

INA SARCEVIC

Curriculum Vitae

DATE OF BIRTH:

March 18, 1959.

OFFICE ADDRESS:

Department of Physics
University of Arizona
Tucson, Arizona 85721
Tel: (520) 621-4392
Fax: (520) 621-4721
email: ina@physics.arizona.edu

EDUCATIONAL BACKGROUND:

1981	B.S., Physics (with highest honors), University of Sarajevo, Bosnia
1986	Ph.D., Physics, University of Minnesota

PROFESSIONAL EMPLOYMENT:

1999–present	Professor, Department of Physics, University of Arizona
2008–present	Professor, Department of Astronomy, University of Arizona
2008–present	Observer, Steward Observatory, University of Arizona
2000–present	Member, Theoretical Astrophysics Program, University of Arizona
Fall 2009	Visiting Professor, Department of Physics, Brown University
1993–1999	Associate Professor, Department of Physics, University of Arizona
1993–1994	Visiting Associate Professor, Department of Physics and Astronomy, Johns Hopkins University
1988–1993	Assistant Professor, Department of Physics, University of Arizona
1986–1988	Director's Postdoctoral Fellow, Theoretical Division Los Alamos National Laboratory
1984–1986	Research Assistant, University of Minnesota
1982–1984	Teaching Associate, University of Minnesota

HONORS AND AWARDS

2006	Fellow, American Physical Society
1989–1991	Humboldt Fellowship
1985–1986	Doctoral Dissertation Fellowship, University of Minnesota
1980–1981	The British Council Fellowship for the International Meeting of Young Scientists, London, England
1981	Summa cum laude B.S. from the University of Sarajevo
1978–1981	University of Sarajevo Fellowships

OTHER POSITIONS

1988	Visiting Scientist, Theory Group, Fermilab
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1990	Humboldt Fellow, Theory Group, Max Planck Institute, Munich, Germany
1991	Humboldt Fellow, Theory Group, Max Planck Institute, Munich, Germany
1991	Visiting Scientist, INT, University of Washington, Seattle
1993	Visiting Scientist, ITP, University of California, Santa Barbara
1993	Visiting Scientist, LBL, University of California, Berkeley
1999	Visiting Scientist, Theory Group, Brookhaven National Laboratory
2002	Visiting Scientist, KITP, University of California, Santa Barbara
2002	Visiting Scientist, Theoretical Division, CERN, Geneva
2003	Visiting Scientist, KITP, University of California, Santa Barbara
2003	Visiting Scientist, INT, University of Washington, Seattle
2005	Visiting Scientist, KITP, University of California, Santa Barbara
2007	Visiting Scientist, CERN, Theory Division, Geneva, Switzerland

Selected Professional Activities

Organizing Committee for the Workshop on *Intermittency in High Energy Collisions*, Santa Fe, NM, March 18-21, 1990.

Organizing Committee for the Workshop on *Interface of Soft and Hard Processes in QCD*, Aspen Center for Physics, June 2-23, 1996.

Organizing Committee for the Workshop on *The State of Physics at the End of the 20th Century*, Santa Fe, NM, October 23-26, 1996.

Organizing Committee for the Workshop on *Frontiers in Particle Physics*, Aspen Winter Conference on Particle Physics, January 25-31, 1998.

Organizing Committee for the *XXIXth International Symposium Multiparticle Production*, Providence, RI, August 9-13, 1999.

International Advisory Committee for the *Advances in Particle Physics, Recent Results and Open Questions*, 1999 Aspen Winter Conference, Aspen Center for Physics, Aspen, CO, January 17-23, 1999.

Organizing Committee for the Workshop on *Neutrinos with Mass*, Aspen Center for Physics, Aspen, CO, June 26-July 16, 2000.

Organizing Committee for the *XXXth International Symposium Multiparticle Production*, Lake Balaton, Hungary, October 9-15, 2000.

Organizing Committee for the Workshop on *Neutrinos with Mass*, Aspen Center for Physics, Aspen, CO, June 26-July 16, 2000.

Organizing Committee for the *XXXth International Symposium Multiparticle Production*, Lake Balaton, Hungary, October 9-15, 2000.

Convener for the QCD subgroup on QCD and Small-x Physics at *Snowmass 2001, Future of Particle Physics*, Snowmass, CO, July 1-21, 2001.

International Advisory Committee for the *Coral Gables XXXth Conference on High Energy Physics and Cosmology since 1964*, Fort Lauderdale, December 12-16, 2001.

Executive Committee for the *Coral Gables XXXth Conference on High Energy Physics and Cosmology since 1964*, Fort Lauderdale, December 12-16, 2001.

International Advisory Committee for the 2002 Aspen Winter Conference on *Ultra High Energy Particles from Space*, Aspen Center for Physics, Aspen, CO, January 27-February 2, 2002.

Executive Committee for the *Coral Gables XXXI Conference on High Energy Physics and Cosmology since 1964*, Fort Lauderdale, December 11-15, 2002.

Co-Chair, Organizing Committee for the American Physical Society, Division of Nuclear Physics, DNP 2003 Meeting (organizers: B. Barrett, I. Sarcevic and B. Van Kolck), October 23-27, 2003.

Co-Chair, Workshop on “QCD, Confinement and Heavy-Ion Collisions”, Workshop preceding the American Physical Society, Division of Nuclear Physics, DNP 2003 Meeting October 29, 2003 (organizers: I. Sarcevic and R.L. Thews).

Organizing Committee, *Coral Gables XXXII Conference on High Energy Physics and Cosmology since 1964*, Fort Lauderdale, December 17-21, 2003.

Chair, Neutrino Physics and Astrophysics Session, *Coral Gables XXXII Conference on High Energy Physics and Cosmology*, Fort Lauderdale, December 17-21, 2003.

Member, Organizing Committee for the *Eighth Workshop on Non-perturbative QCD and Field Theory*, l’Institut Astrophysique de Paris, France, June 7-11, 2004.

Chair, High Energy Neutrinos Session, *Eighth Workshop on Non-perturbative QCD and Field Theory*, l’Institut Astrophysique de Paris, France, June 7-11, 2004.

Member, Elders Committee, *XXVIIth International Symposium on Multiparticle Production*, Sonoma, California, July 27-August 1, 2004.

Chair, Neutrino Physics Session, *Miami 2004, Celebrating 40 years of quarks, cosmology and CP-violation*, Miami, Florida, December 15-20, 2004.

Member, Elders Committee, *XXVIIIth International Symposium on Multiparticle Production*, Kromeriz, Czech Republic, 9-15 Aug 2005.

Chair, Neutrino Physics Session, *Topical Conference on Elementary Particle Physics and Cosmology*, Miami, Florida, December 15-20, 2005.

Chair, Neutrino Physics Session, *Topical Conference on Elementary Particle Physics and Cosmology*, Miami, Florida, December 12-18, 2006.

Member, Elders Committee, *XXXth International Symposium on Multiparticle Production*, University of California, Berkeley, 4-8 Aug 2007.

Chair, Physics at LHC and Beyond Session, *9th Workshop on Non-perturbative Quantum Chromodynamics and Field Theory*, Paris, France, June 3-9, 2007.

Member, Organizing Committee for the *IXth International Workshop on QCD and Field Theory*, l’Institut Astrophysique de Paris, Paris, France, June 3-8, 2007.

Chair, Physics at LHC and Beyond Session, *IXth International Workshop on QCD and Field Theory*, l’Institut Astrophysique de Paris, Paris, France, June 3-8, 2007.

Member, Elders Committee, *XXXIXth International Symposium on Multiparticle Production*, University of California, Berkeley, California, August 3-8, 2007.

Chair, Neutrino Physics Session, *Celebrating 35 Years of Supersymmetry, Supergravity and Superstrings*, Ft. Lauderdale, Florida, December 12-17, 2006.

Chair, Neutrino Physics Session, *Celebrating Ten Years of AdS/CFT*, Miami, Florida, December 13-18, 2007.

Chair, Neutrino Physics Session, *Conference on Elementary Particles, Astrophysics and Cosmology*, Ft. Lauderdale, Florida, December 16-21, 2008.

Chair, Session on Neutrinos and Particle Astrophysics, *Snowbird Workshop on Particle Astrophysics, Astronomy and Cosmology (SNOWPAC)*, Snowbird, Utah, February 1-7, 2009.

Chair, Neutrino/Dark Matter Session, *Conference on Elementary Particles, Astrophysics and Cosmology*, Ft. Lauderdale, Florida, December 15-20, 2009.

PUBLICATIONS

1. “Multiplicities Without KNO: Parton Branching Versus Negative Binomial” (with B. Durand), *Phys. Lett.* **172B**, 104 (1986).
2. “Multiplicity Distributions and KNO Scaling in the Parton Branching Model”, in *Proceedings of Hadronic Matter in Collision '86*, eds. P. Carruthers and D. Strotman (World Scientific, Singapore, 1986), p. 160.
3. “Is There Koba-Nielsen-Olesen Scaling at Fermilab Collider Energies?”, *Phys. Rev. Lett.* **59**, 403 (1987).
4. “KNO Scaling in the Parton Branching Model”, *Mod. Phys. Lett.* **A2**, 513 (1987).
5. “Multiplicity Distributions from Branching Equations with Constant Vertex Probabilities” (with B. Durand), *Phys. Rev.* **D36**, 2693 (1987).
6. “KNO Scaling as a Phase Transition of a Feynman-Wilson Gas” (with P. Carruthers), *Phys. Lett.* **189B**, 442 (1987).
7. “The Origin of KNO Scaling in the Parton Branching Model”, in *Proceedings of the XVII International Symposium on Multiparticle Dynamics*, eds. by M. Markytan, W. Marjetto, and J. MacNaughton (World Scientific, Singapore, 1987), p. 639.
8. “Toward a Statistical Description of Deconfinement Transition” (with P. Carruthers), in *World Scientific Review Volume “Hadronic Multiparticle Productions,”* ed. P. Carruthers (World Scientific, Singapore, 1988), p. 678.
9. “KNO Scaling in Hadron-Hadron Collisions”, *Acta Phys. Pol.* **B19**, 361 (1988).
10. “QCD Minijets and the Rising Cross Section” (with S. D. Ellis and P. Carruthers), *Phys. Rev.* **D40**, 1446 (1989).
11. “Multiplicities and Minijets at Tevatron Collider Energies”, *Nucl. Phys.* **A798**, 585c (1989).
12. “Multiplicity Distributions and Minijet Production at Tevatron Collider Energies”, in *Proceedings of the Hadronic Matter in Collision '88*, eds. P. Carruthers and J. Rafelski (World Scientific, Singapore, 1989), p. 78.

