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### Education

*Ph.D.*: June 1985, Yale University, Physics Department, New Haven, CT  
*M.S.*: June 1981, Yale University, Physics Department, New Haven, CT  
*M.Phil.*: June 1981, Yale University, Physics Department, New Haven, CT  
*B.S.*: June 1979, Boğaziçi University, Istanbul, Turkey

### Positions

*Professor of Physics* (2000-present)  
Vanderbilt University, Department of Physics and Astronomy, Nashville, TN  
*Associate Professor of Physics* (1993-2000)  
Vanderbilt University, Department of Physics and Astronomy, Nashville, TN  
*Assistant Professor of Physics* (1986-1993)  
Vanderbilt University, Department of Physics and Astronomy, Nashville, TN  
*Research Investigator* (1985-1986)  
University of Pennsylvania, Physics Department, Philadelphia, PA  
*Research Assistant* (1983-1985)  
Oak Ridge National Laboratory, Physics Division, Oak Ridge, TN  
*Research Assistant* (1981-1983)  
Wright Nuclear Structure Laboratory, Yale University, New Haven, CT  
*Teaching Assistant* (1979-1981)  
Physics Department, Yale University, New Haven, CT  
*Research Assistant* (June-September 1978)  
Rutherford Laboratory, Oxford, UK

### Specialization and Memberships

*Main Field*: Theoretical Nuclear Physics  
*Other Fields*: Computational Physics  
*Memberships*: APS-DNP, FRIB Theory Alliance, TALENT

### Recent Conference Scientific Committee/IAC Memberships

1. Co-organizer, session on Fusion/Fission, *Gordon Research Conference (GRC2015)*
2. International Advisory Committee, **ICFN6** (November, 2016)
3. International Advisory Committee, **FUSION17** (February 2017)
4. Scientific Committee, **SHE2017** (September 2017)
5. Scientific Committee, **NNPA2018**, Antalya, Turkey (June 2018)
6. Scientific Committee, **TAN '19**, Wilhelmshaven, Germany (August 2019)
7. International Advisory Committee, **FUSION23** (November 2023)

## Publication Record

[h-index \(WebOfScience/publons\)](#): 46/45

[h-index \(Google Scholar\)](#): 49

Articles Published in Refereed Journals: 151

Articles Published in Books: 56

Abstracts and Seminars: 86

International Conferences: 88

Editor of Conference Proceedings: 2

Physical Review C	82
Physical Review A	6
Physical Review B	1
Physical Review E	2
Physical Review Letters	7
Physics Letters A,B	15
Nuclear Physics A	4
Prog. Part. Nucl. Phys.	1
J. Phys. G	3
Front. Phys.	2
Intl. Journal of Mod. Phys.	3
J. of Computational Phys.	2
Comp. Phys. Comm.	5
Astrophysical Journal	2
Eur. Phys. J	16
Physics Reports	1
Annals of Physics	1
Nucl. Inst. Meth. B	1

## Ph.D. Students

David Dean: 1987-1991, Deputy Director JLAB

Cem Güçlü: 1989-1995, Professor, ITU, Istanbul, Turkey

Alan Calder: 1992-1997, Professor, Stony Brook

Edgar Teran: 1998-2003, Scientist, PROS Software, Houston, TX

David Pigg: 2007-2012, Assistant Professor, Lee University

Kyle Godbey: 2016-2019, Research Assistant Professor, FRIB/MSU

## Research Funding and Fellowships

DOE-NP

Helmholtz Visiting Fellow

DOE Grand Challenge Award

Consultant:

Graduate Fellowship:

Undergraduate Fellowship:

Funded continuously since 1987-2026

Frankfurt/GSI, January – May, 2010

High Performance Computing and Communications  
The Quantum Structure of Matter (with ORNL, 1992)

