

# LIST OF PUBLICATIONS – Prof. Volker E. Oberacker

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## Refereed Journal Articles and Book Chapters

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4. *Internal pair formation following Coulomb excitation of heavy nuclei*, V. Oberacker, G. Soff and W. Greiner, Phys. Rev. Lett. 36 (1976) 1024-1027
5. *On the possibility of detecting superheavy quasimolecules*, W. Schäfer, V. Oberacker and G. Soff, Nucl. Phys. A272 (1976) 493-501
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15. *Inner-shell ionization induced by nuclear Coulomb excitation in collisions of very heavy ions*, G. Soff, V. Oberacker and W. Greiner, Phys. Rev. Lett. 41 (1978) 1167-1170
16. *Present status of Coulomb fission - theory and experiment*, V. Oberacker, G. Soff, M. Seiwert and W. Greiner, Proc. 16th Int. Winter Meeting on Nuclear Physics, Bormio, Italy (1978), pp. 220-239
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## Books Edited

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33. *Nonperturbative lepton pair production in peripheral relativistic heavy-ion collisions*, J.C. Wells, (grad. student of Prof. Oberacker), presentation at Workshop on “Emission and Absorption of Radiation by Structured Particles”, Institute for Theoretical Atomic and Molecular Physics, Harvard-Smithsonian Center for Astrophysics, (Oct 11-14, 1991)
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60. *2-D Lattice HFB Calculations for Neutron-Rich Sulfur and Zirconium Isotopes*, A. Blazkiewicz, V.E. Oberacker, A.S. Umar, and E. Terán, 4th International Conference on Exotic Nuclei and Atomic Masses (ENAM04), Pine Mountain, Georgia (Sep. 2004), invited poster presentation
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83. *Dynamic microscopic study of fusion and pre-equilibrium giant resonance excitation in  $^{132}\text{Sn}+^{40,48}\text{Ca}$* , V.E. Oberacker, A.S. Umar, J.A. Maruhn, and P.-G. Reinhard, opening talk at the 6th LACM-TORIJIN-JUSTIPEN Workshop, ORNL, (Oct. 31 - Nov. 2, 2012)
84. *Fusion of neutron-rich nuclei using a Time-Dependent Density Functional Theory with density constraint*, V.E. Oberacker and A.S. Umar, invited talk at the 246th American Chemical Society Meeting in Indianapolis (Sept. 8-12, 2013), Division of Nuclear Chemistry and Technology, Symposium on Nuclear Reactions
85. *Determining the total fusion cross-section for  $^{19,20}\text{O} + ^{12}\text{C}$  near and below the Coulomb barrier*, R.T. deSouza, S. Hudan, K. Brown, T. Steinbach, A. Chbihi, M. Famiano, J.F. Liang, V. Oberacker, and S. Umar, invited talk at the 246th American Chemical Society Meeting in Indianapolis (Sept. 8-12, 2013), Division of Nuclear Chemistry and Technology, Symposium on Nuclear Reactions
86. *Fusion and other applications of density-constrained TDDFT*, V.E. Oberacker and A.S. Umar, invited talk (50 min) at the INT 13-3 Program on “Quantitative Large Amplitude Shape Dynamics: fission & heavy ion fusion”, Institute for Nuclear Theory, Seattle, WA (Oct. 6-12, 2013). Talk posted on INT Website [http://www.int.washington.edu/talks/WorkShops/int\\_13\\_3/](http://www.int.washington.edu/talks/WorkShops/int_13_3/)
87. *Density-constrained TDDFT with application to fission*, A.S. Umar and V.E. Oberacker, invited talk (50 min) at the INT 13-3 Program on “Quantitative Large Amplitude Shape Dynamics: fission & heavy ion fusion”, Institute for Nuclear Theory, Seattle, WA (Oct. 6-12, 2013). Talk posted on INT Website [http://www.int.washington.edu/talks/WorkShops/int\\_13\\_3/](http://www.int.washington.edu/talks/WorkShops/int_13_3/)
88. *Dynamics of quasifission* A. S. Umar, V. E. Oberacker, and C. Simenel, International “Nuclear Structure and Dynamics 2015” Conference, Portoroz, Slovenia
89. *Quasifission dynamics in TDHF* A. S. Umar, V. E. Oberacker, and C. Simenel, “12th International Conference on Nucleus-Nucleus Collisions (NN2015)”, Catania, Italy

## Conference Abstracts

1. *Coulomb excitation and Coulomb fission of  $^{238}\text{U}$* , V. Oberacker and G. Soff, Spring Meeting of the German Phys. Society, Konstanz, Germany (1977), Verhandlungen der DPG (1977), p.928