13. “Fluctuations and Coherence in Ultrarelativistic Heavy Ion Collisions” (with G. Baym and G. Friedman), *Phys. Lett.* **219B**, 205 (1989).
14. “Heavy Quark Production at Fermilab Tevatron Collider Energies” (with P. Carruthers and Q. Gao), *Phys. Rev.* **D40**, 3600 (1989).
15. “Short-Range Correlations and the Intermittency Phenomenon in Multihadron Rapidity Distribution” (with P. Carruthers), *Phys. Rev. Lett.* **63**, 1562 (1989).
16. “Self-Similar Multihadron Production at High Energies” (with H. Satz), *Phys. Lett.* **B233**, 251 (1989).
17. “Multiplicities and Minijets at the Tevatron”, *Nucl. Phys.* **B12**, 345c (1990).
18. “QCD and Hard Scattering (Summary Report of the QCD Collider Group)” (with R. Blair, J. Pumplin, R. Fletcher, S. Linn, M. Demarteau, A. Zieminski, V. Khoze, H. Weerts, N. Amos, M. Mangano, S. Kuhlmann, and T. Han), in Proceedings of the *Workshop on Physics at Fermilab in the 1990’s*, eds. D. Green and H. Lubatti (World Scientific, Singapore, 1990), p. 212.
19. “Ultra-High Energy Photonuclear Cross Sections” (with R. Gandhi, A. Burrows, R. Durand and H. Pi), *Phys. Rev.* **D42**, 263 (1990).
20. “The Hadronic Structure of the Photon”, in Proceedings of the *Annual Meeting of the American Physical Society, Division of Particles and Fields (DPF ’90)*, eds. B. Bonner and H. Miettinen (World Scientific, Singapore, 1990), p. 708.
21. “Intermittency Phenomenon in Hadronic Collisions”, in Proceedings of the *XXVth Recontres de Moriond, High Energy Hadronic Interactions*, ed. J. Tran Thanh Van (Editions Frontiers, 1990), p. 463.
22. “Correlations and Intermittency in High Energy Multihadron Distributions”, (with P. Carruthers, H. C. Eggers and Q. Gao), *Int. J. of Mod. Phys.* **A6**, 3031 (1991).
23. “The Origin of Intermittency in Hadronic Collisions”, in Proceedings of the *International Workshop on Intermittency in High Energy Collisions*, eds. F. Cooper, R. Hwa and I. Sarcevic (World Scientific, Singapore, 1991), p. 306.
24. “The Self-Similar Cascade Pattern at High Energies”, in Proceedings of the *International Workshop on Correlations and Multiparticle Production*, eds. M. Plümer, S. Raha, and R. M. Welner (World Scientific, Singapore, 1991), p. 323.
25. “Intermittency in Hadronic Collisions”, *Nucl. Phys.* **A525**, 361c (1991).
26. “Testing the Linked Pair Approximation (LPA) to Multi-Hadron Correlation Functions” (with P. Carruthers and H. C. Eggers), in Proceedings of the *XXth International Symposium on Multiparticle Dynamics*, eds. R. Baier and D. Wagner (World Scientific, Singapore, 1991), p.428.
27. “Analysis of Multiplicity Moments for Hadronic Multiparticle Distributions” (with P. Carruthers and H. C. Eggers), *Phys. Lett.* **B254**, 258 (1991).
28. “Cascading and Intermittency”, in Proceedings of the *Large Hadron Collider Workshop*, eds. G. Jarlskog and D. Rein (CERN 90-10, 1990), p. 1214.

29. “Intermittency in High Energy Collisions”, Proceedings of the *Workshop on Intermittency in High Energy Collisions*, eds. F. Cooper, R. Hwa and I. Sarcevic (World Scientific, Singapore, 1991).
30. “The Total and Jet Photoproduction Cross Sections at HERA and Fermilab Energies” (with R. Gandhi), *Phys. Rev.* **D44**, 10 (1991).
31. “Correlation Functions and Factorial Correlator Data” (with H. Eggers, P. Carruthers and P. Lipa), *Phys. Rev.* **D44**, 1975 (1991).
32. “Correlations and Intermittency in High Energy Nuclear Collisions” (with P. Carruthers and H. Eggers), *Phys. Rev.* **C44**, 1629 (1991).
33. “The Total and Jet Photoproduction Cross Sections at HERA and Fermilab Energies”, *Nucl. Phys.* **B25**, 278c (1991).
34. “A Statistical Field Theory of Density Fluctuations in Heavy-Ion Collisions”, in Proceedings of the *Workshop on Multiparticle Dynamics*, eds. R.C. Hwa, W. Ochs and N. Schultz (World Scientific, Singapore, 1991), p. 206.
35. “The Statistical Field Theory of Multiparticle Density Fluctuations” (with T. Elze), *Phys. Rev. Lett.* **68**, 1988 (1992).
36. “Description of Large Multiplicity Fluctuations in Small Phase Space Domains” (with K. Fialkowski and W. Ochs), *Z. Phys.* **C54**, 64 (1992).
37. “High Energy Photon-Nucleon and Photon-Nucleus Cross Sections” (with L. Durand, K. Honjo, H. Pi and R. Gandhi), *Phys. Rev.* **D48**, 1048 (1993).
38. “Intermittency and Multidimensional Correlations”, in Proceedings of the *VIIth International Symposium on Very High Energy Cosmic Ray Interactions*, ed. L. Jones (American Institute of Physics, New York, 1993), p. 364.
39. “Intermittency and Particle Correlations: Theory”, in Proceedings of the *XXVI International Conference on High Energy Physics*, ed. J.R. Sanford (American Institute of Physics, New York, 1993), p. 919.
40. “Jets and Jet Multiplicities in High Energy Photon-Nucleon Interactions” (with L. Durand, K. Honjo, R. Gandhi and H. Pi), *Phys. Rev.* **D47**, 4815 (1993).
41. “High Energy Photon-Nucleon and Photon-Nucleus Cross Sections”, (with L. Durand, L. Honjo, H. Pi and R. Gandhi) *Phys. Rev.* **D48**, 1048 (1993).
42. “The Statistical Field Theory of Multiparticle Density Fluctuations” (with H. Eggers and T. Elze), in Proceedings of the *XXII International Symposium on Multiparticle Dynamics*, ed. C. Pajares (World Scientific, Singapore, 1993), p. 346.
43. “Photoproduction Cross sections at HERA Energies” in Proceedings of the *Workshop on Physics at Current Accelerators and the Supercollider*, eds. J. Hewett and A. White (World Scientific, Singapore, 1993), p. 609.
44. “The Total and Jet Photoproduction Cross Sections at HERA and Fermilab Energies”, in Proceedings of the *International Conference on Elastic and Diffractive Scatterings*,

- (Blois93) eds. K.M. Fried, K. Kang and C-I Tan (World Scientific, Singapore, 1994) p. 77.
45. “QCD Cascades”, in Proceedings of the Workshop on *Pre-Equilibrium Parton Dynamics in Heavy-Ion Collisions*, ed. X. N. Wang, LBL Report 1993, p. 10.
 46. “Effective Field Theory of Multiparticle Correlations”, in Proceedings of the *XXIII International Symposium on Multiparticle Dynamics*, eds. M. Block and A. White (World Scientific, Singapore, 1993) p. 287.
 47. “Three-dimensional Statistical Field Theory for Density Fluctuations in Heavy-Ion Collisions” (with H. C. Eggers, and T.-Th. Elze), *Int. J. of Mod. Phys.* **A9**, 3821 (1994).
 48. “Total and Jet Photoproduction Cross Sections at HERA”, in Proceedings of the *XXVIIIth Recontres de Moriond, QCD and High Energy Hadronic Interactions*, ed. J. Tran Thanh Van (Editions Frontiers, 1994), p. 535.
 49. “Charm Production at RHIC to $O(\alpha_s^3)$ ” (with P. Valerio), *Phys. Lett.* **B338**, 426 (1994).
 50. “Towards a Field Theoretical Description of Multiparticle Production in High-Energy Collisions”, in Proceedings of the *NATO Workshop on Hot Hadronic Matter*, eds. H.H. Gutbord, J. Letessier and J. Rafelski (Plenum Pub. Co., New York, 1995) p. 283.
 51. “Charm Production at RHIC and LHC to $O(\alpha_s^3)$ ”, in Proceedings of the *Annual Meeting of the American Physical Society, Division of Particles and Fields*, (DPF '94), ed. S. Seidel (World Scientific, Singapore, 1995) p. 1243.
 52. “Charm Production at RHIC and LHC to $O(\alpha_s^3)$ ”, *Nucl. Phys.* **A590** (1995) 499c.
 53. “Charm Production in Hadronic and Heavy-Ion Collisions at RHIC and LHC Energies to $O(\alpha_s^3)$ ” (with P. Valerio), *Phys. Rev.* **C51**, 1433 (1995).
 54. “Small-x Parton Densities from HERA and the Ultrahigh Energy Neutrino-Nucleon Cross Sections” (with R. Gandhi, C. Quigg and M. H. Reno), in Proceedings of the *VIth International Conference on Elastic and Diffractive Scatterings, Frontiers in Strong Interactions*, eds. P. Chiappetta, M. Haguenaer and J. Tran Thanh Van (Editions Frontiers, 1996) pg. 215.
 55. “Domain Structure of a Disoriented Chiral Condensate from a Wavelet Prospective” (with Z. Huang, R. Thews and X. N. Wang), *Phys. Rev.* **D54**, 750 (1996).
 56. “New Predictions for Neutrino Telescope Event Rates” (with R. Gandhi, C. Quigg and M.H. Reno), *Nucl. Phys.* **B78**, 475 (1996).
 57. “Ultrahigh-Energy Neutrino Interactions”, (with R. Gandhi, C. Quigg, and M.H. Reno), *Astropart. Phys.* **5**, 81 (1996).
 58. “Wavelet View of a Disoriented Chiral Condensate”, (with Z. Huang, R. Thews and X. N. Wang), in Proceedings of the *14th International Conference on Particles and Nuclei (PANIC 96)*, pg 429.
 59. “Ultrahigh-Energy Neutrino Interactions and Neutrino Telescope Event Rates”, (with R. Gandhi, C. Quigg and M.H. Reno), in Proceedings of the *International Conference on Orbis Scientiae 1996: Neutrino Mass , Dark Matter, Gravitational Waves, Condensation*

