CURRICULUM VITAE

Professor Rami Moustafa Ali

ADDRESS

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PERSONAL INFORMATION

Date of Birth: 27/4/1964
Nationality: Jordanian
Marital status: Married with two sons

EDUCATION

- **B.S.**, Physics, **Yarmouk University**, Jordan, 1986.
- **Ph.D.**, Physics, **Kansas State University**, USA, 1993.
  Dissertation: Dielectronic Recombination on and Electron-Impact Excitation of He-Like Ions and Multi-Electron Processes in Slow Collisions of Highly Charged Ions with Atoms.
  Dissertation Advisor: Professor C. Lewis Cocke.

RESEARCH AREA

- **Laboratory Astrophysics**: applications of atomic and molecular physics in astrophysics.

PROFESSIONAL MEMBERSHIPS

- **American Astronomical Society.**
  - Laboratory Astrophysics Division (LAD).
- **American Physical Society**.
  - Division of Astrophysics (DAP).
  - Division of Atomic, Molecular & Optical Physics (DAMOP).

ADMINISTRATIVE APPOINTMENTS

- Director, International Affairs Unit, The University of Jordan, Amman, Jordan, 2008-2018.

ACADEMIC APPOINTMENTS

- Visiting Professor of Physics, American University of Sharjah, UAE, August 2018-2020.
- Professor of Physics (**Tenured**), The University of Jordan, Amman, Jordan, 2016-present.
- Associate Professor of Physics, The University of Jordan, Amman, Jordan, 2005-2016.
- Associate Professor of Physics, The Hashemite University, Zarqa, Jordan, 2002-2005.
- Associate Professor of Physics (**Tenured**), University of Nevada, Reno, USA, 2000-2002.
- Assistant Professor of Physics, University of Nevada, Reno, USA, 1995-2000.
- Postdoctoral Appointee, Argonne National Laboratory, USA, 1993-95.
- Research Assistant, Kansas State University, USA, 1989-93.
- Teaching Assistant and Laboratory Coordinator, Kansas State University, USA, 1988-89.
- Laboratory Supervisor, The University of Jordan, Jordan, 1987-88.
- Teaching Assistant, Yarmouk University, Jordan, 1986-87.

AWARDS & HONORS

- Nominated by the College of Arts & Science for the campus-wide Tibbitt's Distinguished Teacher Award, University of Nevada, Reno, USA, 2000,
- Runner-up of the Alan Bible Teaching Excellence Award, College of Arts & Science, University of Nevada, Reno, USA, 2000.
- The College of Arts & Sciences Graduate Teaching Award, Kansas State University, USA, 1989.
- Royal Award for Academic Excellence, granted by His Majesty the Late King Hussein of Jordan, 1986, for ranking first among the 43 physics graduates in the class of 1986.
- Yarmouk Medal for Academic Excellence, Yarmouk University, Jordan, 1986, for ranking first among the 43 physics graduates in the class of 1986.

RESEARCH PROFILE

Research Interests:

Laboratory Astrophysics: applications of atomic and molecular physics in astrophysics.

Citation Report:

Database	Citations	*h*-Index
Web of Science	981	19
Scopus	983	20
Google Scholar	1353	20

Areas of Laboratory Astrophysics Research Expertise:

- **Electro-ion collisions**: excitation, ionization, radiative and dielectronic recombination.
- **Multi-electron processes in low- and high-energy collisions of multiply charged ions with atoms and molecules**: charge exchange (electron capture), electron loss, ionization, radiative and Auger decays.
- **Atomic structure of few-electron highly charged ions**: relativistic effects, correlation effects, forbidden transitions.
- **Ultrafast intense laser interactions:** formation of astrophysically relevant molecular cations.

Experimental Techniques Employed:

- Cold Target Recoil ion momentum spectroscopy (COLTRIMS).
- Auger electron spectroscopy.
- X-ray spectroscopy.
- EUV and VUV spectroscopy.
- Beam-foil spectroscopy.
- Rutherford backscattering spectroscopy.
- Time-of-flight coincidence techniques.
- Position imaging techniques.
- Multi-parameter event-mode data acquisition and control.
- Vacuum techniques.

Ionizing Radiation Sources Utilized:

- Electron-beam ion sources (EBIS).
- Electron cyclotron resonance ion sources (ECRIS).
- One-stage Van de Graaff accelerators.
- Two-stage (Tandem) Van de Graaff accelerators.
- Linear accelerators (LINAC).
- Intense femtosecond lasers.

SPECIALIZED TRAINING

- U.S. Department of Energy Core Radiological Training (Radiation Worker I), Argonne National Laboratory, USA, 1993.