2. *Neue Ergebnisse zur Positronenerzeugung in Schwerionen-Stößen*, J. Reinhardt, G. Soff, V. Oberacker and B. Müller, Spring Meeting of the German Phys. Society, Konstanz, Germany (1977); Verhandlungen der DPG (1977), p.850
3. *Prompte und asymptotische Coulombspaltung in Schwerionen-Stößen*, V. Oberacker, M. Seiwert, G. Soff and W. Greiner, Spring Meeting of the German Phys. Society, Heidelberg, Germany (1978); Verhandlungen der DPG (1978), p.
4. *Theory of Coulomb-induced fission in a dynamical model*, H. Kruse, W.T. Pinkston, V. Oberacker, G. Soff and W. Greiner, Bull. Am. Phys. Soc. (1978), p.9
5. *Are there any characteristics of Coulomb fission?*, V. Oberacker, Bull. Am. Phys. Soc. 24 (1979), p.573
6. *A study of the prompt component in Coulomb fission*, H. Kruse, W.T. Pinkston, W. Greiner and V. Oberacker, Bull. Am. Phys. Soc. 24 (1979) p.573-574
7. *Muon-induced fission: a probe for the friction coefficient?*, V. Oberacker and J. Maruhn, Bull. Am. Phys. Soc. 25 (1980), p.488
8. *Information about high-phonon  $\beta$ -vibrations in actinides from Coulomb fission*, V.E. Oberacker, H. Kruse, W.T. Pinkston and W. Greiner, Bull. Am. Phys. Soc. 25 (1980), p.488
9. *Coulomb fission of  $^{238}\text{U}$  and  $^{232}\text{Th}$  by very heavy projectiles*, V.E. Oberacker, W.T. Pinkston, H. Kruse and W. Greiner, Proc. Int. Conf. on Nuclear Physics, Berkeley, California (1980), Vol.1 (Abstracts), p. 642
10. *Theoretical study of fission dynamics by muon-induced fission*, V.E. Oberacker and J.A. Maruhn, Proc. Int. Conf. on Nuclear Physics, Berkeley, California (1980), Vol.1 (Abstracts), p. 854
11. *Excitation functions and fragment angular distributions for Coulomb fission*, V.E. Oberacker, W.T. Pinkston, H. Kruse and W. Greiner, Bull. Am. Phys. Soc. 26 (1981), p.622
12. *Form factors for inelastic excitation of collective states in deformed nuclei*, V.E. Oberacker and M.J. Rhoades-Brown, Bull. Am. Phys. Soc. 27 (1982), p.550
13. *Potential pockets in the  $^{238}\text{U} + ^{238}\text{U}$  system and their possible consequences*, V.E. Oberacker, M.J. Rhoades-Brown and W. Greiner, Int. Conf. on Nucleus-Nucleus Collisions, Michigan State University, East Lansing, MI (1982), Proceedings (Abstracts), p.120
14. *Strong enhancement of subbarrier fusion due to negative hexadecapole deformation*, M.J. Rhoades-Brown and V.E. Oberacker, Conf. on Nuclear Physics with Heavy Ions, SUNY at Stony Brook (1983), Proceedings (Abstracts), p.
15. *Static deformation effects in subbarrier fusion*, V.E. Oberacker and M.J. Rhoades-Brown, Bull. Am. Phys. Soc. 28 (1983), p.986
16. *Pockets in the  $^{238}\text{U} + ^{238}\text{U}$  potential and spontaneous positron production*, M.J. Rhoades-Brown and V.E. Oberacker, Bull. Am. Phys. Soc. 28 (1983), p.986