Oak Ridge National Laboratory, 1986-1994

Yale University, 1979-1981

Turkish Science Research Council, 1976-1979

## Articles Published in Refereed Journals

1. [Time-Dependent Hartree-Fock Picture of Nuclear Molecular Resonances](#), Phys. Lett. 135B, 261-265 (1984), M.R. Strayer, R.Y. Cusson, A.S. Umar, P.-G. Reinhard, D.A. Bromley, and W. Greiner.
2. [A Time-Dependent External Field Model for Particle Emission in Heavy-Ion Reactions](#), Phys. Lett. 140B, 290-294 (1984), A.S. Umar, M.R. Strayer, and D.J. Ernst.
3. [Mean-Field Theory of Prompt, High-Energy Nucleon Emission](#), Phys. Rev. C30, 1934-1948 (1984), A.S. Umar, M.R. Strayer, D.J. Ernst, and K.R.S. Devi.
4. [Time-Dependent Hartree-Fock Calculations of  \$4\text{He}+^{14}\text{C}\$ ,  \$^{12}\text{C}+^{12}\text{C}\(0^+\)\$ ,  \$4\text{He}+^{20}\text{Ne}\$  Molecular Formations](#), Phys. Rev. C32, 172-183 (1985), A.S. Umar, M.R. Strayer, R.Y. Cusson, P.-G. Reinhard, and D.A. Bromley.
5. [Correlations Between Preequilibrium Nucleons](#), Phys. Rev. Lett. 55, 584-587 (1985), D.J. Ernst, M.R. Strayer, and A.S. Umar.
6. [Nuclear Shape-Isomeric Vibrations](#), Phys. Lett. B171, 353-357 (1986), A.S. Umar and M.R. Strayer.
7. [Application of a Self-Consistent Theory of Large Amplitude Collective Motion to the Generalized Lipkin Model](#), Nucl. Phys. A458, 246-258 (1986), A.S. Umar and Abraham Klein.

8. [Resolution of the Fusion Window Anomaly in Heavy-Ion Reactions](#), Phys. Rev. Lett. 56, 2793-2796 (1986), A.S. Umar, M.R. Strayer, and P.-G. Reinhard.
9. [Relativistic Hartree Calculations for Axially Deformed Nuclei](#), Phys. Rev. Lett. 57, 2916-2919 (1986), S.-J. Lee, J. Fink, A.B. Balantekin, M.R. Strayer, A.S. Umar, P.-G. Reinhard, J.A. Maruhn, and W. Greiner.
10. [Physical Interpretation and Quantization of Periodic TDHF Solutions](#), Phys. Rev. C34, 1965-1968 (1986), Abraham Klein and A.S. Umar.
11. [Physical Interpretation of Time-Dependent Hartree-Fock Density Matrix for Heavy-Ion Scattering](#), Phys. Rev. C35, 1672-1677 (1987), Abraham Klein and A.S. Umar.
12. [Enhanced Dissipation in New Mean Field Studies of Strongly Damped Collisions](#), Phys. Lett. B196, 419-423 (1987), S.-J. Lee, A.S. Umar, K.T.R. Davies, M.R. Strayer, and P.-G. Reinhard.
13. [Relativistic Hartree Calculations for Axially Deformed Nuclei](#), Phys. Rev. Lett. E59, 1171-1172 (1987), S.-J. Lee, J. Fink, A.B. Balantekin, M.R. Strayer, A.S. Umar, P.-G. Reinhard, J.A. Maruhn, and W. Greiner.
14. [Dissipation and Forces in TDHF](#), Phys. Rev. C37, 1026-1035 (1988), P.-G. Reinhard, A.S. Umar, K.T.R. Davies, M.R. Strayer, and S.-J. Lee.
15. [Numerical Method for the Calculation of Continuum Excitation Amplitudes for Time-Dependent External Field Problems](#), Phys. Rev. C37, 2487-2494 (1988), C. Bottcher, M.R. Strayer, A.S. Umar, V.E. Oberacker.
16. [Spin-Orbit Force in TDHF Calculations of Heavy-Ion Collisions](#), Phys. Rev. C40, 706-714 (1989), A.S. Umar, P.-G. Reinhard, M.R. Strayer, K.T.R. Davies, and S.-J. Lee.
17. [Velocity Dependence of Prompt, High-Energy Nucleon Emission](#), Phys. Rev. C40, 1213-1218 (1989), D.J. Dean, A.S. Umar, and M.R. Strayer.
18. [Damped Relaxation Method to Calculate Relativistic Bound States](#), Phys. Rev. A40, 4182-4189 (1989), C. Bottcher, M.R. Strayer, A.S. Umar, and P.-G. Reinhard.
19. [Lattice Calculation of Muon-Pair Production with Capture In Relativistic Heavy-Ion Collisions](#), Phys. Rev. A41, 1399-1407 (1990), M.R. Strayer, C. Bottcher, V.E. Oberacker, and A.S. Umar.
20. [Basis-Spline Collocation Method for the Lattice Solution of Boundary Value Problems, J. Comp. Phys.](#) 93, 426-448 (1991), A.S. Umar, J. Wu, M.R. Strayer, and C. Bottcher.
21. [Numerical Methods for Nuclear Mean Field Dynamics, A thematic issue on Time Dependent Methods for Quantum Dynamics](#), Comp. Phys. Comm. 63, 179-188 (1991), A.S. Umar and M.R. Strayer.
22. [Nuclear Hartree-Fock Calculations with Splines](#), Phys. Rev. C44, 2512-2521 (1991), A.S. Umar, M.R. Strayer, J.-S. Wu, D.J. Dean, and C. Güçlü.
23. [A Dynamical String-Parton Model for Relativistic Heavy-Ion Collisions](#), Phys. Rev. C45, 400-414 (1992), D.J. Dean, A.S. Umar, J.-S. Wu, and M.R. Strayer.
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25. [A Dynamical String-Parton Model for Relativistic Heavy-Ion Collisions](#), Nucl. Phys. A544, 475-478 (1992), A.S. Umar, D.J. Dean, J.-S. Wu, and M.R. Strayer.
26. [Multiparticle Production in Lepton-Nucleus Collisions and Relativistic String Models](#), Phys. Rev. C46, 2066-2076 (1992), D.J. Dean, M. Gyulassy, B. Müller, E.A. Remler, M.R. Strayer, A.S. Umar, and J.-S. Wu.
27. [Study of Nuclear Dissipation via Muon-Induced Fission: a Relativistic Lattice Calculation](#), Phys. Lett. B293, 270-274 (1992), V.E. Oberacker, A.S. Umar, J.C. Wells, M.R. Strayer, C. Bottcher.
28. [A Numerical Implementation of the Dirac Equation on a Hypercube Multicomputer](#), Int. J. Mod. Phys. C4, 459-492 (1993), J.C. Wells, A.S. Umar, V.E. Oberacker, C. Bottcher, M.R. Strayer, J.-S. Wu, J. Drake, and R. Flanery.