of Atoms and Monopoles, Light-Cone Quantization, eds. B. N. Kursunoglu, S. L. Mintz and A. Perlmutter (Plenum Pub.Co., New York, 1996) p. 115.

60. “Jet Quenching in the Opposite Direction of a Tagged Photon in High-Energy Ion Collisions”, (with X. N. Wang and Z. Huang), *Phys. Rev. Lett.* **77**, 23 (1996).
61. “On the Nature of the EGRET Source at the Galactic Center”, (with S. Markoff and F. Melia), *Astrophys. J. (Letters)* **489**, 47 (1997).
62. “What is the Brightest Source for Dilepton Emissions at RHIC?” (with D. Fein, Z. Huang and P. Valerio), *Phys. Rev.* **C56**, 1637 (1997).
63. “Detecting Neutrinos from AGNS and Topological Defects with Neutrino Telescope” (with R. Gandhi, C. Quigg and M.H. Reno), in Proceedings of the *1996 Annual Meeting of the American Physical Society, Division of Particles and Fields* (DPF’96), ed. K. Heller, J.K. Nelson and D. Reeder (World Scientific, Singapore, 1998), pg. 1240.
64. “Wavelet Perspective of a Disoriented Chiral Condensate”, (with Z. Huang, R. Thews and X. N. Wang), in Proceedings of the *1996 Annual Meeting of the American Physical Society, Division of Particles and Fields* (DPF’96), ed. K. Heller, J.K. Nelson and D. Reeder (World Scientific, Singapore, 1998), pg. 1165.
65. “Wavelet Analysis of a Disoriented Chiral Condensate”, (with Z. Huang, R. Thews and X. N. Wang), in Proceedings of the *Workshop on Multiparticle Correlations and Fluctuations*, eds. R.C. Hwa, W. Kittel, W.J. Metzger and D.J. Schotanus (World Scientific, 1997), p. 145.
66. “Physics at RHIC: the Search for the Quark Gluon Plasma”, in Proceedings of the *XXVII International Symposium on Multiparticle Dynamics*, ed. G. Pancheri.
67. “Atmospheric Neutrinos from Charm”, (with L. Pasquali and M.H. Reno) in Proceedings of the *Conference on Particle Physics and the Early Universe (COSMO 98)*, ed. D. Caldwell, Monterey, CA, November 15-20, 1998.
68. “Particle Cascades in Sgr A*: the Possibility of Observing their Gamma-Ray Signature”, (with S. Markoff and F. Melia), in the Proceedings of the *184th Symposium of the International Astronomical Union: the Central Regions of Galaxy and Galaxies* (Kluwer Academic, Boston, 1998).
69. “Parton Distributions in Heavy Nuclei at small x”, in the Proceedings of the Workshop on *Hard Parton Physics in High-Energy Nuclear Collisions*, Brookhaven National Laboratory, March 1-5, 1999.
70. “Neutrinos and Muons from Atmospheric Charm”, (with L. Pasquali and M.H. Reno), in Proceedings of the *26th International Cosmic Ray Conference (ICRC 99)*, Vol. 2, pg. 244 (1999).
71. “Wavelet Analysis of a Disoriented Chiral Condensate”, (with Z. Huang, R. Thews and X.N. Wang), in *The State of Physics at the End of the 20th Century*, eds. F. Cooper, I. Sarcevic, G. West and C.-I. Tan (World Scientific, Singapore, 1999), pg. 41.

72. “Parton Distributions in Nuclei at Small x ”, in the Proceedings of the *QCD and Multiparticle Dynamics*, XXIX International Symposium on Multiparticle Dynamics, eds. I. Sarcevic and C.-I. Tan (World Scientific, Singapore, 2000), pg. 255.
73. “Nuclear Parton Distributions in QCD”, to appear in Proceeding of the *1999 Fall Meeting of the Division of Nuclear Physics of the American Physics Society*, Pacific Grove, CA, October 20-23, 1999.
74. “QCD Evolution of Gluon Density in a Nucleus”, to appear in Proceeding of the *1999 Fall Meeting of the Division of Nuclear Physics of the American Physics Society*, Pacific Grove, CA, October 20-23, 1999.
75. “Partonic Picture of Nuclear Shadowing at Small X ”, (with Z. Huang and H.J. Lu), *Nucl. Phys.* **A637**, 79 (1998).
76. “Neutrino Interactions at Ultrahigh Energies”, (with R. Gandhi, M.H. Reno and C. Quigg), *Phys. Rev.* **D58**, 093009 (1998).
77. “Secondary Decays in Atmospheric Charm Contributions to the Flux of Muon Neutrinos”, (with L. Pasquali and M. H. Reno), *Astropart. Phys.* **9**, 193 (1998).
78. “Partonic Picture of Nuclear Shadowing at Small x ”, *Nucl. Phys.* **A638**, 531 (1998).
79. “Prompt Muons from Atmospheric Charm”, (with L. Pasquali and M.H. Reno), *Phys. Rev.* **D59**, 034020 (1999).
80. “Muon and Muon Neutrino Fluxes from Atmospheric Charm”, (with L. Pasquali and M. H. Reno), *Nucl. Phys.* **B70**, 361 (1999).
81. “High-Energy Emission from Relativistic Particles in Sgr A*”, (with S. Markoff and F. Melia), *Astrophys. J.* **522**, 870 (1999).
82. “Searching for $\nu_\mu \rightarrow \nu_\tau$ Oscillations with Extragalactic Neutrinos”, (with S. Iyer and M. H. Reno), *Phys. Rev.* **D61**, 053003 (2000).
83. “Tau Neutrinos Underground: Signals of $\nu_\mu \rightarrow \nu_\tau$ Oscillations with Extragalactic Neutrinos” (with S. Iyer Dutta and M. H. Reno), *Phys. Rev.* **D62**, 123001 (2000).
84. “Propagation of Muons and Taus at High Energies,” (with S. Iyer Dutta, M. H. Reno and D. Seckel), *Phys. Rev.* **D63**, 094020 (2001).
85. “High-Energy Neutrino Signals of Four Neutrino Mixing”, (with S. Iyer Dutta and M.H. Reno), *Phys. Rev.* **D63**, 113001 (2001).
86. “Prompt Photons at RHIC”, (with J. Jalilian-Marian and K. Orginos), *Phys. Rev.* **C63**, 041901 (Rapid Communications) (2001).
87. “Neutrino Flavor Oscillations without Flavor Mixing Angles”, (with K. Dienes), *Phys. Lett.* **B500**, 133 (2001).
88. “Ultrahigh Energy Neutrinos, Small x and Unitarity”, (with M.H. Reno, G. Sterman, M. Stratmann and W. Vogelsang), in APS/DPF/DPB Summer Study on the Future Particle Physics Snowmass 2001, eConf C010630:P508 (2001).