17. *Influence of nuclear deformation and orientation on heavy-ion reactions near the Coulomb barrier*, invited paper AA2, APS-DNP meeting, Nashville, Tenn. (1984), Bull. Am. Phys. Soc. 29 (1984), p. 1025
18. *Microscopic theory of heavy-ion potentials*, M.W. Katoot and V.E. Oberacker, APS-DNP meeting, Nashville, Tenn. (1984), Bull. Am. Phys. Soc. 29 (1984) 1033
19. *Influence of “sticking” resonances on heavy-ion reactions*, W.T. Pinkston, D.P. Russell and V.E. Oberacker, APS meeting, Crystal City, Virginia (1985), Bull. Am. Phys. Soc. 30 (1985) p.704
20. *Possible nuclear signatures of heavy-ion “sticking”*, D.P. Russell, W.T. Pinkston and V.E. Oberacker, APS meeting, Crystal City, Virginia (1985), Bull. Am. Phys. Soc. 30 (1985) p.704
21. *The decay of the QED vacuum – a challenge for nuclear physics*, V.E. Oberacker, APS-DNP meeting, Asilomar, California (1985), Bull. Am. Phys. Soc. 30 (1985) 1270
22. *Many-body approach for heavy-ion interaction potentials*, M.W. Katoot and V.E. Oberacker, SESAPS meeting, Athens, Georgia (1985), Bull. Am. Phys. Soc. 30 (1985) 1767
23. *Microscopic theory of heavy-ion potentials*, V.E. Oberacker and M.W. Katoot, APS-DNP meeting, Vancouver, B.C., Canada, October 1986, Bull. Am. Phys. Soc. 31 (1986) p.1216
24. *Theory of lepton production in relativistic heavy-ion collisions*, V.E. Oberacker, A.S. Umar, M.R. Strayer and C.E. Bottcher, APS Spring Meeting, Crystal City, VA (1987), Bull. Am. Phys. Soc. 32 (1987) p.1015
25. *Theory of continuum excitation for time-dependent external field problems*, C. Bottcher, M.R. Strayer, A.S. Umar and V.E. Oberacker, SESAPS meeting, Nashville, TN, November 1987, Bull. Am. Phys. Soc. 32 (1987) p. 2129
26. *Microscopic potential energy surface for  $U+U$ : implications for the GSI  $e^+e^-$  peaks*, V.E. Oberacker, A.S. Umar and M.W. Katoot, APS Spring Meeting, Baltimore, MD (1988), Bull. Am. Phys. Soc. 33 (1988) p.964
27. *Numerical calculation of continuum excitation amplitudes for time-dependent external field problems*, A.S. Umar, V.E. Oberacker, C. Bottcher and M.R. Strayer, APS Spring Meeting, Baltimore, MD (1988), Bull. Am. Phys. Soc. 33 (1988) p.965
28. *Fermion dynamics on a three-dimensional lattice (B-Spline collocation method)*, V.E. Oberacker, A.S. Umar and J.C. Wells, APS-DNP Meeting, Asilomar, CA (1989), Bull. Am. Phys. Soc. 34 (1989) p. 1822
29. *Electromagnetic dilepton production in relativistic heavy-ion collisions*, J.C. Wells, V.E. Oberacker, A.S. Umar, M.R. Strayer and C. Bottcher, APS Spring Meeting, Washington, DC (1990), Bull. Am. Phys. Soc. 35 (1990) p. 1061
30. *Gauge fields, gravitation and geometry*, G. Plunien, D. Hochberg and V.E. Oberacker, APS Spring Meeting, Washington, DC (1990), Bull. Am. Phys. Soc. 35 (1990) p. 960

31. *Relativistic generalization of collective models: collective spin-orbit terms*, G. Plunien and V.E. Oberacker, Int. Conf. on Nuclear Structure in the Nineties, Oak Ridge, Tenn. (April 1990), Vol.1 of Proceedings, p.233
32. *Study of fission dynamics via prompt muon-induced fission*, V.E. Oberacker, A.S. Umar, J.C. Wells, J. Wu, M.R. Strayer and C. Bottcher, APS-DNP Meeting, Urbana-Champaign, IL, Bull. Am. Phys. Soc. 35 (1990) p. 1647
33. *Lattice calculation of muon pair production with capture at RHIC energies*, A.S. Umar, V.E. Oberacker, J.C. Wells, J. Wu, M.R. Strayer and C. Bottcher, APS-DNP Meeting, Urbana-Champaign, IL, Bull. Am. Phys. Soc. 35 (1990) p. 1676
34. *Nuclear membranes and relativistic field theory in 2+1 dimensions*, G. Plunien and V.E. Oberacker, APS Spring Meeting, Washington, DC (1991), Bull. Am. Phys. Soc. 36 (1991) p. 1232
35. *Muon beams as a probe for nuclear fission dynamics – a 3-dim. simulation*, V.E. Oberacker, A.S. Umar, J.C. Wells, M.R. Strayer and C. Bottcher, invited poster presentation, Supercomputing 91, Albuquerque, NM, Nov. 1991, (IEEE Computer Society Press, Los Alamitos, CA, 1991), Final Program, p.89
36. *A numerical implementation of the Dirac equation on a hypercube multicomputer*, Jack. C. Wells (Oberacker's graduate student), SESAPS 92 meeting, Bull. Am. Phys. Soc. 37 (1992) p.1652
37. *The level structure of  $^{110}\text{Ru}$  from spontaneous fission of  $^{252}\text{Cf}$* , K. Butler-Moore, V.E. Oberacker, J.H. Hamilton, A.V. Ramayya, W.C. Ma, J. Kormicki, I.Y. Lee, N.R. Johnson, F. McGowan, C.E. Bemis, J.D. Cole, R. Aryaeinejad, G. Ter-Akopian and Yu. Oganessian, SESAPS meeting, Columbia, SC, November 1993, Bull. Am. Phys. Soc. 38 (1993) p. 2170
38. *Lattice calculation of muon-pair production in relativistic heavy-ion collisions*, V.E. Oberacker, A.S. Umar, J.C. Wells, and M.R. Strayer, APS-DNP Meeting, Williamsburg, VA (Oct.1994), Bull. Am. Phys. Soc. 39 (1994) p. 1394
39. *Identical Yrast and gamma-vibrational bands in  $^{108,110}\text{Ru}$* , Q. Lu, K. Butler-Moore, J.H. Hamilton, B.R.S. Babu, A.V. Ramayya, W.C. Ma, V.E. Oberacker, J. Kormicki, D. Shi, J.K. Deng, S. Zhu, D.B. Wang, L.K. Peker, J.D. Cole, R. Aryaeinejad, Y.X. Dardenne, M. Drigert, N.R. Johnson, I.Y. Lee, F. McGowan, G.M. Ter-Akopian, Yu. Oganessian, J.O. Rasmussen, M.A. Stoyer, S.Y. Chu, K.E. Gregorich, M. Mohar, J.M. Nitschke, K. Moody, R. Loughheed, S.G. Prussin, and S. Asztalos, APS-DNP Meeting, Williamsburg, VA (Oct.1994), Bull. Am. Phys. Soc. 39 (1994) p. 1393
40. *Dissociation of a diatomic muonic molecule – a 3-d lattice simulation*, V.E. Oberacker, A.S. Umar, M.R. Strayer, J.C. Wells, J.A. Maruhn and P.G. Reinhard, invited poster presentation, Supercomputing 94, Washington D.C., Nov. 1994, (IEEE Computer Society Press, Los Alamitos, CA, 1994), Final Program, p.134
41. *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, Pittsburgh, PA (June 1995), Bull. Am. Phys. Soc. 40 (1995) p.1358

