. Rescigno, Phys. Chem. Chem. Phys. **17**, 25621 (2015) *Signatures of bond formation and bond scission dynamics in dissociative electron attachment to methane*
17. A. N. Grum-Grzhimailo, E. V. Gryzlova, E. I. Staroselskaya, S. I. Strakhova, J. Venzke, J. Conf. Series, ICPEAC (2015) N. Douguet and K. Bartschat, *Photoelectron angular distribution in bichromatic atomic ionization*
16. N. Douguet, S. Fonseca dos Santos, M. Raoult, O. Dulieu, A. E. Orel and V. Kokoouline, J. Chem. Phys. **142**, 234309 (2015) *Theoretical study of radiative electron attachment to CN, C₂H and C₄H radicals*
15. S. Fonseca dos Santos, N. Douguet, A. E. Orel and T. N. Rescigno, Phys. Rev. A **91**, 023408 (2015) *Ligand effects in carbon-K-shell photoionization*
14. N. Douguet, S. Fonseca dos Santos, V. Kokoouline and A. E. Orel, EPJ Web of Conferences **84**, 07003 (2015) *Simplified model to describe the dissociative recombination of linear polyatomic ions of astrophysical interest*
13. N. Douguet, V. Kokoouline and A. E. Orel, Phys. Rev. A **90**, 063410 (2014) *Photodetachment cross sections of the C_{2n}H⁻ (n=1-3) hydrocarbon chain anions*
12. S. Fonseca dos Santos, N. Douguet, V. Kokoouline and A. E. Orel, J. Chem. Phys. **140**, 0164308 (2014) *Scattering matrix approach to the dissociative recombination of HCO⁺ and N₂H⁺*
11. N. Douguet, M. Raoult, S. Fonseca dos Santos, O. Dulieu, A. E. Orel and V. Kokoouline, Phys. Rev. A **88**, 052710 (2013) *Theory of radiative electron attachment to molecules: Benchmark study of CN⁻ Article selected by Phys. Rev. A as Editor's Suggestion*
10. N. Douguet, T. N. Rescigno and A. E. Orel, Phys. Rev. A **88**, 013412 (2013) *Carbon K-shell molecular-frame photoelectron angular distributions in the photoisomerization of neutral ethylene*
9. N. Douguet, T. N. Rescigno and A. E. Orel, Phys. Rev. A **86**, 013425 (2012) *Time-resolved molecular frame photoelectron angular distribution: Snapshots of aceylene-vinylidene cationic isomerization*
8. T. N. Rescigno, N. Douguet and A. E. Orel, J. Phys. B : At., Mol. Opt. Phys. **45**, 194001 (2012) *Imaging molecular isomerization using molecular-frame photoelectron angular distribution*
7. N. Douguet, V. Kokoouline and A. E. Orel, Phys. B : At., Mol. Opt. Phys., Fast track Comm., **45**, 051001 (2012) *Breaking a tetrahedral molecular ion with electrons: Study of NH₄⁺ Article selected by J. Phys. B editorial board as Highlights of 2012, IOP select*
6. N. Douguet, A. E. Orel, C. H. Greene and V. Kokoouline, Phys. Rev. Lett. **108**, 023202 (2012) *Dissociative recombination of highly symmetric polyatomic ions*

5. N. Douguet, A. Orel, I. Mikhailov, I. Schneider, C. H. Greene and V. Kokoouline, *J. Phys.: Conf. Series* **300** 012015 (2011) *The role of the Jahn-Teller coupling in dissociative recombination of H_3O^+ and H_3^+*
4. V. Kokoouline, N. Douguet and C. H. Greene, *Chem. Phys. Lett.* **507**, 1 (2011) *Breaking bonds with electrons: dissociative recombination of molecular ions*
3. N. Douguet, V. Kokoouline, and C. H. Greene, *Phys. Rev. A* **80**, 062712 (2009) *Theory of dissociative recombination of a linear triatomic ion with permanent electric dipole moment: Study of HCO^+*
2. N. Douguet, V. Kokoouline, and C. H. Greene, *Phys. Rev. A* **77**, 064703 (2008) *Theoretical rate of dissociative recombination of HCO^+ and DCO^+*
1. N. Douguet, J. Blandon, and V. Kokoouline, *J. Phys. B: At. Mol. Opt. Phys.* **41**, 045202 (2008) *Correlation diagrams in collisions of three identical particles*

• INVITED TALKS

17. *Attosecond and Strong field Physics in Correlated Multielectron systems*, July 25 - Aug 1 2023, The XXXIII ICPEAC conference, Ottawa, Canada
16. *Ultrafast processes in atoms and molecules*, Feb 11 2022, Colloquium, University of Arizona, Tucson, AZ
15. *Attosecond interferometric schemes in Atoms and Molecules*, Jan 10-14 2022, The Winter Colloquium on the Physics of Quantum Electronics, Snowbird, UT
14. *Multiphoton ionization of atoms and molecules using ultra-fast and intense laser pulses*, Oct 25 2021, Colloquium, Georgia Southern University, GA (Virtual)
13. *Theoretical approaches for nonlinear circular dichroism studies*, Sep 21, 2021, LCLS user's Meeting, Stanford University, CA (Virtual)
12. *Multiphoton ionization schemes using bicircular laser pulses*, June 4, 2020, The Division of Atomic and Molecular Physics 2020, Portland, OR (Virtual)
11. *Ab initio numerical methods for attosecond and strong-field physics*, Dec 11, 2019, A Science Gateway for Atomic and Molecular Physics, Gaithersburg, Maryland
10. *Ultrafast Physics in atoms and molecules in weak and strong fields*, Mar 1, 2019, Kennesaw State University, Marietta, GA
9. *Light-induced Coherent Control and Ultra-fast Dynamics*, May 15, 2017, Stockholm University, Stockholm, Sweden (Virtual)
8. *Light-induced Coherent Control and Ultra-fast Dynamics*, Feb 14, 2017, Kansas State University, Manhattan, KS
7. *Electron and photon impact induced processes in Molecules*, Jan 5, 2017, Laboratoire Ondes et Milieux complexes, Université du Havre, Le Havre, France
6. *Multi-photon two-color ionization of atoms and ions by femtosecond pulses*, The International Conference on Many Particle Spectroscopy of Atoms, Aug 23-28, 2016, Moscow, Russia
5. *Electron-impact induced chemistry and coherent control of quantum phenomena with lasers*, Nov 30 2015, Drake University, Des Moines, IA