SUPERVISED RESEARCH

Ph.D. Dissertations:

2. Hanan M. Sa'adaeh (co-supervisor), "*Correlation of Backscattered and Recoil Ions in Violent Ion-Atom Collisions by Coincident Rutherford Backscattering Spectrometry*,'' The University of Jordan, Amman, Jordan, January 2010.

1. Ahmad A. Hasan, "*Target Outer-Shell Excitation in Multiple-Electron Capture Collisions of Slow Highly-Charged Ions with Many-Electron Atoms*,'' University of Nevada, Reno, USA, December 2000.

M.S. Theses:

10. Derar H. Mallah, "*Experimental Studies of the Energy Dependence of State-Selective Non-dissociative Single Electron Capture in He^{2+} on H_2 Collisions Using Cold Target Recoil Ion Momentum Spectroscopy*," The University of Jordan, Amman, Jordan, August 2016.

9. Fatin D. Dwaib, "*Charge Transfer Studies in Intermediate Energy Collisions of Multiply Charged Oxygen Ions with Helium Atoms*,'' The University of Jordan, Amman, Jordan, July 2009.

8. Hossam Y. Eed, "*Impact Energy Dependence Study of the Kinetic Energy Release from the Fragmentation of CO^{2+} in He^{2+} with Carbon Monoxide Collisions*,'' The University of Jordan, Amman, Jordan, December 2008.

7. Rawan H. Al-Qudah, "*Studies of State-Selective Nondissociative Single Electron Capture in Intermediate Energy Collisions of He^{2+} with Molecular Hydrogen*,'' The University of Jordan, Amman, Jordan, December 2008.

6. Naeem O. Balasmeh, "*Studies of Single and Double Electron Capture in He^{2+} on Ne Collisions Using Cold Target Recoil Ion Momentum Spectroscopy*,'' The University of Jordan, Amman, Jordan, May 2008.

5. Rajaie Y. Qasem, "*Cold Target Recoil Ion Momentum Spectroscopy Studies of Single and Multiple Projectile Electron Loss in O^{+} on He Collisions*,'' The University of Jordan, Amman, Jordan, May 2008.

4. Ayman A. Al-Khateeb (co-supervisor), "*Simulation and Operation of the Recoil Ion Spectrometer of the COLTRIMS Apparatus at the University of Jordan*,'' The Hashemite University, Zarqa, Jordan, December 2007.

3. Zainab J. Al-Asfar (co-supervisor), "*Thermoluminescence TL-Response and Characterization of Thin Film Systems Deposited onto Si Substrates*,'' The University of Jordan, Amman, Jordan, January 2007.

2. Farhat. Eissa, "*State-Selective Charge Transfer Studies Relevant to Solar Wind-Comet Interactions*,'' University of Nevada, Reno, USA, August 2002.

1. Haci M. Cakmak, "*In Search of Target Excitation in Low Energy Ion-Atom Collisions*,'' University of Nevada, Reno, USA, November 1996.

Undergraduate Senior Theses:

2. Erik D. Emmons, "*Ion-Atom Collisions Studied by Simultaneous Auger-Electron and Recoil-Ion Momentum Spectroscopy*,'' University of Nevada, Reno, USA, May 2000.

1. Timur Y. Osipov, "*Implementation of Kmax: A Versatile Data Acquisition and Control System*,'' University of Nevada, Reno, USA, February 1997.

Postdoctoral Fellows:

2. Guillermo Hinojosa (jointly with Prof. R.A. Phaneuf), University of Nevada, Reno, USA, September 1998-December 2000.

1. Hocine Merabet, University of Nevada, Reno, USA, March 1996-March 1998.

PUBLICATIONS

56. T. Jahnke, V. Mergel, O. Jagutzki, A. Czasch1, K.Ullmann, **R. Ali**, V. Frohne, T. Weber, L. P. Schmidt, S. Eckart, M. Schöffler, S. Schößler, S. Voss, A. Landers, D. Fischer, M. Schulz, A. Dorn, L. Spielberger; R. Moshammer, R. Olson, M. Prior, R. Dörner, J. Ullrich, C. L. Cocke, and H. SchmidtBöcking, "*High-Resolution Momentum Imaging - From Sterns Molecular Beam Method to the COLTRIMS Reaction Microscope*," in Molecular Beams in Physics and Chemistry: From Otto Stern's Pioneering Exploits to Present-Day Feats, edited by Bretislav Friedrich and Horst Schmidt-Böcking, (Cham: Springer, 2021), appears online March 2021.