89. “Ultrahigh Energy Neutrinos in the Light of SNO and SuperK”, (with S. Iyer Dutta and M.H. Reno), in the APS/DPF/DPB Summer Study on the Future Particle Physics Snowmass 2001 eConf C010630:P403 (2001).
90. “Working Group on QCD and Strong Interactions: Summary”, E. L. Berger, S. Magill, I. Sarcevic, J. Jalilian-Marian, W. B. Kilgore, A. Kulesza, W. Vogelsang, R. V. Harlander, E. Kinney, R. Ball, B. Flaughner, W. Giele, P. Mackenzie, Z. Sullivan, C. Balazs, L. Reina, Wu-Ki Tung, N. Kidonakis, P. Nadolsky, F. Olness, G. Sterman, S. D. Ellis, Feb 2002. 34pp. in APS / DPF / DPB Summer Study on the Future of Particle Physics (Snowmass 2001), eConf C010630:P5001 (2001).
91. “Neutrinos in Theories of Large Extra Dimensions”, in the Proceedings of the *XXXth Conference on High Energy Physics and Cosmology*, Coral Gables Conference 2001, December 12-16, 2001.
92. “Nuclear Effects in Prompt Photon Production at the LHC”, (with J. Jalilian-Marian and K. Orginos), *Nucl. Phys.* **A700**, 523 (2002).
93. “On Black Hole Detection with OWL/AIRWATCH Telescope”, (with Sharada Iyer Dutta and Mary Hall Reno), *Phys. Rev.* **D66**, 033002 (2002).
94. “Secondary Neutrinos from Tau Neutrino Interactions in Earth”, (with Sharada Iyer Dutta and Mary Hall Reno), *Phys. Rev.* **D66**, 077328 (2002).
95. “High Energy Tau Neutrinos”, (with S. Iyer Dutta and M.H. Reno), in AIP Conf. Proc. **624** 271 (2002).
96. “Impact of Extra Dimensions on the Standard Model”, in the Proceedings of the *XXXVIth Recontres de Moriond, QCD and High Energy Hadronic Interactions*, ed. J. Tran Thanh Van (Editions Frontiers, 2002), pg. 357.
97. “Prompt Photons at RHIC and LHC”, (with J. Jalilian and K. Orginos), in the Proceedings of the *XXXVIIth Recontres de Moriond, High Energy Hadronic Interactions*, ed. J. Tran Thanh Van (Editions Frontiers, 2002).
98. “Discovering New Physics with Ultrahigh Energy Neutrinos”, to appear in the Proceedings of the *XXXIth Conference on High Energy Physics and Cosmology*, Coral Gables Conference 2002, December 10-15, 2002.
99. “Prompt Photon and Inclusive π^0 Production at RHIC and LHC”, (with S.-Y. Jeon and J. Jalilian-Marian), *Nucl. Phys.* **A715**, 795 (2003).
100. “The Origin of Large p_T π^0 Suppression at RHIC”, (with S.-Y. Jeon and J. Jalilian-Marian), *Phys. Lett.* **B562**, 45 (2003).
101. “Large p_T Inclusive π^0 Production in Heavy-Ion Collisions at RHIC and LHC”, (with S. Y. Jeon and J. Jalilian-Marian), *Nucl. Phys.* **A723**, 467 (2003).
102. “Ultrahigh Energy Neutrinos”, (with S. Iyer Dutta and M.H. Reno), to appear in the Proceedings of the *Neutrinos and Physics Beyond the Standard Model*, Stony Brook, NY, October 11-13,2002.
103. “Hadrons as Signature of Black Hole Production at the LHC”, (with I. Mocioiu and Y. Nara), *Phys. Lett.* **B557**, 87 (2003).

104. “Neutrinos in Theories with Large Extra Dimensions”, in *Cosmology and Elementary Particle Physics*, ed. B. N. Kursunoglu, S. L. Mintz and A. Perlmutter, AIP Conference Proceedings Vol 624 (Melville, New York 2002).
105. “Tau Neutrinos at EeV Energies”, (with S. Iyer Dutta and M.H. Reno), in *Tsukuba 2003, Cosmic Ray*, (2003), pg. 1435.
106. “Photon Physics in Heavy Ion Collisions at the LHC”, (with F. Arleo, P. Aurenche, F. Bopp, I. Dadic, G. David, H. Delagrangé, D. d’Enterria, K.J. Eskola, F. Gelis, J.-Ph. Guillet, S. Jeon, Yu. Kharlov, O. Kodolova, P. Levai, J.H. Liu, I.P. Lokhtin, G.D. Moore, H. Niemi, A. Nikitenko, T. Peitzmann, P. Petreczky, J. Ranft, R. Rapp, P.V. Ruuskanen, K. Redlich, D.K. Srivastava, H. Takai, S. Tapprogge, M. Tokarev, I.N. Vardanyan, M. Werlen, P. Yepes), in *CERN Yellow Report on “Hard Probes in Heavy Ion Collisions at the LHC”*, 132 pages (2003).
107. “Ultrahigh Energy Neutrinos”, (with S. Iyer Dutta and M.H. Reno, in the Proceedings of the *Neutrinos and Implications for Physics Beyond the Standard Model*, (World Scientific, Singapore, 2003), ed. R. Shrock, pg. 339.
108. “Tracing Very High Energy Neutrinos from Cosmological Distances in Ice”, (with J. Jones, I. Mocioiu and M.H. Reno), *Phys. Rev.* **D69**, 033004 (2004).
109. “Tracing Very High Energy Neutrinos from Cosmological Distances in Ice”, (with J. Jones, I. Mocioiu and M.H. Reno), in the Proceedings of the *XXXII Conference on High Energy Physics and Cosmology*, eds. T. Curtright, S. Mintz and A. Perlmutter, (World Scientific, Singapore, 2004), pg. 298.
110. “Tracing Very High Energy Neutrinos from Cosmological Distances in Ice”, (with J. Jones, I. Mocioiu and M.H. Reno), to appear in the Proceedings of the *XXVIIth International Symposium on Multiparticle Dynamics*, ed. W. Gary, World Scientific, Singapore, 2004.
111. “Tracing Very High Energy Neutrinos from Astrophysical Sources”, (with J. Jones, I. Mocioiu and M.H. Reno), in the Proceedings of the *Eighth Workshop on Non-perturbative QCD and Field Theory*, ed. B. Muller and C.-I. Tan, World Scientific, Singapore, 2004.
112. “Propagation of Supersymmetric Charged Sleptons”, (with M. H. Reno and S. Su), *Astropart. Phys.* **24**, 107 (2005).
113. “Neutrinos as Probes of Physics Beyond the Standard Model”, in the Proceedings of the *XXXIII Conference on High Energy Physics and Cosmology*, eds. T. Curtright, S. Mintz and A. Perlmutter, (World Scientific, Singapore, 2005).
114. “Ultrahigh Energy Tau Neutrinos”, (with J. Jones, I. Mocioiu and M.H. Reno), *Int. J. Mod. Phys.* **A20**, 4656 (2005).
115. “Ultrahigh Energy Neutrino Interactions”, in the Proceedings of the *40th Rencontres de Moriond on Very High Energy Phenomena in the Universe*, La Thuile, Aosta Valley, Italy, March 14-20, 2005.
116. “Propagation of Supersymmetric Charged Sleptons at High Energy”, (with M.H. Reno and S. Su), *Astropart. Phys.* **24**, 107 (2005).

117. “Tracing Very High Energy Neutrinos from Cosmological Distances in Ice”, (with J. Jones, I. Mocioiu and M.H. Reno), *Int. J. Mod. Phys. A* **20**, 1204 (2005).
118. “Mini Z’ Burst from Relic Supernova and Late Neutrino Masses”, (with H. Goldberg and G. Perez), *JHEP* **0611**, 023 (2006).
119. “Weak Interactions of Supersymmetric Charged Sleptons at High Energies”, (with Y. Huang, M. H. Reno and J. Uscinski), *Phys. Rev. D* **74**, 115009 (2006).
120. “Probing Late Neutrino Mass Properties with Supernova Neutrinos”, (with J. Baker, H. Goldberg and G. Perez), *Phys. Rev. D* **76**, 063004 (2007).
121. “Weak Interactions and Quasi-stable Particle Energy Loss”, with M.H. Reno and J. Uscinski, in the Proceedings of *2nd Workshop on TeV Particle Astrophysics*, Madison, Wisconsin, 28-31 Aug 2006, *J. Phys. Conf. Ser.* **60**, 203 (2007).
122. “Ultrahigh Energy Cosmic Neutrinos and the Physics Beyond the Standard Model”, *J. Phys. Conf. Ser.* **60**, 175 (2007).
123. “Hadrons as Signature of Black Hole Production in Heavy-Ion Collisions at the LHC”, in the Proceedings of the *Workshop on Heavy-Ion Collisions at the LHC - Last Call for Predictions*, CERN Yellow Book, 2007.
124. “Pion and Photon Spectra at the LHC”, (with J. Jalilian-Marian and S. Y. Jeon), in the Proceedings of the *Workshop on Heavy-Ion Collisions at the LHC - Last Call for Predictions*, CERN Yellow Book, 2007.
125. “Cosmogenic Neutrinos and Quasi-stable Supersymmetric Particle Production”, (with M. H. Reno and J. Uscinski), *Phys. Rev. D* **76**, 125030 (2007).
126. “Ultrahigh Energy Cosmic Neutrinos and the Physics Beyond the Standard Model”, *J. Phys. Conf. Ser.* **60**, 175 (2007).
127. “Heavy Ion Collisions at the LHC - Last Call for Predictions”, (with N. Armesto, et al.), 185pp, *J. Phys. G* **35**, 054001 (2008).
128. “Neutrino Fluxes from Astrophysical Sources, the role of Neutrinos from Charmed Meson Production and Decay”, *Nucl.Instrum. Meth. in Phys. Research A* **604**, 588 (2009).
129. “Prompt Neutrino Fluxes from Atmospheric Charm”, (with R. Enberg and M. H. Reno), *Phys. Rev. D* **78**, 043005 (2008).
130. “High Energy Neutrinos from Charm in Astrophysical Sources”, (with R. Enberg and M. H. Reno), *Phys. Rev. D* **79**, 053006 (2009).
131. “Higgs Production and Decay from TeV Scale Black Holes at the LHC”, (with A. E. Erkoca and G. Nayak), *Phys. Rev. D* **79**, 094011 (2009).
132. “Muon Flux from Dark Matter Annihilation”, (with A. E. Erkoca and M. H. Reno), *Phys. Rev. D* **80**, 043514 (2009).
133. “Muon Flux and Showers from Dark Matter Annihilation in the Galactic Center”, (with A. E. Erkoca, G. Gelmini and M. H. Reno), arXiv:1002.2220, to be published in *Phys. Rev. D*.

EDITED VOLUMES

1. Proceeding of the Workshop on *Intermittency in High Energy Collisions*, eds. F. Cooper, R. Hwa and I. Sarcevic (World Scientific, Singapore, 1991).
2. Proceedings of the Workshop on the *State of Physics at the End of the 20th Century*, eds. F. Cooper, I. Sarcevic, G. West and C.I. Tan (World Scientific, Singapore, 1999) 255 pages.
3. Proceedings of the *XXIX International Symposium on Multiparticle Dynamics, QCD and Multiparticle Dynamics*, eds. I. Sarcevic and C.I. Tan (World Scientific, Singapore, 2000), 525 pages.