29. [Dynamical Calculation of Central Energy Density in Relativistic Heavy-Ion Collisions](#), Int. J. Mod. Phys. E2, 565-573 (1993), D.J. Dean, A.S. Umar, and M.R. Strayer.
30. [Dynamical Evolution of Hadronic Matter in Relativistic Collisions](#), Phys. Rev. C48, 2433-2442 (1993), D.J. Dean, A.S. Umar, and M.R. Strayer.
31. [Muon-Induced Fission: A Probe for Nuclear Dissipation and Fission Dynamics](#), Phys. Rev. C48, 1297-1306 (1993), V.E. Oberacker, A.S. Umar, J.C. Wells, C. Bottcher, M.R. Strayer, and J.A. Maruhn.
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33. [Parallel Implementation of Many-Body Mean-Field Equations](#), Phys. Rev. E50, 5096-5106 (1994), C.R. Chinn, A.S. Umar, M. Vallieres, and M.R. Strayer.
34. [Shape Coexistence Around 44S; The Deformed N=28 Region](#), Phys. Lett. B335, 259-264 (1994), T.R. Werner, J.A. Sheikh, W. Nazarewicz, M.R. Strayer, A.S. Umar, and M. Misu.
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36. [Impact Parameter Dependence of Multiple Lepton-Pair Production from Electromagnetic Fields](#), Phys. Rev. A51, 1836-1844 (1995), C. Guclu, J.C. Wells, A.S. Umar, M.R. Strayer, D.J. Ernst.
37. [Microscopic Nuclear Structure on a Parallel Platform](#), Comp. Phys. Comm. 86, 40-60 (1995), C.R. Chinn, A.S. Umar, M. Vallieres, and M.R. Strayer.
38. [Lattice Calculation for Lepton Capture from Vacuum-Pair Production in Relativistic Heavy Ion Collisions](#), Nucl. Inst. Meth. B99, 293-296 (1995), J.C. Wells, V.E. Oberacker, M.R. Strayer, and A.S. Umar.
39. [Convergence of a Lattice Calculation for Bound-Free Muon-Pair Production in Peripheral Relativistic Heavy-Ion Collisions](#), Phys. Rev. A 53, 1498-1504 (1996), J.C. Wells, V.E. Oberacker, M.R. Strayer, and A.S. Umar.
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47. [Particle Identification in the Dynamical String-Parton Model of Relativistic Heavy-Ion Collisions](#), D.E. Malov, A.S. Umar, D.J. Ernst, and D.J. Dean, Intl. J. Mod. Phys. E8, 299-306 (1999).
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50. [Relativistic Heavy-Ion Collisions in the Dynamical String-Parton Model](#), D.E. Malov, A.S. Umar, D.J. Ernst, and D.J. Dean, Phys. Rev. C 63, 024902-1-18 (2001).
51. [Dipole Resonances in Time-Dependent Density Matrix Theory](#), M. Tohyama and A.S. Umar, Phys. Lett. B 516, 415-420 (2001).
52. [Fusion Window Problem in TDHF Theory Revisited](#), M. Tohyama and A.S. Umar, Phys. Rev. C 65, 037601- 1-3 (2002).
53. [Quadrupole Resonances in Unstable Oxygen Isotopes in Time-Dependent Density Matrix Formalism](#), M. Tohyama and A.S. Umar, Phys. Lett. B 549, 72-78 (2002).
54. [HFB calculations near the drip lines](#), E. Teran, V.E. Oberacker and A.S. Umar, **Heavy-Ion Physics**, Vol. 16/1-4, 437-446 (2002).
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56. [Hartree-Fock-Bogoliubov Calculations in Coordinate Space: Neutron-Rich Sulfur, Zirconium, Cerium, and Samarium Isotopes](#), V.E. Oberacker, A.S. Umar, E. Teran, and A. Blazkiewicz, Phys. Rev. C 68, 064302 (2003).
57. [TDHF Studies with Modern Skyrme Forces](#), A.S. Umar and V.E. Oberacker, Eur. Phys. J. A 25, 553-554 (2005).
58. [2-D Lattice HFB Calculations for Neutron-Rich Zirconium Isotopes](#), A. Blazkiewicz, V.E. Oberacker, and A.S. Umar, Eur. Phys. J. A 25, 543-544 (2005).
59. [Coordinate Space HFB Calculations for the Zirconium Isotope Chain up to the Two-Neutron Drip Line](#), A. Blazkiewicz, V.E. Oberacker, A.S. Umar, and M. Stoitsov, Phys. Rev. C 71, 054321 (2005).
60. [Time-Dependent Response Calculations of Nuclear Resonances](#), A.S. Umar and V.E. Oberacker, Phys. Rev. C 71, 034314 (2005).
61. [Prompt Muon-Induced Fission: A Sensitive Probe for Nuclear Energy Dissipation and Fission Dynamics](#), V.E. Oberacker and A.S. Umar, **Muons: New Research**, (Nova Science Publishers, New York, 2005) pp. 179-208.
62. [Three-Dimensional Unrestricted Time-Dependent Hartree-Fock Fusion Calculations Using the Full Skyrme Interaction](#), A.S. Umar and V.E. Oberacker, Phys. Rev. C 73, 054607 (2006).
63. [Time-Dependent Hartree-Fock Fusion Calculations for Spherical, Deformed Systems](#), A.S. Umar and V.E. Oberacker, Phys. Rev. C 74, 024606 (2006).
64. [Heavy-Ion Interaction Potential Deduced From Density-Constrained Time-Dependent Hartree-Fock Calculation](#), A.S. Umar and V.E. Oberacker, Phys. Rev. C 74, 021601(R) (2006).
65. [Dynamical Deformation Effects in Subbarrier Fusion of  \$^{64}\text{Ni}+^{132}\text{Sn}\$](#) , A.S. Umar and V.E. Oberacker, Phys. Rev. C 74, 061601 (Rapid Communication) (2006).
66.  [\$^{64}\text{Ni}+^{132}\text{Sn}\$  Fusion with Density Constrained TDHF Formalism](#), A.S. Umar and V.E. Oberacker, Phys. Rev. C 76, 014614 (2007).
67. [Compressibility and Equation of State of Finite Nuclei](#), A.S. Umar and V.E. Oberacker, Phys. Rev. C 76, 024316 (2007).
68. [Skyrme-HFB Calculations in Coordinate Space for the Krypton Isotopes up to the Two-Neutron Dripline](#), V.E. Oberacker, A. Blazkiewicz, and A.S. Umar, Rom. Rep. Phys. Vol. 59, No. 2, 559-568, (2007).
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71. [Density-Constrained Time-Dependent Hartree-Fock Calculation of  \$^{16}\text{O}+^{208}\text{Pb}\$  Fusion Cross Sections](#), A.S. Umar and V.E. Oberacker, Eur. Phys. J. A 39, 243-247 (2009).
72. [Center-of-Mass Motion and Cross-Channel Coupling in TDHF](#), A.S. Umar and V.E. Oberacker, J. Phys. G: Nucl. Part. Phys. 36 (2009) 025101.