55. Philipp Rosenberger, Philipp Rupp, **Rami Ali**, M. Said Alghabra, Shaohua Sun, Sambit Mitra, Sharjeel A. Khan, Ritika Dagar, Vyacheslav Kim, Mazhar Iqbal, Johannes Schötz, Qingcao Liu, Shanmugavelayutham K. Sundaram, Julia Kredel, Markus Gallei, Cesar Costa-Vera, Boris Bergues, Ali S. Alnaser, and Matthias F. Kling, "*Near-Field Induced Reaction Yields from Nanoparticle Clusters*," ACS Photonics **7**, 1885 (2020).

54. R.S. Cumbee, L. Liu, D. Lyons, D.R. Schultz, P. C. Stancil1, J.G. Wang, and **R. Ali,** "*Ne X X-ray Emission due to Charge Exchange in M82*," Monthly Notices of the Royal Astronomical Society **458**, 3554 (2016).

53. F. Afaneh, **R. Ali**, R. Qasem, N. Balasmeh, S. Hamasha, R. Dörner, H. Schmidt-Böcking, "*First results from the Jordan COLTRIMS imaging system*," Nucl. Instrum. and Meth. B **380**, 84 (2016).

52. **R. Ali**, P. Beiersdorfer, C.L. Harris, and P.A. Neill, "*Charge-exchange x-ray spectra: Evidence for significant contributions from radiative decays of doubly excited states*," Phys. Rev. A 93, 012711 (2016).

51. H. Sa'adeh, **R. Ali**, and D.-E. Arafah, ''*Charge-state distributions of energetic ^{4}He ions backscattered from Kr gas target*,'' Nucl. Instrum. and Meth. B **271**, 33 (2012).

50. H. Sa'adeh, **R. Ali**, and D.-E. Arafah, ''*Coincident Rutherford Backscattering Spectrometry: A novel technique for measuring charge state distributions in violent ion–atom collisions*,''Nucl. Instrum. and Meth. B **269**, 2111 (2011).
49. **R. Ali**, P.A. Neill, P. Beiersdorfer, C.L. Harris, D.R. Schultz, and P.C. Stancil, ''*Critical Test of Simulations of Charge-Exchange-Induced X-Ray Emission in the Solar System*,''Astrophys. J. Lett.**716**, L95 (2010).

48. **Rami Ali**, ''*Simultaneous COLTRIMS And X-Ray Spectroscopic Studies Relevant To Cometary, Planetary, And Heliospheric X-Ray Emission*,'' in proceedings of the 15th International Conference

on Atomic Processes in Plasmas, edited by J. D. Gillaspy, J. J. Curry, and W. L. Wiese, AIP Conf. Proc. No **926** (AIP, New York, 2007), p. 216.

47. **R. Ali**, P.A. Neill, C.L. Harris, P. Beiersdorfer, D.R. Schultz, M.J. Rakovic', P.C. Stancil, and J.G. Wang, ''*On the significance of the contribution of multiple-electron capture processes to cometary X-ray emission*,'' Astrophys. J. **629**, L125 (2005).

46. A.S. Alnaser, B. Ulrich, X-M. Tong, I.V. Litvinyuk, C.M. Maharjan, P. Ranitovic, T. Osipov, **R. Ali**, S. Ghimire, Z. Chang, C.D. Lin, and C.L. Cocke, ''*Simultaneous real-time tracking of coherent wave packets on two different potential curves in* H_2+ *and* D_2^+,'' (Rapid Communications) Phys. Rev. A **72**, 030702(R) (2005).

45. E. Wells, K.D. Carnes, H. Tawara, **R. Ali**, E.Y. Sidky, C. Illescas, and I. Ben-Itzhak, ''*One- and two-electron processes in collisions between hydrogen molecules and slow highly charged Ions*,'' Nucl. Instrum. and Meth. B **241**, 101 (2005).

44. E.Y. Kamber, **R. Ali**, and A.A. Hasan, ''*State-selective single-electron capture in* Ne^{4+}*-He collisions*,'' Nucl. Instrum. and Meth. B **205**, 577 (2003).

43. P. C. Stancil, J. G. Wang, M. J. Rakovic', D. R. Schultz, and **R. Ali**, ''*Charge transfer data needs for cometary X-ray emission modeling*,'' in proceedings of 3rd International Conference on Atomic and Molecular Data and Their Applications ICAMDATA, edited by D. R. Schultz, P. S. Krstic', and F. Ownby, AIP Conf. Proc. No. **636** (AIP Press, Melville, NY, 2002), p. 144.

42. A. A. Hasan, F. Eissa, **R. Ali**, D. R. Schultz, and P. C. Stancil, ''*State-selective charge transfer studies relevant to solar wind-comet interactions*,'' Astrophys. J. **560**, L201 (2001).