INVITED TALKS

1. "Multiplicity Distributions and KNO Scaling in the Parton Branching Model," presented at the *Second Workshop on Local Equilibrium in Strong Interaction Physics*, Santa Fe, April 7-14, 1986.
2. "The Origin of KNO Scaling in the Parton Branching Model," presented at the *XVII International Symposium on Multiparticle Dynamics*, Zeewinkle, Austria, June 13-23, 1986.
3. "KNO Scaling and Phase Transitions," presented at the *Aspen Workshop on Multiparticle Dynamics*, July 28-Aug. 17, 1987.
4. "KNO Scaling in Hadron-Hadron Collisions," presented at *The XXVIIIth Krakow School of Theoretical Physics*, Zakopane, Poland, June 2-15, 1987.
5. "Multiplicities and KNO in $p\bar{p}$ Collisions," presented at the *QCD and Its Applications Workshop*, Santa Barbara, California, Jan. 16-23, 1988.
6. "KNO Scaling and Minijets at Tevatron Collider Energies," presented at the *Seventh International Conference on Ultrarelativistic Nucleus-Nucleus Collisions, (Quark Matter '88)*, Lenox, Massachusetts, Sept. 26-30, 1988.
7. "Multiplicities Distributions and Minijet Production at Tevatron Collider Energies," presented at *Hadronic Matter in Collision '88*, Tucson, Arizona, Oct. 6-12, 1988.
8. "Multiplicities and Minijets at the Tevatron," presented at the *International Conference on Elastic and Diffractive Scattering*, Evanston, Illinois, May 2-6, 1989.
9. "Photon Hadronic Structure," presented at the *Annual Meeting of American Physical Society, Division of Particles and Fields, '90 Meeting*, Houston, Texas, Jan. 3-6, 1990.
10. "Intermittency Phenomenon in Hadronic Collisions," presented at the *25th Recontres de Moriond*, High Energy Hadronic Interactions, Les Arcs, France, March 11-17, 1990.
11. "The Origin of Intermittency in Hadronic Collisions," presented at the *International Workshop on Intermittency in High Energy Collisions*, Sante Fe, New Mexico, March 18-22, 1989.
12. "The Self Similar Cascade Pattern at High Energies," presented at the *International Workshop on Correlations and Multiparticle Production (CAMP)*, Marburg, Federal Republic of Germany, May 14-16, 1990.

13. "Intermittency in Hadronic Collision," presented at *Quark Matter '90 Conference*, Menton, France, May 7-11, 1990.
14. "Cascading and Intermittency," presented at the *Large Hadron Collider Workshop (LHC)*, Aachen, Germany, October 4-9, 1990.
15. "The Hadronic Structure of the Photon," presented at the Workshop on *Hard QCD Probes of Dense Nuclear and Hadronic Matter*, Seattle, January 1991.
16. "The Total and Jet Photoproduction Cross Sections at HERA and Fermilab Energies," presented at the *International Conference on Elastic and Diffractive Scattering*, Elba, Italy, May 21-25, 1991.
17. "The Statistical Theory of Density Fluctuations," presented at the Workshop on *Multiparticle Dynamics*, Ringberg, Germany, June 24-29, 1991.
18. "Total and Jet Photoproduction Cross Section at HERA," presented at the *QCD-20 Years Later*, Aachen, Germany, June 9-13, 1992.
19. "Intermittency and Multidimensional Correlations," presented at the *VIIth International Symposium on Very High Energy Cosmic Ray Interactions*, Ann Arbor, Michigan, June 21-27, 1992.
20. "Intermittency and Multiparticle Correlations in High Energy Collisions: Experimental and Theoretical Review," presented at the Workshop on *Multiparticle Production at SSC Energies*, Boulder, Colorado, July 26-Aug 1, 1992.
21. "How to Search for Fractals at SSC," presented at the Workshop on *Multiparticle Production at SSC Energies*, Boulder, Colorado, July 26-Aug 1, 1992.
22. "Intermittency and Particle Correlations: Theory," presented at the *XXVI International Conference on High Energy Physics*, Dallas, Texas, August 6-12, 1992.
23. "Fractals and Correlations in High Energy Collisions," invited lectures at the *XIV Autumn School of Physics*, Lisbon, Portugal, Sep. 28-Oct 2, 1992.
24. "Review of Recent Direct Photon Results," presented at the *D0 Workshop on QCD/Jet Physics*, Tucson, Oct. 12-17, 1992.
25. "Total and Jet Photoproduction Cross Sections at HERA", presented at *XXVIIIth Rencontres de Moriond, QCD and High Energy Hadronic Interactions*, Les Arcs, France, March 20-27, 1993.
26. "Photoproduction Cross Sections at HERA Energies", presented at the *Workshop on Physics at Current Accelerators and the Supercollider*, Argonne National Laboratory, Argonne, IL, June 2-5, 1993.
27. "The Total and Jet Photoproduction Cross Sections at HERA and Fermilab Energies", presented at the *International Conference on Elastic and Diffractive Scattering ("Blois '93")*, Brown University, Providence, RI, June 8-12, 1993.
28. "Effective Field Theory of Multiparticle Correlations", presented at the *Workshop on QCD at Finite Temperature*, Institute for Theoretical Physics, University of California, Santa Barbara, CA, August 16-23, 1993.

29. “QCD Cascades”, presented at the *Workshop on Pre-Equilibrium Parton Dynamics in Heavy-Ion Collisions*, Lawrence Berkeley Laboratory, University of California, Berkeley, August 23 - September 3, 1993.
30. “Effective Field Theory of Multiparticle Correlations”, presented at the *XXIII International Symposium on Multiparticle Dynamics*, Aspen, CO, September 12-17, 1993.
31. “Toward the Field Theoretical Description of Multiparticle Production in High-Energy Collisions”, presented at the *NATO Workshop on Hot Hadronic Matter*, Divonne-les Bains, France, June 27- July 1, 1994.
32. “Charm Production at RHIC and LHC to $O(\alpha_s^3)$ ”, presented at the *1994 Meeting of the American Physical Society, Division of Particles and Fields, (DPF’94)*, Albuquerque, August 2-6, 1994.
33. “Charm Production at RHIC and LHC to $O(\alpha_s^3)$ ”, presented at *Quark Matter ’95*, Monterey, California, January 9-13, 1995.
34. “Small-x Parton Densities from HERA and the Ultrahigh Energy Neutrino-Nucleon Cross Sections”, presented at the *VIth International Workshop on Elastic and Diffractive Scatterings, Frontiers in Strong Interactions*, Recontres de Blois, Chateau de Blois, France, June 1995.
35. “Small-x Parton Densities from HERA and the Ultrahigh Energy Neutrino-Nucleon Cross Sections”, presented at the *IVth International Workshop on Theoretical and Phenomenological Aspect of Underground Physics (TAUP ’95)*, Toledo, Spain, September 1995.
36. “Ultrahigh Energy Neutrinos from Active Galactic Nuclei,” presented at *XXIV Coral Gables Conference on Elementary Particle Physics and Cosmology*, Coral Gables, Florida, January 1996.
37. “Ultrahigh Energy Neutrino Interactions”, presented at the Aspen Winter Conference on Particle Physics, Aspen, CO, January 1996.
38. “New Predictions for Neutrino Telescope Event Rates”, presented at the Aspen Workshop on Neutrino Astrophysics, Aspen, Colorado, May 1996.
39. “Detecting Neutrinos from AGNS and Topological Defects with Neutrino Telescope”, presented at the *1996 Annual Meeting of the American Physical Society, Division of Particles and Fields (DPF’96)*, Minneapolis, MN, 10-15 Aug. 1996.
40. “Wavelet Perspective of a Disoriented Chiral Condensate”, presented at the *1996 Annual Meeting of the American Physical Society, Division of Particles and Fields (DPF’96)*, Minneapolis, MN, 10-15 Aug. 1996.
41. “Wavelet Analysis of a Disoriented Chiral Condensate”, presented at the *Workshop on Multiparticle Correlations and Fluctuations*, Nijmegen, Netherlands, July 1-7, 1996.
42. “Neutrinos from Topological Defects Formed in the Early Universe”, presented at the *Celebration of 25 Coral Gables Conferences and Their Impact on High Energy Physics and Cosmology Since 1964*, Miami Beach, Florida, January 23-26, 1997.
43. “Heavy-Ion Physics at RHIC”, review talk, presented at the *Aspen Winter Conference on Particle Physics, Particle Physics Enters its Second Century*, January 19-25, 1997.