73. [Microscopic Calculation of Pre-Compound Excitation Energies for Heavy-Ion Collisions](#), A.S. Umar, V.E. Oberacker, J.A. Maruhn, and P.-G. Reinhard, Phys. Rev. C 80, 041601(R) (2009).
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75. [Microscopic Study of the Triple-Alpha Reaction](#), A. S. Umar, J. A. Maruhn, N. Itagaki, and V. E. Oberacker, Phys. Rev. Lett. 104, 212503 (2010).
76. [Entrance Channel Dynamics of Hot and Cold Fusion Reactions Leading to Superheavy Elements](#), A. S. Umar, V. E. Oberacker, J. A. Maruhn, and P.-G. Reinhard, Phys. Rev. C 81, 064607 (2010).
77. [Linear-Chain Structure of Three-Alpha Clusters in  \$^{12}\text{C}\$ ,  \$^{16}\text{C}\$ , and  \$^{20}\text{C}\$](#) , J.A. Maruhn, N. Loebl, A.S. Umar, N. Itagaki, M. Kimura, H. Horiuchi, and A. Tohsaki, Mod. Phys. Lett. A, 25, 1866 (2010).
78. [Microscopic study of the  \$^{132,124}\text{Sn}+^{96}\text{Zr}\$  reactions: Dynamic excitation energy, energy-dependent heavy-ion potential, and capture cross section](#), V.E. Oberacker, A.S. Umar, J. A. Maruhn, and P.-G. Reinhard, Phys. Rev. C 82, 034603 (2010).
79. [Localization in light nuclei](#), P.-G. Reinhard, J. A. Maruhn, A. S. Umar, and V. E. Oberacker, Phys. Rev. C 83, 034312 (2011).
80. [Microscopic Calculation of Heavy-Ion Potentials Based on TDHF](#), A.S. Umar, V.E. Oberacker, J.A. Maruhn, and P.-G. Reinhard, Eur. Phys. J. 17, 09001 (2011).
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83. [Dynamic Microscopic Study of Pre-equilibrium Giant Resonance Excitation and Fusion in the Reactions  \$^{132}\text{Sn} + ^{48}\text{Ca}\$  and  \$^{124}\text{Sn} + ^{40}\text{Ca}\$](#) , V. E. Oberacker, A. S. Umar, J. A. Maruhn, and P.-G. Reinhard, Phys. Rev. C 85, 034609 (2012).
84. [Microscopic Study of  \$\text{Ca} + \text{Ca}\$  Fusion](#), R. Keser, A. S. Umar, and V. E. Oberacker, Phys. Rev. C 85, 044606 (2012).
85. [Microscopic sub-barrier fusion calculations for the neutron star crust](#), A. S. Umar, V. E. Oberacker, and C. J. Horowitz, Phys. Rev. C 85, 055801 (2012).
86. [Single-particle dissipation in a time-dependent Hartree-Fock approach studied from a phase-space perspective](#), N. Loebl, A. S. Umar, J. A. Maruhn, P.-G. Reinhard, P. D. Stevenson, and V. E. Oberacker, Phys. Rev. C 86, 024608 (2012).
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88. [Confronting measured near and sub-barrier fusion cross-sections for  \$^{20}\text{O}+^{12}\text{C}\$  with a microscopic method](#), R.T. deSouza, S. Hudan, V.E. Oberacker, A.S. Umar, Phys. Rev. C 88, 014602 (2013).
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90. [The TDHF Code Sky3D](#), J. A. Maruhn, P.-G. Reinhard, P. D. Stevenson, and A.S. Umar, Comp. Phys. Comm. 185, 2195-2216 (2014).
91. [Energy dependence of potential barriers and its effect on fusion cross-sections](#), A.S. Umar, C. Simenel, V.E. Oberacker, Phys. Rev. C 89, 034611 (2014).
92. [Formation and Dynamics of Fission Fragments](#), C. Simenel and A.S. Umar, Phys. Rev. C 89, 031601(R) (2014).
93. [Eulerian Rotations of Deformed Nuclei for TDDFT Calculations](#), D.A. Pigg, A.S. Umar, and V.E. Oberacker, Comp. Phys. Comm. 185, 1410-1414 (2014).
94. [Fusion using time-dependent density-constrained DFT](#), R. Keser, A.S. Umar, V.E. Oberacker, J.A. Maruhn, and P.-G. Reinhard, Eur. Phys. J. 66, 03042 (2014).