41. P. Beiersdorfer, G.V. Brown, L. Hildebrandt, K. L. Wong, and **R. Ali**, ''*Multiparameter data acquisition system for spectroscopy*,'' Rev. Sci. Instrum. **72**, 508 (2001).

40. **Rami Ali**, Ahmad A. Hasan, Erik D. Emmons, and Guillermo Hinojosa, ''*New insights into multielectron processes in slow collisions of highly charged ions with many-electron neutral targets*,'' in proceedings of the Twelfth American Physical Society Topical Conference on Atomic Processes in Plasmas, edited by R.C. Mancini and R.A. Phaneuf, AIP Conf. Proc. No. **547** (AIP, New York, 2000), p. 147.

39. A.A. Hasan, E.D. Emmons, G. Hinojosa, and **R. Ali**, "*Evidence for significant target outer-shell excitation in multiple-electron capture collisions of slow highly charged ions with many-electron atoms*," Phys. Rev. Lett. **83**, 4522 (1999).

38. E.D. Emmons, A.A. Hasan, and **R. Ali**, "*Multiple-electron capture processes in 70 keV* $^{15}N^{7+}$ *+ Ar collisions: A triple-coincidence study*," Phys. Rev. A **60**, 4616 (1999).

37. H. Merabet, H.M. Cakmak, E.D. Emmons, A.A. Hasan, T. Osipov, R.A. Phaneuf, and **R. Ali**, "*Production and relaxation pathways of multiply excited states in slow highly charged ion-atom collisions*,'' (Rapid Communications) Phys. Rev. A **59**, R3158 (1999).

36. H. Merabet, H.M. Cakmak, A.A. Hasan, E.D. Emmons, T. Osipov, R.A. Phaneuf, and **R. Ali**, "*Investigation of multi-electron processes in 60 keV* O^{6+} *+ Ar collisions using a triple coincidence technique*,'' in Proceedings of the Fifteenth International Conference on the Application of Accelerators in Research and Industry, edited by J.L. Duggan and I.L. Morgan, AIP Conf. Proc. No. **475** (AIP, New York, 1999), p. 99.

35. V. Mergel, R. Dörner, M. Achler, Kh. Khayyat, S. Lencinas, J. Euler, O. Jagutzki, S. Nüttgens, M. Unverzagt, L. Spielberger, W. Wu, **R. Ali**, J. Ullrich, H. Cederquist, A. Salin, C.J. Wood, R.E. Olson, Dz. Belkic, C.L. Cocke, and H. Schmidt-Böcking, "*Intra-atomic electron-electron-scattering in p-He collisions (Thomas process) investigated by cold target recoil ion momentum spectroscopy*,'' Phys. Rev. Lett. **79**, 387 (1997).

34. M.P. Stockli, **R. M. Ali**, C.L. Cocke, S. Cowherd, D. Fry, P.E. Gibson, S. Lampenscherf, R.A. Mack, D.C. Parks, M.L.A. Raphaelian, L. Rebohle, N. Renard, P. Richard, T.N. Tipping, T. Werner, J. Werrick, S. Winecki, and W. Wu, "*Production, operation and status of the KSU CRYEBIS facility*,'' Physica Scripta **T71**, 188 (1997).

33. W. Wu, K.L. Wong, E.C. Montenegro, **R. Ali**, C.Y. Chen, C.L. Cocke, R. Dörner, V. Frohne, J.P. Giese, V. Mergel, W.E. Meyerhof, M. Raphaelian, H. Schmidt-Böcking, and B. Walch, "*Electron-electron interaction in the ionization of O^{7+} by He*,'' Phys. Rev. A. **55**, 2771 (1997).

32. **R. Ali**, I. Ahmad, H.G. Berry, R.W. Dunford, D.S. Gemmell, M. Jung, E.P. Kanter, P.H. Mokler, A.E. Livingston, S. Cheng, and L.J. Curtis, "*Shape of the two-photon-continuum emission from the 1s2s $^1S_0$ state in He-like krypton*,'' Phys. Rev. A **55**, 994 (1997).

31. **R. Ali**, H.G. Berry, R.W. Dunford, D.S. Gemmell, E.P. Kanter, T. LeBrun, H.M. Reichenbach, and L. Young, "*The VUV spectrum from fast heavy-ion induced excitation of C_{60}*,'' J. Phys. B: At. Mol. Opt. Phys. **29**, 5607 (1996).

30. V. Frohne, S. Cheng, **R.M. Ali**, M.L.A. Raphaelian, C.L. Cocke, and R. Olson, "*Measurements of recoil and projectile momentum distributions for 19-MeV F^{9+} + Ne*,'' Phys. Rev. A. **53**, 2407 (1996).