4. *Electron-impact induced chemistry in Plasmas, Astrophysics and Biophysics*, Apr 2 2015, Sacramento State University, Sacramento, CA
 3. *Radiative electron attachment to molecules of astrophysical interest*, July 9 2013, The 9th international conference on dissociative recombination, Paris, France
 2. *Time-resolved molecular-frame photoelectron angular distribution (MFPAD): Snapshots of acetylene and ethylene photoisomerization*, Dec 4 2012, Institute for theoretical atomic molecular and optical physics (Harvard), workshop on “The theory of electron-molecule collisions for astrophysics, biophysics and low temperature plasmas: opportunities and challenges”, Cambridge, MA.
 1. *Breaking a tetrahedral molecular ion with electrons: Study of NH_4^+* , Feb 9 2012, The Roy. Soc. Disc, Meeting: Physics Chemistry, and Astronomy of H_3^+ , London, UK
- OTHER CONFERENCE CONTRIBUTIONS: Presented research work as oral and poster contributed presentations at more than 30 scientific conferences worldwide.
 - GRANTS
 - Nov 2023: PI on the NSF proposal; “*Non-perturbative processes in atoms and molecules driven by optical laser fields* ” (\$269,285) – **under review**
 - Sep 2023: Co-PI on the collaborative NSF proposal; “*Frameworks: An Advanced Cyberinfrastructure for Atomic, Molecular, and Optical Science (AMOS): Democratizing AMOS for Research and Education*” (\$101,289) – **awarded**
 - Dec 2021: Co-PI on the XSEDE-090031 proposal; “*Benchmark Calculations for Electron and Photon Collisions with Complex Atoms and Ions*” – **awarded**
 - June 2020: PI on the NSF proposal; “*Attosecond and strong field Physics in correlated multi-electron systems*” (\$139,576) – **awarded**
 - Nov 2018: Co-PI on the XSEDE-090031 proposal; “*Benchmark Calculations for Electron and Photon Collisions with Complex Atoms and Ions*” – **awarded**
 - Nov 2018: Project Assistant on the NSF proposal; “*Attosecond photoemission dynamics: novel ab initio methods for atomic and molecular ex-situ spectroscopies*”
 - May 2016: Collaboration researcher on the FERMI proposal 20144078; “*Attosecond pulse shaping using a seeded FEL*”
 - SERVICE
 - Feb 2024: Volunteering judge at The Technology Student Association (FL TSA) State Conference and Competition.
 - Aug 2023 - Present: Organizer of the *Attosecond journal club*, Dept. of Physics, UCF
 - Aug 2023 - Present: Lead guest editor on the special issue: “*Applications of Ab-Initio Calculations in Atomic, Molecular, and Optical Physics*” for the journal *Atoms* from the Multidisciplinary Digital Publishing Institute (MDPI).
 - Spring 2024: Member of the faculty search committee in theoretical condensed matter/semiconductor, UCF.
 - Aug 2023 - Present: Member of the assessment BA/BS, Undergraduate life, and Web-page and social media committees, UCF.

- 2020 – 2023: Member of the Physics Curriculum committee, KSU.
- 2019 - 2022: Member of the local organizing committee of the *ATTO VIII* conference and co-editor of the book of abstracts, UCF.
- Spring 2021: Member of the search committee for three lecturer positions, KSU.
- Nov 2020: Member of the PhD thesis defense committee of Hainan Liu : “*Theoretical study of electron collisions with NO₂ and N₂O molecules for control and reduction of atmospheric pollution*”, Université Paris-Saclay
- Nov 2020: Member of the PhD thesis defense committee of Xian Wu Jiang: “*Hydrocarbon molecules databases for waste treatment applications*”, Université Paris-Saclay
- 2020-2021: Member of the College awards committee, KSU
- Oct 2018: Participant in physics demonstrations for the *UCF Physics Career Exploration day 2018*.
- Spring 2017: Participant in the First Year Seminar monthly meetings, Drake University
- Fall 2016 - Spring 2017: Participant in the *Scholarship of Teaching & Learning (SoTL)*, Drake University
- Fall 2016: High-school Outreach Program: Visit of High Schools in West Des Moines to promote careers in Physics and Engineering.
- Spring 2016: Member of the organization of the *Drake Physics Prize*.
- REFEREE FOR: Nat. Phys., Nat. Comm., Phys. Rev. Lett., J. Chem. Phys., Euro. Phys. J. D, J. Phys. B: At. Mol. Phys., Front. in Physics, PNAS, Phys. Rev. A, and Atoms
- AD HOC SERVICES FOR AGENCIES: NSF (Reviewer & Panelist) and DOE (Reviewer)
- MEMBER OF: the American Physical Society (APS) and Institute Of Physics (IOP)