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96. [Dissipative dynamics in quasifission](#), V.E. Oberacker, A.S. Umar, and C. Simenel, Phys. Rev. C 90, 054605 (2014).
97. [Microscopic study of the effect of intrinsic degrees of freedom on fusion](#), C. Simenel, M. Dasgupta, D. J. Hinde, V. E. Oberacker, A. S. Umar, and E. Williams, Eur. Phys. J. 86, 00047 (2015).
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24. *Three-Dimensional Nuclear Hartree-Fock Bogolyubov Calculations*, C.R. Chinn, A.S. Umar, M.R. Strayer, and M. Vallieres, **Physics Computing '95**, June 9-8, 1995, Pittsburgh, PA.
25. *Study of Nuclear Matter Viscosity in Muon-Induced Fission*, V.E. Oberacker, A.S. Umar, J.C. Wells, and M.R. Strayer, **Physics Computing '95**, June 9-8, 1995, Pittsburgh, PA.
26. *Galerkin-Basis-Spline Method for Lattice Representation of Quantum Many-Particle Systems*, V.E. Oberacker, D.R. Kegley, and A.S. Umar, **Intl. Conference on Computational Physics: PC '97**, Santa Cruz, CA.
27. *Prompt Muon-Induced Fission: a Probe for Nuclear Friction in Large-Amplitude Collective Motion*, **Int. Conf. On Fission and Properties of Neutron-Rich Nuclei**, V. E. Oberacker, A.S. Umar, J.C. Wells, M.R. Strayer and J. A. Maruhn, Sanibel, FL, Nov. 10-15, 1997.
28. *B-Spline-Galerkin Lattice Representation of Nuclear Mean Field Theories*, V.E. Oberacker, and A.S. Umar, **XXII Int. Workshop on Condensed Matter Theories**, Nashville, TN, (1998).
29. *Coherent Multiple Lepton-Pair Production from Relativistic Heavy-Ion Collisions*, M.C. Guclu, A.S. Umar, M.R. Strayer, and D.J. Ernst, **Frontier Tests of QED and Physics of the Vacuum**, Sofia, Bulgaria, (1998).
30. *Mean-Field Nuclear Structure Calculations on a Basis-Spline Galerkin Lattice*, V.E. Oberacker and A.S. Umar, **Symposium on Perspectives in Nuclear Physics**, Nassau, Bahamas, Nov. 12-14, 1998.
31. *Classical Strings and Collision of Heavy-Ions*, D.J. Ernst, D.E. Malov, A.S. Umar, and D.J. Dean, **Third Latin American Workshop on Nuclear Heavy-Ion Physics**, San Andres, Colombia, Sep. 1999.
32. *Dipole Resonances in Oxygen Isotopes in Time-Dependent Density Matrix Theory*, M. Tohyama and A.S. Umar, **RIKEN Symposium on Physics at Drip Lines**, RIKEN, Japan, Feb. 13-15 (2001).
33. *HFB theory for nuclei near the drip-lines: continuum coupling*, **International Conference on Physics with Radioactive Ion Beams (ISOL'01)**, V.E. Oberacker, A.S. Umar, J. Chen, and E. Teran, Proc. , Oak Ridge, TN, March 11-14, 2001.
34. *HFB calculations near the drip lines*, E. Teran, V.E. Oberacker, and A.S. Umar, **IV Latin American Symposium on Nuclear Physics**, Mexico City, September 24-28, 2001.
35. *Lattice HFB calculations with high-energy continuum coupling: nuclear structure studies at the neutron dripline*, A.S. Umar, V.E. Oberacker et al., **Third International Conference on Fission and Properties of Neutron-Rich Nuclei**, Sanibel Island, Florida, November 3-8, 2002.