29. **R. Ali**, H.G. Berry, S. Cheng, R.W. Dunford, H. Esbensen, D.S. Gemmell, E.P. Kanter, T. LeBrun, and L. Young, "*The interactions of high-energy, highly charged ions with fullerenes*,'' in Advances in Nuclear Dynamics 2, edited by W. Bauer and G.D. Westfall, (Plenum Press, New York, 1996), p. 279.

28. **R. Ali**, H.G. Berry, S. Cheng, R.W. Dunford, H. Esbensen, D.S. Gemmell, E.P. Kanter, T. LeBrun, L. Young, and W. Bauer, "*The interactions of high-energy, highly charged Xe ions with buckyballs*,'' Nucl. Instrum. and Meth. B **96**, 545 (1995).

27. R. Dörner, V. Mergel, **R. Ali**, U. Buck, C.L. Cocke, K. Froschauer O. Jagutzki, S. Lencinas, W.E. Meyerhof, S. Nüttgens, R.E. Olson, H. Schmidt-Böcking, L. Spielberger, K. Tökesi, J. Ullrich, M. Unverzagt, and W. Wu, "*Electron-electron interaction in projectile ionization*,'' Nucl. Instrum. and Meth. B **98**, 367 (1995).

26. A.E. Livingston, K.W. Kukla, C.M. Vogel Vogt, H.G. Berry, R.W. Dunford, D.S. Gemmell, E.P. Kanter, J. Suleiman, **R. Ali**, S. Cheng, and L.J. Curtis, "*Fine structure energies for the 1s2s^{3}S-1s2p^{3}P transition in helium-like ions*,'' Nucl. Instrum. and Meth. B **98**, 28 (1995).

25. **R. Ali**, I. Ahmad, H.G. Berry, R.W. Dunford, D.S. Gemmell, E.P. Kanter, P.H. Mokler, A.E. Livingston, S. Cheng, and L.J. Curtis, "*Spectral distribution of the two-photon decay of He-like krypton*,'' Nucl. Instrum. and Meth. B **98**, 69 (1995).

24. C.L. Cocke, W. Wu, K.L. Wong, **R. Ali**, V. Frohne, R. Dörner, V. Mergel, K. Froschauer, O. Jagutzki, R.E. Olson, H. Schmidt-Böcking, M. Unverzagt, W.E. Meyerhof, and J. Ullrich, "*Recoil Momentum Spectroscopy in Ion-Atom and Photon-Atom Collisions*,'' in Proceedings of the Workshop on Atomic Physics at High Brilliance Synchrotron Sources, Argonne National Laboratory, April 1994, Co-Chaired by G. Berry, P. Cowan, and D. Gemmell, ANL/APS/TM-14, p. 259.

23. W. Wu, J.P. Giese, Z. Chen, **R. Ali**, C.L. Cocke, P. Richard, and M. Stöckli, "*Evidence for population of highly asymmetric states in double electron capture by $O^{7,8+}$ and N^{7+} colliding with He at low to intermediate velocities*,'' Phys. Rev. A **50**, 502 (1994).

22. W. Wu, K.L. Wong, **R. Ali**, C.Y. Chen, C.L. Cocke, V. Frohne, J.P. Giese, M. Raphaelian, B. Walch, R. Dörner, V. Mergel, H. Schmidt-Böcking, and W.E. Meyerhof, "*Experimental separation*

of electron-electron and electron-nuclear contributions to ionization of fast hydrogenlike ions colliding with He,'' Phys. Rev. Lett. **72**, 3170 (1994).

21. R. Dörner, V. Mergel, **R. Ali**, U. Buck, C.L. Cocke, K. Froschauer, O. Jagutzki, S. Lencinas, W.E. Meyerhof, S. Nüttgens, R.E. Olson, H. Schmidt-Böcking, L. Spielberger, K. Tökesi, J. Ullrich, M. Unverzagt, and W. Wu, "*Electron-electron interaction in projectile ionization investigated by high resolution recoil ion momentum spectroscopy*,'' Phys. Rev. Lett. **72**, 3166 (1994).

20. **R. Ali**, C.L. Cocke, M.L.A. Raphaelian and M. Stockli, "*Multi-electron processes in 10 keV/u* Ar^{q+} $(5 \leq q \leq 17)$ *on Ar collisions*,'' Phys. Rev. A **49**, 3586 (1994).

19. W. Wu, J.P. Giese, I. Ben-Itzhak, C.L. Cocke, P. Richard, M. Stockli, **R. Ali**, H. Schöne, and R.E. Olson, "*Velocity dependence of one- and two-electron processes in intermediate-velocity* Ar^{16+} *+ He collisions*,'' Phys. Rev. A **48**, 3617 (1993).