42. *Muon-induced fission: a probe for nuclear matter viscosity in large-amplitude collective motion*, V.E. Oberacker, A.S. Umar, J.C. Wells, and M.R. Strayer, APS-DNP Meeting, Bloomington, IN (Oct.1995), Bull. Am. Phys. Soc. 40 (1995) p.1605
43. *High-precision nuclear structure calculations using Spline-Galerkin lattices*, V.E. Oberacker, D.R. Kegley, A.S. Umar, and M.R. Strayer, APS-DNP Meeting, Cambridge, Mass. (Oct.1996), Bull. Am. Phys. Soc. 41 (1996) p. 1225
44. *Galerkin-Basis-Spline method for lattice representation of quantum many-particle systems*, V.E. Oberacker, D.R. Kegley and A.S. Umar, Int. Conf. on Computational Physics: PC '97, Santa Cruz, CA (Aug.1997), Bull. Am. Phys. Soc. 42 (1997) p.1580
45. *Prompt muon-induced fission: a probe for nuclear friction in large-amplitude collective motion*, V.E. Oberacker, Program and Abstracts of the Int. Conf. On Fission and Properties of Neutron-Rich Nuclei, Sanibel Island, Florida (Nov. 1997), World Scientific (1997)
46. *Mean-field nuclear structure calculations using the Galerkin-Basis-Spline lattice representation*, V.E. Oberacker and A.S. Umar, APS Spring Meeting, Columbus, OH (Apr.1998), Bull. Am. Phys. Soc. 43 (1998) 1081
47. *Nuclear mean-field calculations in the Spline-Galerkin lattice representation*, V.E. Oberacker and A.S. Umar, Int. Conf. NUCLEAR STRUCTURE '98, Gatlinburg, TN (August 1998), Abstracts p. 95
48. *Nuclear mean-field calculations in the Spline-Galerkin lattice representation*, V.E. Oberacker and A.S. Umar, Int. Conf. NUCLEAR STRUCTURE '98, Gatlinburg, TN (August 1998), AIP Conference Proceedings 481, American Institute of Physics (Woodbury, New York 1999), poster presentation, p. 592
49. *Mean-field nuclear structure calculations in the Spline-Galerkin lattice representation*, V.E. Oberacker and A.S. Umar, APS-DNP Meeting, Santa Fe, NM (Oct.1998), Bull. Am. Phys. Soc. 43 (1998) p. 1581
50. *Pair correlations near the drip lines: HFB on a 2-D lattice*, Volker Oberacker, Sait Umar, Jun Chen, and Edgar Teran, APS Apr01 Meeting, Washington, DC, Bull. Am. Phys. Soc. 46 (2001) p. 37
51. *Pairing properties near the drip lines: lattice HFB with high-energy continuum coupling*, V. Oberacker, J. Chen, E. Teran, S. Umar, Internat. Nucl. Phys. Conf. (INPC 2001), University of California, Berkeley (July 30 - August 3, 2001), Abstracts, p. 633
52. *HFB calculations for nuclei far from stability*, Edgar Teran, Volker Oberacker, and A.S. Umar, APS Apr02 Meeting, Albuquerque, NM, Bull. Am. Phys. Soc. 47 (2002) paper O14.014, p. xx
53. *Lattice HFB calculations for nuclei far from stability: neutron-rich sulfur and tin isotopes*, Volker Oberacker, Sait Umar, Edgar Teran, APS-DNP Meeting, Michigan State University (Oct. 2002), Bull. Am. Phys. Soc., vol. 47, No.6 (2002) p. 86