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37. *HFB Calculations for Nuclei far from Stability*, Proceedings of **NATO Advanced Studies Institute**, Kemer, Turkey, Sep. 22 – Oct. 3, (2003).
38. *Solution of the HFB Continuum on a 3-D Lattice: Neutron-Rich and Dripline Nuclei*, V. E. Oberacker, A.S. Umar, E. Teran, and A. Blazkiewicz, **A New Era of Nuclear Structure Physics**, **NENS03**, Niigata, Japan, Nov. 19 - 22, (2003).
39. *TDHF studies of neutron-rich systems*, A.S. Umar and V.E. Oberacker, **4th International Conference on Exotic Nuclei and Atomic Masses (ENAM04)**, Pine Mountain, Georgia (Sep. 2004).
40. *Lattice HFB Calculations for Neutron-Rich Sulfur and Zirconium Isotopes*, A.S. Umar and V.E. Oberacker, **4th International Conference on Exotic Nuclei and Atomic Masses (ENAM04)**, Pine Mountain, Georgia (Sep. 2004).
41. *TDHF fusion calculations*, A.S. Umar and V.E. Oberacker, invited presentation at **International Workshop on Theoretical Description of the Nuclear Large Amplitude Collective Motion**, Joint Institute for Heavy Ion Research, Oak Ridge National Laboratory, March 30-31, 2005.
42. *3-D unrestricted TDHF fusion studies of neutron-rich nuclei using the full Skyrme interaction*, V.E. Oberacker and A.S. Umar, invited presentation at HRIBF Workshop on **Near and Sub-barrier Fusion of Radioactive Ions with Medium and Heavy Targets**, Oak Ridge National Laboratory, (Dec. 2-3, 2005).
43. *3-D Unrestricted TDHF Calculations of Heavy-Ion Collisions*, A.S. Umar and V.E. Oberacker, invited presentation at International Conference on **Nuclear Structure '06**, Oak Ridge, TN (July 24-28, 2006)
44. *Heavy-ion fusion and fission using density-constrained TDHF*, A.S. Umar and V.E. Oberacker, **Fourth International Conference on Fission and Properties of Neutron-Rich Nuclei**, Sanibel Island, Florida, November 11-17, 2007.
45. *TDHF Description of Heavy-Ion Fusion*, A.S. Umar and V.E. Oberacker, **Joint JUSTIPEN-LACM Meeting**, Oak Ridge, TN, March 5-8, 2007.
46. *Fusion with DC-TDHF*, A.S. Umar and V.E. Oberacker, **2<sup>nd</sup> LACM-EFES-JUSTIPEN Workshop**, Oak Ridge, TN, January 23-25, 2008.
47. *Mean Field Dynamics of Nuclear Reactions*, **Summer School IV on Nuclear Collective Dynamics**, Istanbul, Turkey, June 30-July 4, 2008.
48. *Density-Constrained TDHF Calculations of Fusion and Fission Barriers*, A.S. Umar, V.E. Oberacker, P.-G. Reinhard, and J.A. Maruhn, **Nuclear Structure and Dynamics (NSD09)**, Dubrovnik, Croatia, May 4-8, 2009.
49. *Multi-Nucleon Transfer as Doorway to Fusion of Neutron-Rich Nuclei*, V.E. Oberacker and A.S. Umar, **8th Intl. Conf. Radioactive Nuclear Beams (RNB8)**, Grand Rapids, Michigan, May 2009.