44. “Search for the Quark Gluon Plasma”, review talk, presented at the *XXVII International Workshop on Multiparticle Dynamics*, Frascati, Italy, September 1997.
45. “Ultrahigh Energy Neutrino Interactions”, presented at the *Workshop on Observing Giant Cosmic Ray Airshowers for $E > 10^{20}$ eV Particles from Space*, College Park, Maryland, November 1997.
46. “Partonic Picture of Nuclear Shadowing at Small x”, presented at *Quark Matter '97*, Tsukuba, Japan, December 1997.
47. “Ultrahigh Energy Neutrinos”, invited talk at *Dark Matter '98*, UCLA, February 1998, (had to cancel due to the knee injury).
48. “Ultrahigh Energy Neutrinos”, invited talk at *Particles, Strings and Cosmology, PASCOS 98*, Boston, MA, March 21-28, 1998 (had to cancel due to the knee injury).
49. “Jet Quenching in High-Energy Heavy-Ion Collisions”, presented at the *IVth Workshop on QCD*, Paris, June 1-8, 1998.
50. “Recent Progress in Multiparticle Dynamics”, invited review at the *Vth Workshop on Nonlinear Correlations and Fluctuations '98*, Matrahaza, Hungary (June 1998).
51. “Interactions of Ultrahigh Energy Neutrinos”, talk presented at the Workshop on *Neutrinos in Physics and Astrophysics: from Solar to Ultra-High Energy Neutrinos*, June 15-July 12, 1998, Aspen, CO.
52. “Ultrahigh Energy Neutrinos”, talk selected for presentation at the *Xth International Symposium on Very High Cosmic Ray Interactions*, Laboratori Nazionali del Gran Sasso, Italy (July 1998). Conference, Rome, Italy (July 1998).
53. “Nuclear Shadowing Effect”, invited talk at the *XXVII International Symposium on Multiparticle Dynamics*, Athens, Greece (September 1998), (canceled due to visa problems).
54. “Can Neutrino Oscillations be Detected with Neutrino Telescope”, invited talk at the *1998 Orbis Scientiae: Confluence of Cosmology, Massive Neutrinos, Elementary Particles and Gravitation (27th Coral Gables Conference on Particle Physics)*, Ft. Lauderdale, FL, December 17-20, 1998 (had to cancel due to knee injury).
55. “Ultrahigh Energy Neutrinos”, invited talk at the *XVII th International Workshop Weak Interactions and Neutrinos (WIN99)*, Cape Town, South Africa, January 24-30, 1999 (had to cancel due to knee injury).
56. “Parton Distributions in Heavy Nuclei at small x”, invited talk at the *Hard Parton Physics in High-Energy Nuclear Collisions*, RIKEN Workshop, Brookhaven National Laboratory, March 1-5, 1999.
57. “Parton Distributions in Nuclei at Small x”, invited talk presented at the *XXIX International Symposium on Multiparticle Dynamics, QCD and Multiparticle Dynamics*, Providence, RI, August 9-13, 1999.
58. “Nuclear Parton Distributions in QCD”, invited talk presented at the *1999 Fall Meeting of the Division of Nuclear Physics of the American Physics Society*, Pacific Grove, CA, October 20-23, 1999.

59. “QCD Evolution of Gluon Density in a Nucleus”, presented at the *1999 Fall Meeting of the Division of Nuclear Physics of the American Physics Society*, Pacific Grove, CA, October 20-23, 1999.
60. “Searching for $\nu_\mu \rightarrow \nu_\tau$ Oscillations with Extragalactic Neutrinos”, presented at the Aspen Winter Conference on *Way Beyond the Standard Models of Particle Physics and Cosmology*, Aspen Center for Physics, January 31-February 5, 2000.
61. “Tau Neutrino Appearance with Megaparsec Baseline”, invited talk at the *Second Tropical Workshop on Particle Physics and Cosmology, Neutrino and Flavor Physics*, San Juan, Puerto Rico, May 1-6, 2000. (canceled due to sickness)
62. “Neutrino Flavor Oscillations without Flavor Mixing”, presented at the Aspen Workshop on *Neutrinos with Mass*, Aspen Center for Physics, June 26-July 16, 2000.
63. “Probing Extra Dimensions with Neutrinos”, invited talk at the *XXIXth Coral Gables Conference on Particle Physics*, Fort Lauderdale, December 14-17, 2000 (canceled due to sickness).
64. “Phenomenology of Extra Dimensions”, invited talk to be presented at the *XXXVth Recontres de Moriond on QCD and High Energy Hadronic Interactions* Les Arcs, Savoie, France, March 17-24, 2001.
65. “Impact of Extra Dimensions on the Standard Model”, invited talk presented at the *XXXVth Recontres de Moriond on QCD and High Energy Hadronic Interactions* Les Arcs, Savoie, France, March 17-24, 2001.
66. “Ultrahigh Energy Neutrinos in the Light of SNO and SuperK”, invited talk presented at the *Snowmass 2001, Future of Particle Physics*, Snowmass, CO, July 1-21, 2001.
67. “Phenomenology of Hard Photon Production at RHIC and LHC”, invited talk presented at the “LHC Workshop on Heavy-Ion Collisions”, CERN, October 10-13, 2001.
68. “Neutrinos in Theories of Large Extra Dimensions”, invited talk presented at the *XXXth Coral Gables Conference on Particle Physics*, Fort Lauderdale, December 11-16, 2001.
69. “Ultrahigh Energy Neutrinos in the Light of SNO and SuperK”, invited talk presented at the 2002 Aspen Winter Conference on *Ultra High Energy Particles from Space*, Aspen Center for Physics, Aspen, CO, January 27- February 2, 2002.
70. “Neutrino Oscillations in Theories of Large Extra Dimensions”, invited talk presented at the 2002 Aspen Winter Conference on *Ultra High Energy Particles from Space*, Aspen Center for Physics, Aspen, CO, January 27- February 2, 2002.
71. ‘Inclusive π^0 Production at the LHC”, talk presented at CERN Workshop on *Hard Probes in Heavy Ion Collisions at LHC*, March 11-15, 2002.
72. “Prompt Photon Production at RHIC and LHC”, invited talk presented at the *XXXVIIth Recontres de Moriond, QCD and High Energy Hadronic Interactions*, Les Arcs, France, March 16-23, 2002.
73. “Neutrinos in Theories with Large Extra Dimensions”, invited talk, Fifth European Meeting *From the Planck Scale to the Electroweak Scale, Supersymmetry and Brane Worlds*, Kazimierz, Poland, May 25 - 29, 2002.

74. “Solar Neutrino Mystery”, invited talk, National Optical Astronomy Observatory, Tucson, Arizona, May 8, 2002.
75. “Production of Prompt Photons and Neutral Pions at RHIC and LHC”, invited talk presented at Workshop on *QCD and Gauge Theory Dynamics in the RHIC Era*, ITP, Santa Barbara, June 26, 2002.
76. “Prompt Photon and Inclusive π^0 Production at RHIC and LHC”, invited talk presented at *Quark Matter 2002*, Nantes, France, July 17-23, 2002.
77. “Hard QCD Processes at RHIC and LHC”, invited talk to be presented at International Workshop on *Coherent Effects at RHIC and LHC: Initial Conditions and Hard Probes*, ECT, Trento, Italy, October 14-25, 2002.
78. “Black Hole Production in Neutrino Interactions”, invited talk presented at the XXXI Coral Gables Conference on Cosmology and Elementary Particle Physics, Ft. Lauderdale, Florida, December 11-15, 2002.
79. “Discovering New Physics with Ultrahigh Energy Neutrinos”, invited talk presented at Aspen Winter Conference on Particle Physics, *At the Frontiers of Particle Physics*, Aspen Center for Physics, Aspen, Colorado, Jan. 19 - 25, 2003.
80. “Photon and Pion Production at the LHC”, invited talk to be presented at the *19th Winter Workshop on Nuclear Dynamics*, Breckenridge, CO, February 9-13, 2003.
81. “Tau Neutrinos in km^3 Detector”, invited talk presented at *Neutrinos: Data, Cosmos and Planck Scale* Conference, KITP, Santa Barbara, March 3-8, 2003.
82. “Ultrahigh Energy Neutrinos as Probes of New Physics”, invited joint Particle Physics and Astrophysics seminar, University of California, Irvine, March 12, 2003.
83. “Ultrahigh Energy Neutrinos as Probes of Physics Beyond the Standard Model”, seminar, High Energy Theory Group, Physics Department, Brookhaven National Laboratory, Upton, NY, May 16, 2003.
84. “Ultrahigh Energy Neutrinos as Probes of New Physics”, invited talk presented at the Workshop on *Trends in Neutrino Physics*, Argonne National Laboratory, Argonne, IL, May 12-16, 2003.
85. “Prompt Photon and Inclusive Pion Production at RHIC and LHC”, invited talk presented at the Workshop on *The First Three Years of Heavy Ion Physics at RHIC*, Institute for Nuclear Theory, University of Washington, Seattle, June 9-20, 2003.
86. “Tracing Ultrahigh Energy Neutrinos from Cosmological Distances in Ice”, invited talk presented at the *XXXII Coral Gables Conference on Cosmology and Elementary Particle Physics*, Ft. Lauderdale, Florida, December 17-21, 2003.
87. “Tracing Very High Energy Tau Neutrinos from Cosmological Sources”, invited talk presented at the *Eighth Workshop on Non-perturbative QCD and Field Theory*, l’Institut Astrophysique de Paris, France, June 7-11, 2004.
88. “Tracing Very High Energy Neutrinos from Cosmological Sources”, invited talk presented at the *XXXIVth International Symposium on Multiparticle Production (ISMD2004)*, Sonoma State University, Sonoma, California, July 26-August 1, 2004.