18. B.P. Walch, S. Maleki, **R. Ali**, M.P. Stöckli, M.L.A. Raphaelian, C.L. Cocke and B.D. DePaola, "*Enhancement of charge capture from laser-excited target by highly charged ions*,'' (Rapid Communications) Phys. Rev. A **47**, R3499 (1993).

17. **R. Ali**, C.L. Cocke, M.L.A. Raphaelian and M. Stockli, "*Angular distribution measurements in multiple-electron capture collisions of 50 keV* Ar^{15+} *with Ar*,'' (Letter to the Editor) J. Phys. B: At. Mol. Opt. Phys. **26**, L685 (1993).

16. V.Frohne, S. Cheng, **R. Ali**, M. Raphaelian, C.L. Cocke and R.E. Olson, "*Measurements of recoil ion longitudinal momentum transfer in multiply ionizing collisions of fast heavy ions with multielectron targets*,'' Phys. Rev. Lett. **71**, 696 (1993).

15. **R. Ali**, C.L. Cocke, M.L.A. Raphaelian and M. Stockli, "*On the radiative stabilization in slow double-electron capture collisions of highly charged ions with neutral atoms*,'' (Letter to the Editor) J. Phys. B: At. Mol. Opt. Phys. **26**, L177 (1993).

14. J.P. Giese, W. Wu, I. Ben-Itzhak, C.L. Cocke, **R. Ali**, P. Richard, M. Stöckli and H. Schöne, "*One and two electron processes in collisions of highly charged ions with He at velocities around 1 a.u.*,'' in the Physics of Electronic and Atomic Collisions (XVIII International Conference, Aarhus, Denmark, July 1993), edited by Torkild Andersen *et al*., AIP Conf. Proc. No. **295** (AIP, New York, 1993), p.585.

13. B. d'Etat, J.P. Briand, G. Ban, L. de Billy, P. Briand, J.P. Desclaux, G. Melin, T. Lamy, M. Lamboley, P. Richard, M. Stockli, **R. Ali**, N. Renard, D. Schneider, M. Clark, P. Beiersdorfer and V. Decaux, "*X ray spectroscopy of highly charged ions interacting with surfaces*,'' in VI*th* International Conference on the Physics of Highly Charged Ions, edited by Patrick Richard *et al*., AIP Conf. Proc. No. **274** (AIP, New York, 1993), p. 592.

12. W. Wu, J.P. Giese, P. Richard, M. Stockli, **R. Ali**, C.L. Cocke and H. Schöne, "*One and two electron processes in 0.9 keV/u to 60 keV/u* Ar^{16+} *+ He collisions*,'' in VI*th* International Conference on the Physics of Highly Charged Ions, edited by Patrick Richard *et al*., AIP Conf. Proc. No. **274** (AIP, New York, 1993), p. 147.

11. C.L. Cocke, M. Stockli, **R. Ali**, M. Schulz and C.P. Bhalla, "*Atomic physics experiments on the KSU EBIS*,'' in The 5-th International Symposium on Electron Beam Ion Sources and their Applications, edited by E.D. Donets and I.P. Yudin, (Scientific Research Firm "I.V.K.-SOFT", 1993), p. 101.
10. Martin P. Stockli, **R.M. Ali**, C.L. Cocke, M.L.A. Raphaelian, P. Richard and T.N. Tipping, "*The KSU-CRYEBIS: A unique ion source for low-energy highly-charged ions*,'' in The 5-th International Symposium on Electron Beam Ion Sources and their Applications, edited by E.D. Donets and I.P. Yudin, (Scientific Research Firm "I.V.K.-SOFT", 1993), p. 82.

9. **R. Ali**, V. Frohne, C.L. Cocke, M. Stockli, S. Cheng and M.L.A. Raphaelian, "*Q-value measurements in charge transfer collisions of highly charged ions with atoms by recoil longitudinal momentum spectroscopy*,'' Phys. Rev. Lett. **69**, 2491 (1992).

8. Martin P. Stockli, **R.M. Ali**, C.L. Cocke, M.L.A. Raphaelian, P. Richard and T.N. Tipping, "*The KSU-CRYEBIS: A unique ion source for low-energy highly charged ions*,'' Rev. Sci. Instrum. **63**, 2822 (1992).

7. **R. Ali**, C.P. Bhalla, C.L. Cocke, M. Schulz and M. Stockli, "*Electron-ion recombination experiments on the KSU EBIS*,'' in Recombination of Atomic Ions, edited by W.G Graham *et al*., (Plenum Press, New York, 1992), p. 193.