- 50. International Symposium on Forefronts of Researches in Exotic Nuclear Structures, Microscopic Study of the triple- $\alpha$  Reaction**, J. A. Maruhn, N. Loebl, A. S. Umar, N. Itagaki, M. Kimura, H. Horiuchi, and A. Tohsaki, **Niigata 2010**, March 1-4, Niigata, Japan.
- 51.** Invited Lecturer at "**Summer School V on Nuclear Collective Dynamics**", July 4-10, 2010, Istanbul Turkey. Presented three lectures on TDHF method.
- 52. Microscopic Calculation of Heavy-Ion Potentials Based on TDHF**, A.S. Umar, V.E. Oberacker, J.A. Maruhn, and P.-G. Reinhard, **FUSION11**, May 2<sup>nd</sup> – 6<sup>th</sup>, 2011, Saint-Malo, France.
- 53. Static and Dynamic Chain Structures in Mean-Field Theory**, T. Ichikawa, N. Itagaki, N. Loeffl, J.A. Maruhn, V.E. Oberacker, S. Ohkubo, B. Schuetrumpf, and A.S. Umar. **FUSION11**, May 2<sup>nd</sup> – 6<sup>th</sup>, 2011, Saint-Malo, France.
- 54. Microscopic calculation of heavy-ion potentials based on TDHF**, A.S. Umar and V.E. Oberacker, **Conference on Computational Physics 2011 (CCP 2011)** Gatlinburg, Tennessee, 30 October – 3 November 2011.
- 55.** Invited Lecturer at "**Summer School VI on Nuclear Collective Dynamics**", June 24-30, 2012, Istanbul Turkey. Presented three lectures on TDHF method.
- 56. Dynamic Microscopic Theory of Fusion Using DC-TDHF**, A.S. Umar, V.E. Oberacker, R. Keser, P.-G. Reinhard, and J.A. Maruhn, **Nuclear Structure and Dynamics (NSD12)**, Opatija, Croatia, July 9-13, 2012.
- 57.** Microscopic DC-TDHF study of heavy-ion potentials and fusion cross sections, V E Oberacker, A S Umar, and R Keser, **11th International Conference on Nucleus-Nucleus Collisions (NN2012)**, San Antonio, TX, May 21 – June 1, 2012.
- 58. Heavy-ion Fusion and Fission Using Density-Constrained TDHF, Fifth International Conference on Fission and Properties of Neutron-Rich Nuclei**, A.S. Umar, V.E. Oberacker, J.A. Maruhn, and R. Keser, Sanibel Island, FL, November 4-12 (2012).
- 59. Fusion using time-dependent density-constrained DFT**, R. Keser, A.S. Umar, V.E. Oberacker, J.A. Maruhn, and P.-G. Reinhard, **INPC 2013**, Florence, Italy (June 2-7, 2013).
- 60. Density-constrained TDDFT with application to fission**, A.S. Umar and V.E. Oberacker, **Quantitative Large Amplitude Shape Dynamics: fission and heavy ion fusion**, INT, Seattle, WA (October 7-12, 2013).
- 61. Fusion and other applications of density-constrained TDDFT**, V.E. Oberacker and A.S. Umar, **Quantitative Large Amplitude Shape Dynamics: fission and heavy ion fusion**, INT, Seattle, WA (October 7-12, 2013).
- 62. Applications of time-dependent density-constrained DFT**, A.S. Umar, **Advances in Time-Dependent Methods for Quantum Dynamics**, ECT\*, Trento, Italy, (October 14-18, 2013).
- 63. Dynamics of Quasifission and Fission**, A.S. Umar, **International Symposium on Super Heavy Nuclei**, Texas A & M University, College Station TX, USA, (March 31 - April 02, 2015)
- 64. Session on Fusion and Fission, GRC2015 Nuclear Chemistry**, Colby-Sawyer College, New London, NH, USA (May 31 - June 5, 2015).