89. “Ultra High Energy Neutrinos”, invited talk presented at the High Energy Conference *Celebrating 40 Years of Quarks, Cosmology and CP Violation*, Miami, Florida, December 15-20, 2004.
90. “High Energy Neutrino Interactions”, invited talk presented at XXXXth Rencontres de Moriond, *Very High Energy Phenomena in the Universe*, La Thuile, Italy, March 12-19, 2005.
91. “High Energy Neutrino Interactions”, invited talk, Workshop on DIS2005, Madison, Wisconsin, April 27- May 1, 2005.
92. “Cosmic Ultrahigh Energy Tau Neutrinos and Implications”, invited talk presented at Workshop on *Astrophysics of Ultrahigh Energy Cosmic Rays, Photons and Neutrinos*, KITP, University of California, Santa Barbara, California, May 2-20, 2005.
93. “Ultrahigh Energy Neutrinos as Probes of Physics Beyond the Standard Model”, invited talk presented at Workshop on *Implications of Neutrino Flavor Oscillations (INFO)*, Santa Fe, New Mexico, July 11-15, 2005.
94. “Mini Z’ Burst from Relic Supernova Neutrinos and Late Neutrino Mass”, invited talk presented at Workshop on *Physics and Astrophysics of Supernova Neutrinos*, Santa Fe, New Mexico, July 18-22, 2005.
95. “Mini Z’ Burst from Relic Supernova Neutrinos and Late Neutrino Mass”, invited talk, Workshop on *Ultrahigh Energy Cosmic Rays*, Aspen Center for Physics, Aspen, Colorado, August 21-Sep 5, 2005.
96. “Mini Z’ Burst from Relic Supernova Neutrinos and Late Neutrino Masses”, talk presented at *APS DNP Meeting 2005* Maui, Hawaii, September 15-20, 2005.
97. “Supernova Neutrinos as Probes of Late Neutrino Mass Models”, invited talk presented at *Topical Conference on Elementary Particle Physics and Cosmology, (Miami 2005)* Coral Gables, Florida, December 14-18, 2005.
98. “Mini Z’ Burst from Relic Supernova Neutrinos and Late Neutrino Masses”, invited talk, *Sterile Neutrinos in Astrophysics and Cosmology” (SNAC ’06)*, to be held in Crans Montana, Switzerland, March 25-29, 2006.
99. “Ultrahigh Energy Tau Neutrinos”, invited talk, *International UHE Tau Neutrino Workshop*, April 12-14, Beijing, China, 2006.
100. “Probing Neutrino Mass Models with Supernova Neutrinos”, invited talk, *Eleventh Marcel Grossmann Meeting on General Relativity*, Freie Universitat of Berlin, Berlin, Germany, July 22-29, 2006 (canceled due to injury).
101. “Probing the Physics Beyond the Standard Model with Ultrahigh Energy Neutrinos”, invited talk, conference on *Challenges in Particle Astrophysics*, 6th Rencontres de Vietnam, Hanoi, Vietnam, August 6 - 12, 2006 (canceled due to injury).
102. “Ultrahigh Energy Neutrinos as Probes of Physics Beyond the Standard Model”, invited talk, *Second TeV Particle Astrophysics Conference*, Madison, Wisconsin, August 28-31, 2006.

103. “Probing SUSY with Neutrinos”, invited talk, *Topical Conference on Elementary Particle Physics and Cosmology, Miami 2006*, Ft. Lauderdale, Florida, December 12-17, 2006.
104. “Probing Late Neutrino Mass Properties with Supernova Neutrinos”, invited talk, Aspen Winter Conference on *Neutrinos in Physics and Astrophysics*, Aspen, Colorado, January 27 - February 3, 2007.
105. “Hadrons as Signature of Black Hole Production in Heavy-Ion Collisions at the LHC” invited talk present at *Workshop on Heavy-Ion Collisions at the LHC*, CERN Theoretical Institute, May 29 - June 2, 2007.
106. “Black Hole Production at the LHC”, invited talk, *IXth International Workshop on QCD and Field Theory*, l’Institut Astrophysique de Paris, Paris, France, June 3-8, 2007.
107. “Neutrinos as Probes of Physics Beyond the Standard Model”, seminar, INFN, University of Roma, Italy, June 15, 2007.
108. “Ultrahigh Energy Neutrinos as Probes of Physics”, plenary talk, *Roma International Conference on Astro-Particle Physics* at University of Roma ”La Sapienza” (RICAP07), Roma, Italy, June 20-22, 2007.
109. “Neutrinos as Probes of Physics Beyond the Standard Model”, invited talk, *Workshop on Implications of Neutrino Flavor Oscillations (INFO 07)*, Santa Fe, New Mexico, July 2-6, 2007.
110. “Probing the Physics Beyond the Standard Model with Neutrinos”, invited talk, *Celebrating Ten years of AdS/CFT*, Ft. Lauderdale, Florida, December 13-18, 2007.
111. “Probing SUSY with Cosmic Neutrinos”, invited talk presented at *International Astroparticle Physics Symposium, IAPS 2008*, Golden, Colorado, May 6-8, 2008.
112. “Ultrahigh Energy Cosmic Neutrinos”, invited talk presented at *Second International Workshop on Interconnection between Particle Physics and Cosmology*, University of New Mexico, Albuquerque, New Mexico, May 19-23, 2008.
113. “Neutrino Fluxes from Astrophysical Sources, the role of Neutrinos from Charmed Meson Production and Decay”, invited talk presented at *Workshop on the Acoustic and Radio EeV Neutrino Detection Activities (ARENA2008)*, Roma University “Sapienza”, June 25-27, 2008, Rome, Italy.
114. “Neutrino Fluxes from Astrophysical Sources, the role of Neutrinos from Charmed Meson Production and Decay”, invited talk presented at *COSMO 2008*, Madison, Wisconsin, August 24-29, 2008.
115. “Neutrino Fluxes from Astrophysical Sources: the role of Neutrinos from Charmed Meson Production and Decay”, invited talk to be presented at *Topical Conference on Elementary Particles, Astrophysics, and Cosmology*, Ft. Lauderdale, Florida, December 16-21, 2008.
116. “High Energy Neutrinos from Charm in Astrophysical Sources”, invited talk presented at Aspen Winter Workshop on “Dark Matter and Dark Energy”, Aspen Center for Physics, Aspen, Colorado, January 25-31, 2009.

117. “High Energy Neutrinos from Charm in Astrophysical Sources”, invited talk presented at “Snowbird Workshop on Particle Astrophysics, Astronomy and Cosmology (SnowPAC)”, Snowbird, Utah, February 1-7, 2009.
118. “High Energy Neutrinos from Charm in Astrophysical Sources”, invited talk presented at *CIPANP 2009: Tenth Conference on the Intersections of Particle and Nuclear Physics*, La Jolla, California, May 25-31, 2009.
119. “High Energy Neutrinos from Charm in Astrophysical Sources”, invited talk, Santa Fe Workshop on *Implications of Neutrino Flavor Oscillations*, Santa Fe, New Mexico, July 6-10, 2009.
120. “Dark Matter Signals with Neutrinos”, invited talk to be presented at *Topical Conference on Elementary Particles, Astrophysics, and Cosmology*, Ft. Lauderdale, Florida, December 15-20, 2009.
121. “Neutrinos as Signature of Dark Matter”, invited talk presented at Aspen Winter Conference on *The Revolution in Particle Physics is Here*, Aspen, Colorado, January 15-21, 2009.
122. “Dark Matter Signals with Neutrinos”, talk at American Physical Society Annual April Meeting, Washington, DC, February 13-16, 2010.
123. “Neutrinos as Signature of Dark Matter”, invited talk presented at workshop on *Dark Matter 2010*, Marina del Rey, California, February 23-27, 2010.
124. “Neutrinos as Probes of Particle Physics”, invited seminar, Department of Physics and Astronomy, UCLA, Los Angeles, California, February, 2010.
125. “Neutrinos as Signature of Dark Matter”, invited talk, *Snowbird Workshop on Particle Astrophysics, Astronomy and Cosmology (SnowPAC)*, Snowbird, Utah, March 23-30, 2010.
126. “Neutrinos as Signature of Dark Matter”, invited talk. Workshop on *Dark Matter: Its Origin, Nature and Prospects for Detection*, Galileo Institute for Theoretical Physics, Florence, Italy, June 2010.
127. “Small x Parton Distributions and Ultrahigh Energy Neutrino Cross Sections”, Workshop on *Small x Parton Distributions*, Kavala, Greece, June 23-27, 2010.

INVITED SEMINARS AND COLLOQUIA

1. “KNO scaling violations in $p\bar{p}$ collisions,” Theoretical Division, Alamos National Laboratory, January 1986.
2. “Multiplicities and KNO scaling in $p\bar{p}$ collisions,” Physics Department, Freie University, Berlin, Germany, June 1987.
3. “Multiplicity distribution in $p\bar{p}$ collision,” Physics Department, Brown University, September 1987.
4. “KNO scaling violations in hadronic collisions,” Physics Department, University of Arizona, December 1987.

5. "The origin of KNO scaling violations in $p\bar{p}$ collisions," Theory Group, SLAC, February 1988.
6. "Multiplicities and KNO scaling in $p\bar{p}$ collisions," Physics Department, University of California, Santa Cruz, February 1988.
7. "KNO scaling in the parton branching model," Physics Department, Brookhaven National Laboratory, March 1988.
8. "The origin of KNO scaling violations in hadronic collisions," Physics Department, The Johns Hopkins University, March 1988.
9. "Ultrarelativistic Heavy-Ion Collisions," 3 seminars, Theoretical Division, Los Alamos National Laboratory, March-April 1988.
10. "The Spin of the Proton," Physics Department, University of Arizona, September 1988.
11. "Multiplicities and Minijets at the Tevatron," Theoretical and Experimental Group, Fermilab, November 1988.
12. "Multiplicities and Minijets in $p\bar{p}$ Collisions," Physics Department, University of Illinois at Urbana, Champaign, May 1989.
13. "Intermittency Phenomenon in Hadronic Collisions," Theoretical Division, Los Alamos National Laboratory, July 1989.
14. "The Hadronic Structure of the Photon," Theoretical Division, CERN, March 1990.
15. "Ultrahigh-energy Photonuclear Cross Sections," Theoretical Division, Los Alamos National Laboratory, April 1990.
16. "The Hadronic Structure of the Photon - Possible Solution to the Cyg X-3 Puzzle," Theory Group, Max-Planck-Institut, München, Germany, June 1990.
17. "Intermittency and Fractals in High-Energy Collisions," Physics Department, Rockefeller University, New York, November 1990.
18. "The Hadronic Structure of the Photon," Physics Department, University of Delaware, May 1991.
19. "Possible Solutions to the Cyg X-3 Puzzle," Physics Department, University of Wien, Austria, June 1991.
20. "Photoproduction at HERA," Theory Division, CERN, Geneve, Switzerland, March 1993.
21. "Problems, Puzzles and Prospects: Personal Perspective on Present Particle Physics," Physics Department, University of Arizona, November 1993.
22. "Fluctuations and Coherence in High-Energy Heavy-Ion Collisions," Nevis Labs, Columbia University, April 1994.
23. "Intermittency in High-Energy Collisions," Physics Department, State University of New York at Stony Brook, April 1994.
24. "Intermittency in High-Energy Collisions: Recent Developments," Physics Department, Brookhaven Laboratory, April 1994.