54. *HFB calculations with high-energy continuum coupling: nuclear structure at neutron dripline*, A.S. Umar, V.E. Oberacker, and E. Teran, Third International Conference on Fission and Properties of Neutron-Rich Nuclei, Sanibel Island, Florida, November 3-9, 2002; Abstracts, p.26
55. *Coordinate-space Hartree-Fock-Bogoliubov calculations in axial symmetry*, E. Teran, V. Oberacker and S. Umar, APS-DNP Meeting, Tuscon, AZ (Oct. 2003), Bull. Am. Phys. Soc. 48 (2003), paper HE 4, p.95
56. *2-D Hartree-Fock-Bogoliubov Calculations For Exotic Deformed Nuclei*, A. Blazkiewicz, V.E. Oberacker, A.S. Umar, and E. Teran, APS-DNP Meeting, Tuscon, AZ (Oct. 2003), Bull. Am. Phys. Soc. 48 (2003), paper HE 6, p.95
57. *Half-lives of several states in isotopes produced in the SF of  $^{252}\text{Cf}$* , J.K. Hwang, A.V. Ramayya, J.H. Hamilton, D. Fong, C.J. Beyer, P.M. Gore, E.F. Jones, E. Teran, V.E. Oberacker, A.S. Umar, Y.X. Luo, J.O. Rasmussen, S.J. Zhu, S.C. Wu, I.Y. Lee, P. Fallon, M.A. Stoyer, S.J. Asztalos, T.N. Ginter, J.D. Cole, G.M. Ter-Akopian, and R. Donangelo, APS-DNP Meeting, Tuscon, AZ (Oct. 2003), Bull. Am. Phys. Soc. 48 (2003), paper DF 10, p. 69
58. *Mean field Hartree-Fock-Bogoliubov theory to model the ground state of non-stable heavy and deformed nuclei*, E. Teran, V.E. Oberacker, A.S. Umar, and A. Blazkiewicz, APS Spring Meeting, (May 1-4, 2004, Denver, Colorado), Bull. Am. Phys. Soc. 49 (2004), paper L10.001
59. *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), Abstracts, p.228
60. *2-D Lattice HFB Calculations for Neutron-Rich Sulfur and Zirconium Isotopes*, A. Blazkiewicz, V.E. Oberacker, A.S. Umar, and E. Terán, 4th International Conference on Exotic Nuclei and Atomic Masses (ENAM04), Pine Mountain, Georgia (Sep. 2004), Abstracts, p.257
61. *HFB lattice calculation: zirconium isotope chain up to 2n-dripline*, Volker Oberacker, Sait Umar, and Artur Blazkiewicz, APS-DNP Meeting, Chicago, IL (Oct. 2004), Bull. Am. Phys. Soc. v.49, No.6 (2004) p.77
62. *Muon-induced fission: probing energy dissipation and fission dynamics*, Volker Oberacker and Sait Umar, APS-DNP Meeting, Chicago, IL (Oct. 2004), Bull. Am. Phys. Soc. v. 49, No. 6 (2004) p.90
63. *TDHF fusion studies including dynamic alignment due to Coulomb excitation*, Volker Oberacker and Sait Umar, Second Joint Meeting of the Nuclear Physics Divisions of the APS and JPS, Maui, Sep. 2005, Bull. Am. Phys. Soc., v. 50 No.6 (2005) p.163
64. *3-D Unrestricted TDHF Studies with full Skyrme interaction*, Sait Umar and Volker Oberacker, Second Joint Meeting of the Nuclear Physics Divisions of the APS and JPS, Maui, Sep. 2005, Bull. Am. Phys. Soc., v. 50 No.6 (2005) p.163
65. *3-D unrestricted TDHF fusion studies of spherical and deformed nuclei*, Sait Umar and Volker Oberacker, APS-DNP Meeting, Nashville, TN (Oct. 2006), Bull. Am. Phys. Soc., v51. No.6 (2006) p.73