65. *Dynamics of Fission and Quasifission*, A.S. Umar, V.E. Oberacker, and C. Simenel, **Nuclear Structure and Dynamics III (NSD15)**, Portoroz, Slovenia, (June 14-19, 2015).
66. *Dynamics of Fusion, Fission, and Quasifission*, A.S. Umar, V.E. Oberacker, and C. Simenel, **Nucleus-Nucleus 2015 (NN2015)**, Catania, Italy, (June 21-26, 2015).
67. *Time-dependent HF approach to SHE dynamics*, A.S. Umar, **Computational Advances in Nuclear and Hadron Physics (CANHP 2015)**, Kyoto, Japan, (19-23, October, 2015)
68. *Superfluid fission dynamics with microscopic approaches*, C. Simenel, G. Scamps, D. Lacroix, and A. S. Umar, **Nuclear Structure and Related Topics (NSRT2015)**, Dubna, Russia, (14-18 July, 2015)
69. *Dynamics of quasifission in TDHF*, **Sixth International Conference on Fission and Properties of Neutron-Rich Nuclei**, A.S. Umar and C. Simenel, Sanibel Island, FL, November 6-13 (2016).
70. *Microscopic Approach To Heavy-ion Fusion: role of the Pauli principle*, **International Nuclear Physics Conference (INPC2016)**, C. Simenel, M. Dasgupta, D.J. Hinde, A.S. Umar and K. Godbey, Adelaide, Australia, September 11-16 (2016).
71. *Dependence of fusion on isospin dynamics*, A.S. Umar, C. Simenel, and S. Ayik, **FUSION17**, Hobart, Tasmania, AU, February 20-24 (2017).
72. *Effect of Pauli repulsion and transfer on fusion*, C. Simenel, K. Godbey, A. S. Umar, K. Vo-Phuoc, M. Dasgupta, D. J. Hinde, and E. C. Simpson, **FUSION17**, Hobart, Tasmania, AU, February 20-24 (2017).
73. *Fusion of neutron-rich oxygen nuclei*, Romualdo deSouza, Justin Vadas, Varinderjit Singh, Blake Wiggins, Tracy Steinbach, Zid Lin, Chuck Horowitz, Lagy Baby, Sean Kuvin, Vandana Tripathi, Ingo Wiedenhover, and Sait Umar, **FUSION17**, Hobart, Tasmania, AU, February 20-24 (2017).
74. *DC-TDHF Studies for Fusion Reactions*, A.S. Umar, **Low-Energy Nuclear Reaction Theory (LENRT17)**, Australian National University, Canberra, February 15-17 (2017).
75. *TDHF investigations of the U+ U quasifission process*, A.S. Umar and C. Simenel, **SHE2017**, Kazimierz Dolny, Poland, September 10-14 (2017).
76. *Dynamics of quasifission in TDHF*, A.S. Umar and C. Simenel, **XXXV'th Mazurian Lakes Conference on Physics**, Piaski, Poland, September 3-9 (2017).
77. *Using TDHF to study quasifission*, A.S. Umar, **GRC2017 Nuclear Chemistry**, Colby-Sawyer College, New London, NH, USA (June 18 - June 23, 2017).
78. *Equilibration dynamics and isospin effects in nuclear reactions*, A.S. Umar and C. Simenel, **IWM-EC 2018**, Catania, Italy (May 22-26, 2018).
79. *Isospin effects in nuclear reaction*, A.S. Umar, **NNPA 2018**, Antalya, Turkey (May 28-June 1<sup>st</sup>, 2018).
80. *Equilibration dynamics in nuclear reactions*, A.S. Umar, C. Simenel, and K. Godbey, **NSD 2019**, Venice, Italy (May 13-18, 2019).

81. **Future of Theory in Fission**, University of York, U.K. (Oct. 14-16. 2019).
82. **NUCLEUS2020**, Yildiz University, Istanbul, Turkey (June 1-4, 2020).
83. **SHE2021**, *Quantum shell effects and equilibration in low-energy collisions*, Invited talk (virtual) (June 22, 2021).
84. *Microscopic studies of  $^{12}\text{C}+^{12}\text{C}$  fusion reaction*, Mean-field and Cluster Dynamics in Nuclear Systems (**MCD2022**), A.S. Umar (May 19, 2022).
85. *Shell effects in fission and quasi-fission reactions*, C. Simenel, K. Godbey, H. Lee, P. McGlynn and A.S. Umar, International Nuclear Physics Conference (**INPC 2022**).
86. *Shell effects in quasifission and implications for fission*, Seventh International Conference on Fission and Properties of Neutron-Rich Nuclei (**ICFN7**), A.S. Umar, K Godbey, and C. Simenel, Sanibel Island, FL, November 6-12 (2022).
87. *Dynamics of Fission Pathways*, Seventh International Conference on Fission and Properties of Neutron-Rich Nuclei (**ICFN7**) K Godbey, *et al.*, Sanibel Island, FL, November 6-12 (2022).
88. **FUSION23**, *Pauli energy contribution to nucleus-nucleus interaction*, Shizuoka, Japan, (Nov. 19-24, 2023).