6. **R. Ali**, C.P. Bhalla, C.L. Cocke, M. Schulz and M. Stockli, "*X-rays from electron bombardment of heliumlike argon*,'' Z. Phys. D **21**, s207 (1991).

5. **R. Ali**, C.P. Bhalla, C.L. Cocke, M. Schulz and M. Stockli, "*Dielectronic recombination on and electron-impact excitation of heliumlike argon*,'' Phys. Rev. A **44**, 223 (1991).

4. M. Schulz, **R. Ali**, C.L. Cocke, S. Hagmann, M. Stockli and H. Schmidt-Böcking, "*Recent experiments on the KSU CRYEBIS*,'' Nucl. Instrum. and Meth. B **56/57**, 1161 (1991).

3. C.L. Cocke, **R. Ali**, C.P. Bhalla, M. Stockli and M. Schulz, "*Recent experiments on the KSU EBIS*,'' Nucl. Instrum. and Meth. B **53**, 432 (1991).

2. M.P. Stockli, **R. M. Ali**, K.R. Buck, A.C. Canelos, C.L. Cocke, P.E. Gibson, P.E. Lammert, G.J. Lehman, C.L. Lewis, R.A. Mack, B.C. McLaren, M.D. Morrison, M. Schulz, J.M. Socolofsky and S.D. Worm, "*The KSU-CRYEBIS: A unique accelerator system for low energy, highly charged ions*,'' in Symposium of North-Eastern Accelerator Personnel, edited by T.N. Tipping and R.D. Krause, (World Scientific, Singapore, 1991), p. 79.

1. **R. Ali**, C.P. Bhalla, C.L. Cocke and M. Stockli, "*Dielectronic recombination on heliumlike argon*,'' Phys. Rev. Lett. **64**, 633 (1990).

INVITED SCIENTIFIC TALKS

18. "*Experimental Studies of the Energy Dependence of State-Selective Non-Dissociative Single Electron Capture in He^{2+} on H_2 Collisions,*'' IAEA Technical Meeting on Uncertainty Assessment and Benchmark Experiments for Atomic and Molecular Data for Fusion Applications, IAEA Headquarters, Vienna, Austria, December 2016.

17. "*Charge Exchange Measurements Using Simultaneous X-Ray and COLTRIMS Measurements*,'' 15th International Conference on the Physics of Highly Charged Ions (HCI2010), Shanghai, China, August-September 2010.

16. ''*Simultaneous COLTRIMS And X-Ray Spectroscopic Studies Relevant To Cometary, Planetary, And Heliospheric X-Ray Emission*,'' Colloquium, Department of Physics, University of Nevada, Reno, Nevada, USA, July 2008.

15. ''*COLTRIMS: A Reaction Microscope for Studying the Interaction of Synchrotron Radiation with Atoms, Molecules, and Clusters*,'' 6th SESAME Users' Meeting, Amman, Jordan, November, 2007.

14. ''*Training and Educating Future Generations of Middle East Scientists Using SESAME and JOVAC*,'' IAEA Technical Meeting on Enhancing Nuclear Science Education and Training using Accelerators, Accra, Ghana, September 2007.

13. ''*Coincident COLTRIMS and X-ray spectroscopic studies of charge exchange processes*,'' X-ray Emission in the Solar System Workshop, Harvard Smithsonian Center for Astrophysics, Cambridge, Massachusetts, USA, July 2007.

12. ''*Simultaneous COLTRIMS And X-Ray Spectroscopic Studies Relevant To Cometary, Planetary, And Heliospheric X-Ray Emission*,'' the 15th International Conference on Atomic Processes in Plasmas (APiP), Gaithersburg, Maryland, USA, March 2007.

11. ''*Unraveling Ionic and Photonic Interactions with Atoms and Molecules Using COLTRIMS, Auger, and X-ray Spectroscopy*,'' the 2nd Jordanian Synchrotron Users Workshop, Amman, Jordan, September 2006.

10. "*Multielectron Processes in Low Energy Collisions of Multiply Charged Ions with Many-Electron Atoms*," the XXII International Conference on Photonic, Electronic, and Atomic Collisions (ICPEAC), Santa Fe, New Mexico, USA, July 2001.

9. "*Target Excitation in Multiple-Electron Capture Collisions of Slow Multiply Charged Ions with Many-Electron Targets*," the 16th International Conference on the Applications of Accelerators in Research and Industry (CAARI), Denton, Texas, USA, November 2000.