66. *Density-constrained TDHF calculation of fusion cross sections for neutron-rich nuclei*, Volker Oberacker and Sait Umar, APS-DNP Meeting, Newport News, VA (Oct. 2007), Bull. Am. Phys. Soc., v. 52 No.9 (2007) p.27
67. *Heavy-ion fusion and fission using density-constrained TDHF*, A.S. Umar and V.E. Oberacker, Abstracts, Fourth Int. Conf. on "Fission and Properties of Neutron-Rich Nuclei", Sanibel Island, Florida (Nov. 2007)
68. *Density-constrained TDHF calculation of fusion cross sections for neutron-rich nuclei*, Volker Oberacker and Sait Umar, APS-DNP Meeting, Oakland, CA (Oct. 2008), Bull. Am. Phys. Soc., v. 53 No.12 (2008) p.26
69. *Neutron Transfer Dynamics and Doorway to Fusion in TDHF Theory*, Sait Umar and Volker Oberacker, APS-DNP Meeting, Oakland, CA (Oct. 2008), Bull. Am. Phys. Soc., v. 53 No.12 (2008) p.122
70. *Microscopic Calculation of Excitation Energies for Heavy Systems*, Sait Umar and Volker Oberacker, APS-DNP Meeting, Waikaloa, HI (Oct. 2009), Bull. Am. Phys. Soc., v. 54 No.10 (2009) p.67
71. *Entrance Channel Dynamics of Hot and Cold Fusion Reactions Leading to Superheavy Elements*, Sait Umar and Volker Oberacker, APS-DNP Meeting, Santa Fe, NM (Nov. 2010), Bull. Am. Phys. Soc., v. 55 No.14 (2010) p. 73
72. *Microscopic study of heavy-ion reactions with n-rich nuclei: dynamic excitation energy and capture*, Volker Oberacker and A.S. Umar, APS-DNP Meeting, Santa Fe, NM (Nov. 2010), Bull. Am. Phys. Soc., v. 55 No.14 (2010) p. 121
73. *Microscopic (DC-TDHF) study of heavy-ion fusion and capture reactions with neutron-rich nuclei*, V.E. Oberacker, A.S. Umar, J.A. Maruhn, and P.-G. Reinhard, Int. Conf. on Advances in Radioactive Isotope Science (ARIS - 2011), Leuven, Belgium, May 29 to June 3, 2011. Abstract selected for oral 20-min. presentation. Unable to present talk due to lack of DOE travel funds.
74. *Microscopic dynamic study of giant resonance excitation and fusion in  $^{132}\text{Sn}+^{48}\text{Ca}$* , Volker Oberacker and A.S. Umar, APS-DNP Meeting, Michigan State University (Oct. 2011), Bull. Am. Phys. Soc., vol.56, No.12 (2011) p.101
75. *Fusion of neutron-rich systems using time-dependent density-constrained DFT*, Volker Oberacker and A.S. Umar, APS Spring Meeting, Denver, CO (April 13-16, 2013), Bull. Am. Phys. Soc., vol.58, No.4 (2013) p.89
76. *Fusion using time-dependent density-constrained DFT*, R. Keser, A.S. Umar, V.E. Oberacker, J.A. Maruhn, and P.-G. Reinhard, International Nuclear Physics Conference INPC2013: 2-7 June 2013, Firenze, Italy, abstract and poster presentation
77. *Fusion, fission, and quasi-fission using TDHF*, Sait Umar and Volker Oberacker, APS Spring Meeting, Savannah, GA (April 2014), Bull. Am. Phys. Soc., vol.59, No.5 (2014), p.161



78. *Dynamics of Quasifission and Fission*, Sait Umar and Volker Oberacker, Super Heavy Nuclei(SHE2015) Symposium, Texas A & M University, College Station TX , (March 31 - April 3, 2015), book of abstracts pp. 31
79. *Isospin Dependence of Quasifission and Heavy-ion Fusion with Neutron Rich RIBs*, A. Wakhle, K. Hammerton, Z. Kohley, D. J. Hinde, M. Dasgupta, E. Williams, V. E. Oberacker, A. S. Umar, I. P. Carter, K. J. Cook, J. Greene, D. Y. Jeung, D. H. Luong, S. D. McNeil, C.S. Palshetkar, D. C. Rafferty, C. Simenel, and K. Stiefel, Super Heavy Nuclei (SHE2015) Symposium, Texas A & M University, College Station TX , (March 31 - April 3, 2015), book of abstracts pp.50
80. *Measuring the Fusion Cross-Section of  $^{18,19}\text{O}+^{12}\text{C}$  with Low-Intensity Beams at Energies Near and Below the Coulomb Barrier*, Steinbach, Tracy; Vadas, Justin; Schmidt, Jon; Singh, Varinderjit; Hudan, Sylvie; Desouza, Romualdo; Baby, Lagy; Kuvin, Sean; Wiedenhover, Ingo; Umar, Sait; Oberacker, Volker; APS April Meeting 2015, (Baltimore, MD), abstract X4.003
81. *Measuring the Fusion Cross-Section of  $^{18}\text{O}+^{12}\text{C}$  with Low-Intensity Beams near and below the Coulomb barrier*, Tracy Steinbach, Justin Vadas, Varinderjit Singh, Sylvie Hudan, Romualdo deSouza, Lagy Baby, Sean Kuvin, Ingo Wiedenhover, Sait Umar, and Volker Oberacker, APS April Meeting 2016, (Salt Lake City, Utah), abstract E9.00002
82. *Experimental evidence for a fusion enhancement in  $^{19}\text{O}+^{12}\text{C}$  at near barrier energies*, Varinderjit Singh, T.K. Steinbach, J. Vadas, B.B. Wiggins, S. Hudan, R.T. Desouza, L.T. Baby, V. Tripathi, S.A. Kuvin, I. Wiedenhover, A.S. Umar, and V.E. Oberacker, APS April Meeting 2016, (Salt Lake City, Utah), abstract E9.00003