8. "*New Insights into Multielectron Processes in Slow Collisions of Highly Charged Ions with Many-Electron Neutral Targets*," the 12th American Physical Society Topical Conference on Atomic Processes in Plasmas (APiP), Reno, Nevada, USA, March 2000.

7. "*Attempts Toward a Deeper Understanding of Multielectron Processes in Slow Highly Charged Ion-Atom Collisions*,'' annual meeting of the Division of Atomic, Molecular and Optical Physics (DAMOP) of the American Physical Society, Washington, DC, USA, April 1997.

6. "*Multielectron Phenomena in Low Energy Collisions of Multiply Charged Ions with Atoms*,'' Department of Physics, University of Nevada, Reno, USA, October 1994.

5. "*X-ray Emission in Charge-Transfer Collisions of Slow Highly Charged Ions with Neutral Atoms*,'' 16th International Conference on X-ray and Inner-Shell Processes, Debrecen, Hungary, July 1993.

4. "*Multielectron Processes in Slow Collisions of Highly Charged Ions with Atoms*,'' Institute for Nuclear Physics, Frankfurt University, Frankfurt, Germany, June 1993.

3. "*Multielectron Processes in Low Energy Collisions of Highly Charged Ions with Atoms*,'' Physics Division, Argonne National Laboratory, Argonne, Illinois, USA, May 1993.

2. "*On the Radiative Stabilization in Slow Double-Electron Capture Collisions of Highly Charged Ions with Atoms*,'' V-Division, Lawrence Livermore National Laboratory, Livermore, California, USA, May 1993.

1. "*Q-Value Measurements in Charge Transfer Collisions of Highly Charged Ions with Atoms by Recoil Longitudinal Momentum Spectroscopy*,'' (Hot Topics Session), VIth International Conference on the Physics of Highly Charged Ions (HCI), Manhattan, Kansas, USA, September-October 1992.

INVITED ADMINISTRATIVE TALKS

5. "*From Erasmus Mundus to Erasmsus+: The University of Jordan Experience*," 10 Years of Erasmus Mundus Partnerships (2007-2017) – Worldwide Bridges towards the Future, Brussels, Belgium, February 2017.

4. "*Internationalization of The University of Jordan*," Bilateral Erasmus+ Higher Education Seminar: Lithuania-Jordan, Amman, Jordan, November 2016.

3. "*Good Practices on Management of University Student Mobility*," Recognition of Qualifications and Internationalisation of Higher Education in the Euro-Mediterranean Region Conference, Bologna, Italy, May 2016.

2. "*UJ in the Global Age*,'' Higher Education in the Global Age Conference organized in conjunction with the dedication of the downtown campus of NYU Abu Dhabi, Abu Dhabi, UAE, December 2009.

1. "*EMECW: UJ's Most Effective Academic Mobility Mechanism Yet*,'' 21st Annual European Association for International Education (EAIE) Conference, Madrid, Spain, September 2009.

PROFESSIONAL SERVICES

In addition to serving on numerous departmental, college, and university committees at the four universities I worked at, I

Served as:

- Member, several Selection and Review Committees, Jordanian-American Commission for Educational Exchange (JACEE) (aka The Binational Fulbright Commission in Jordan), 2014-2018.
- Expert participant, "IAEA Technical Meeting on Uncertainty Assessment and Benchmark Experiments for Atomic and Molecular Data for Fusion Applications," IAEA Headquarters, Vienna, Austria, December 2016.
- Trainer, "IAEA Regional Training Course on Atmospheric Aerosol Sampling Procedures and Analysis Techniques," November 2013.
- Trainer, "IAEA Regional Training Course on Advanced Nuclear and Related Analytical Techniques in Art and Archaeology," Amman, Jordan, July 2009.
- Jordan National Coordinator, IAEA Regional Project RAS/1/010, ARASIA "Use of Small Accelerators as Nuclear Analytical Tool in Art and Archeology," 2008-2009.
- Expert participant, "IAEA Technical Meeting on Enhancing Nuclear Science Education and Training using Accelerators," Accra, Ghana, September 2007.
- Member, SESAME Jordanian Users Committee, 2006-2007.
- Member, Scientific Program and Local Organizing Committees, Sixth SESAME Users' Meeting, Amman, Jordan, 17-19 November, 2007.

Refereed for:

- Physical Review Letters.
- Physical Review A.
- Physica Scripta.
- Canadian Journal of Physics.
- Jordan Journal of Physics
- Dirasat (published by The University of Jordan)
- U.S. National Science Foundation (NSF), Atomic and Molecular Dynamics Program, grant proposals.
- U.S. Civilian Research and Development Foundation for the Independent States of the Former Soviet Union, grant proposals.
- Nevada Space Grant Consortium, student project grant proposals.