### Colloquia and Seminars given at other institutions (partial list)

1. *Coulomb fission: theory and experiment*, Nuclear physics seminar at Wright Nuclear Structure Laboratory, Yale University, V.E. Oberacker, Visiting Research Associate (Feb. 1977)
2. *Coulomb and muon-induced fission*, V.E. Oberacker, Nuclear physics seminar at Wright Nuclear Structure Laboratory, Yale University (Nov. 1979)
3. *Atomic and nuclear physics with heavy ions: decay of the vacuum, dinuclear systems and subbarrier fusion*, V.E. Oberacker, colloquium given at Georgia Institute of Technology, School of Physics, Feb. 15, 1984
4. *A microscopic approach to the calculation of heavy-ion potentials*, Oak Ridge National Laboratory, V.E. Oberacker, Physics Division seminar, Aug. 9, 1984
5. *Coulombspaltung: Theorie und Experiment*, Universitaet Giessen, GERMANY, V.E. Oberacker, Theoretisches Seminar, June 7, 1985

6. *Positron production in heavy-ion collisions and implications for nuclear heavy-ion potentials*, Brookhaven National Laboratory, V.E. Oberacker, Nuclear Physics Seminar, Aug. 23, 1985
7. *Elektromagnetische Lepton-Paarproduktion in relativistischen Schwerionenstoessen*, Universitaet Giessen, GERMANY, V.E. Oberacker, Seminar ueber Atomphysik, Nov. 19, 1987
8. *Lepton-Paarproduktion in relativistischen Schwerionenstoessen*, Universitaet Frankfurt, GERMANY, V.E. Oberacker, Kernphysikalisches Kolloquium, Nov. 26, 1987
9. *Study of nuclear dissipation via prompt muon-induced fission*, V.E. Oberacker, Theory Seminar, Physics Division, Oak Ridge National Laboratory, Sep. 18, 1992
10. *Myon-induzierte Spaltung*, Universitaet Erlangen, GERMANY, V.E. Oberacker, Theorieseminar, Oct.14, 1992
11. *Recent developments in muon-induced fission*, V.E. Oberacker, Physics Division Seminar, Oak Ridge National Laboratory, Aug.9, 1993
12. *Basis-Spline collocation method in curvilinear coordinates with application to nuclear structure physics*, V.E. Oberacker, presentation at Joint Institute for Heavy-Ion Research, Oak Ridge National Laboratory, July 25, 1995
13. *The Spline-Galerkin method applied to deformed shell model and mean field theories*, V.E. Oberacker, presentation at Joint Institute for Heavy-Ion Research, Oak Ridge National Laboratory, August 5, 1996
14. *Nuclear mean field calculations in the Spline-Galerkin lattice representation*, V.E. Oberacker, seminar presented at Institute of Theoretical Physics, University of Warsaw (Poland), March 11, 1999
15. *Kernstrukturtheorie im Zusammenhang mit radioaktiven Ionenstrahl-Beschleunigern*, V.E. Oberacker, Colloquium at Institute for Theoretical Physics, Goethe-Universität Frankfurt am Main, Germany, March 22, 1999
16. *The B-Spline Galerkin and collocation method with application to HFB theory in coordinate space*, V.E. Oberacker, lecture at Kyoto University, Nov. 25, 2003
17. *2-D HFB lattice calculations: status report*, V.E. Oberacker, lecture at Kyoto University, Nov. 28, 2003
18. *Fusion of neutron-rich nuclei using a Time-Dependent Density Functional Theory with density constraint*, V.E. Oberacker, Nuclear Physics Seminar at Indiana University, Bloomington, IN, March 29, 2013
19. *Fusion and Quasifission Using Time-Dependent Density Functional Theory*, V.E. Oberacker, Nuclear Science Seminar, National Superconducting Cyclotron Laboratory at Michigan State University, April 23, 2014

## Colloquia and Seminars given locally (partial list)

1. *Many-particle quantum physics using the Galerkin - Basis Spline representation*, V.E. Oberacker, Seminar presented at Vanderbilt Dept. of Computer Science, April 1, 1998
2. *The Future of Nuclear Structure Physics: Nuclei Far From Stability and Implications for Nuclear Astrophysics*, V.E. Oberacker, Colloquium, Dept. Physics & Astronomy, Vanderbilt University, Sep. 5, 2002
3. *Neutron-Rich Nuclei and Implications for Astrophysics*, V.E. Oberacker, Physics 300 graduate student seminar, Dept. Physics & Astronomy, Vanderbilt University, Feb. 17, 2004
4. *Structure of exotic nuclei near the neutron dripline*, V.E. Oberacker, Nuclear and Particle Physics Seminar, Dept. Physics & Astronomy, Vanderbilt University, Sept. 27, 2004
5. *Computational nuclear structure and reaction theory: exotic neutron-rich nuclei*, V.E. Oberacker and A. S. Umar, Physics 300 graduate student seminar, Dept. Physics & Astronomy, Vanderbilt University, Sept. 6, 2005
6. *Computational nuclear structure and reaction theory: exotic neutron-rich nuclei*, V.E. Oberacker and A. S. Umar, Physics 300 graduate student seminar, Dept. Physics & Astronomy, Vanderbilt University, Sept. 11, 2007
7. *Computational nuclear theory: nuclear structure and heavy-ion fusion*, V.E. Oberacker and A. S. Umar, Physics 250 undergraduate student seminar, Dept. Physics & Astronomy, Vanderbilt University, Feb.5, 2008
8. *Computational nuclear theory: the frontier of neutron-rich and superheavy nuclei*, V.E. Oberacker and A. S. Umar, Physics 300 graduate student seminar, Dept. Physics & Astronomy, Vanderbilt University, Sept. 15, 2009
9. *The frontier of neutron-rich and superheavy nuclei*, V.E. Oberacker, Physics 250 undergraduate student seminar, Dept. Physics & Astronomy, Vanderbilt University, Feb. 10, 2010
10. *Dynamic quantum many-body description of fusion with neutron-rich nuclei*, V.E. Oberacker, Faculty Seminar, Dept. Physics & Astronomy, Vanderbilt University, Feb. 15, 2013

## Conference Organizing Committees / Sessions Chaired

1. Organizing Committee, Division of Nuclear Physics Meeting of the American Physical Society, Vanderbilt University (Oct. 1984)
2. Organizing Committee, Conference on Computational Quantum Physics, Vanderbilt University (May 23-25, 1991)

3. Organizing Committee, First Symposium on Nuclear Physics in the Universe, Oak Ridge National Laboratory (Sep. 24-26, 1992)
4. Organizing Committee, NATO Advanced Study Institute on Hot and Dense Nuclear Matter, Bodrum/Turkey (Sep. 26 - Oct. 9, 1993)
5. Organizing Committee, Student Physics Society Zone 8 Conference, Vanderbilt University, (March 29-30, 1996)
6. Organizing Committee, International Workshop on Condensed Matter Theories XXII, Nashville, TN (1998)
7. Session Chair, Int. Conference NUCLEAR STRUCTURE '98, Gatlinburg, TN ( August 10-15, 1998)
8. Session Chair, International Conference on Physics with Radioactive Ion Beams (ISOL'01), Oak Ridge, TN (March 11-14, 2001)
9. Session Chair, HRIBF Workshop on “Near and Sub-barrier Fusion of Radioactive Ions with Medium and Heavy Targets”, Oak Ridge National Laboratory (Dec. 2-3, 2005)
10. Session Chair, International Conference on “Nuclear Structure '06”, Oak Ridge, TN (July 24-28, 2006)
11. Organizing Committee, Division of Nuclear Physics Meeting of the American Physical Society, Nashville, TN (Oct. 2006)
12. Session Chair, Division of Nuclear Physics Meeting of the American Physical Society, Nashville, TN (Oct. 2006)
13. Session Chair, 2nd LACM-EFES-JUSTIPEN Workshop, Oak Ridge National Laboratory, Jan. 22-25, 2008
14. Session Chair, 3rd LACM-EFES-JUSTIPEN Workshop, Oak Ridge National Laboratory, Feb. 23-25, 2009
15. Member of the International Advisory Committee, 4-th International Conference on “Current Problems in Nuclear Physics and Atomic Energy (NPAE-Kyiv2012)”, Sep. 3-7, 2012 (Kiev, Ukraine).