25. “The Ultrahigh Energy Neutrino Interactions”, Physics Department, UCLA, Los Angeles, May 1995.
26. “Ultrahigh Energy Neutrino Interactions: How to Search for AGN Neutrinos”, Theoretical Division, T-8, Los Alamos National Laboratory, Los Alamos, June 1995.
27. “Open Charm Production in Hadronic and Heavy Ion Collisions at RHIC and LHC Energies to $O(\alpha_s^3)$ ”, Nuclear and Particles Colloquium, Los Alamos National Laboratory, Los Alamos, June 1995.
28. “The Ultrahigh Energy Neutrino Interactions: Implications for AGN Neutrino Searches”, Astronomy Department, UCLA, Los Angeles, June 1995.
29. “Ultrahigh Energy Neutrino Interactions”, LPTHE Universite Paris XI, Orsay, France, June 1995.
30. “On Detection of Neutrinos from AGNs and Topological Defects Formed in the Early Universe”, Colloquium, Aspen Center for Physics, June 1996.
31. “Physics at RHIC”, Physics Department, University of Arizona, January 1997.
32. “Prospects of Physics at RHIC: The Search for the Quark-Gluon Plasma”, CEBAF, Virginia, January 1997.
33. “Prospects for Detection of Ultrahigh Energy Neutrinos from AGNs and from Topological Defects formed in the Early Universe”, Colloquium, College of William and Mary, Virginia, February 1997.
34. “Prospects for the Detection of Extragalactic Neutrinos”, Department of Physics and Astronomy and Bartol Institute, University of Delaware, May 1997.
35. “Prospects of Physics at RHIC and LHC: the Search for the Quark Gluon Plasma”, LPTHE Universite Paris XI, Orsay, France, September 1997.
36. “High Energy Neutrino Astrophysics”, colloquium, Auburn University, Auburn, Alabama, October, 1997.
37. “Ultrahigh Energy Neutrinos”, Physics Department, Brown University, Providence, RI, April, 1998.
38. “Prospects of Physics at RHIC: the Search for the Quark-Gluon Plasma”, Physics Department, SUNY Stony Brook, March 1999.
39. “A Novel Concept for Detecting $\nu_\mu \rightarrow \nu_\tau$ Oscillations with Extragalactic Neutrinos”, seminar, UCLA, March 2000.
40. “A Novel Concept for Detecting $\nu_\mu \rightarrow \nu_\tau$ Oscillations with Extragalactic Neutrinos”, seminar, Fermilab, May 2001.
41. “Particle Astrophysics with High Energy Neutrinos”, invited colloquium, Physics Department, Utah State University, December 4, 2001.
42. “Solar Neutrino Mystery”, invited talk, National Optical Astronomy Observatory, Tucson, Arizona, May 8, 2002.

43. “Ultrahigh Energy Neutrinos as Probes of New Physics”, invited joint Particle Physics/Astrophysics seminar, University of California, Irvine, March 12, 2003.
44. “Ultrahigh Energy Neutrinos as Probes of Physics Beyond the Standard Model”, seminar, High Energy Theory Group, Physics Department, Brookhaven National Laboratory, Upton, NY, May 16, 2003.
45. “Ultrahigh Energy Neutrinos as Probes of Physics Beyond the Standard Model”, seminar, High Energy Theory Group, Physics Department, New York State University, Stony Brook, NY, May 19, 2003.
46. “Ultrahigh Energy Neutrino Interactions”, seminar, Physics Department, University of California, Berkeley, May 16, 2005.
47. “Mini Z’ Burst from Relic Supernova Neutrinos and Late Neutrino Masses”, seminar, Physics Department, New York University, New York City, New York, October 5, 2005.
48. “Ultrahigh Energy Neutrinos from Cosmological Sources”, seminar, Physics Department, University of Utah, Salt Lake City, Utah, November 21, 2005.
49. “Ultrahigh Energy Neutrinos and the Physics Beyond the Standard Model”, seminar, CERN, Theoretical Division, March 23, 2006.
50. “Probing the Origin of Neutrino Mass and Mass Hierarchy with Supernova Neutrinos”, seminar, SLAC, Stanford University, June 8, 2006.
51. “Probing the Origin of Neutrino Mass with Supernova Neutrinos”, seminar, Physics Department, University of Iowa, Iowa City, Iowa, November 2006.
52. “Probing Neutrino Properties with Supernova”, seminar, Department of Physics and Astronomy, University of California, Los Angeles, November 16, 2006.
53. “Ultrahigh Energy Cosmic Neutrinos”, seminar, KITP, University of Chicago, March 30, 2007.
54. “Probing SUSY in Ice”, invited seminar, Theoretical Division, Los Alamos National Laboratory, June 2007.
55. “Neutrinos as Probes of Physics Beyond the Standard Model”, seminar, INFN, University of Rome, Italy, June 15, 2007.
56. “Ultrahigh Energy Neutrinos”, invited seminar, Istituto Nazionale di Astrofisica, Osservatorio Astrofisico di Arcetri, June 27, 2007, Florence, Italy.
57. “Dark Matter Signals with Neutrinos”, invited seminar, Department of Physics and Center for Particle Astrophysics, Pennsylvania State University, University Park, December 2009.
58. “Dark Matter Signals with Neutrinos”, invited seminar, Department of Physics and Astronomy, University of Iowa, Iowa City, April 2010.
59. “Dark Matter Signals with Neutrinos”, invited seminar, Department of Physics, Brown University, Providence, Rhode Island, October 2009.
60. “Cosmic Neutrinos: a New Window to the Universe”, invited colloquium, Brown University, Providence, Rhode Island, September 2009.

61. “Dark Matter Signals with Neutrinos”, invited seminar, Department of Physics and Astronomy, New York University, New York City, New York, November 2009.
62. “Dark Matter Signals with Neutrinos”, invited seminar, Department of Physics and Astronomy, University of California Los Angeles, Los Angeles, California, February 2010.
63. “Neutrinos as Signature of Dark Matter”, invited seminar, Department of Physics, University of Maryland, College Park, Maryland, May 2010.

CONFERENCES AND WORKSHOPS ORGANIZED

1. “Intermittency in High Energy Collisions”, Santa Fe, NM, March 18-21, 1990 (organizers: F. Cooper, R. Hwa and I. Sarcevic).
2. “Interface of Soft and Hard Processes in QCD”, Aspen Center for Physics, June 2-23, 1996 (organizers: I. Sarcevic, L. Durand and Chung-I Tan).
3. “The State of Physics at the End of the 20th Century”, Santa Fe, NM, October 23-26, 1996 (organizers: F. Cooper, I. Sarcevic and G. West).
4. “Frontiers in Particle Physics”, Aspen Winter Conference on Particle Physics, January 25-31, 1998 (organizers: I. Sarcevic and W. C. Louis).
5. “XXIX International Symposium on Multiparticle Dynamics, *QCD and Multiparticle Dynamics*”, Providence, RI, August 9-13, 1999 (organizers: I. Sarcevic and Chung-I Tan).
6. “Neutrinos with Mass”, Aspen Center for Physics, Aspen, CO, June 26-July 16, 2000 (organizers: M. Goodman, J. Learned, M.H. Reno and I. Sarcevic)
7. American Physical Society, Division of Nuclear Physics, DNP 2003 Meeting October 23-27, 2003 (organizers: B. Barrett, I. Sarcevic and B. Van Kolck).
8. “QCD, Confinement and Heavy-Ion Collisions”, Workshop preceding the American Physical Society, Division of Nuclear Physics, DNP 2003 Meeting October 22, 2003 (organizers: I. Sarcevic and R.L. Thews).

GRANTS AND CONTRACTS

Federal Grants

PI on U.S. Department of Energy Grant No. DE-FG02-04ER41298 and Grant No. DE-FG02-04ER41319, \$364,000.

PI on U.S. Department of Energy Grant No. DE-FG03-93ER40792, \$185,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG02-95ER40906 (with D. Toussaint), \$115,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG02-95ER40906 (with D. Toussaint and A. Patrascioiu), \$295,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG02-95ER40906 (with D. Toussaint and A. Patrascioiu), \$411,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG02-95ER40906 (with A. Patrascioiu and D. Toussaint), \$485,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG03-93ER40792 (with P. Carruthers), \$192,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG03-93ER40792 (with P. Carruthers), \$287,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG03-88ER40456 (with P. Carruthers), \$229,000.

Co-PI on U.S. Department of Energy Grant No. DE-FG03-88ER40456 (with P. Carruthers), \$37,000.

U.S. Department of Energy Contract No. DE-FG02-85ER40213 (with P. Carruthers, R. Thews, M. Scadron, A. Patrascioiu and D. Toussaint), \$1,740,000.

U.S. Department of Energy Contract No. DOE-ERW PE9A, “Ultrarelativistic Heavy Ion Collisions”, (with F. Cooper, LANL), \$30,000.

NATO Collaboration Grant (with H. Satz, P. Carruthers and R. Thews), \$30,000.

c. Graduate Students

1. Q. Gao (Masters Degree, 1990)
2. H. Eggers (Ph.D., 1991)
3. P. Valerio (Ph.D. 1996)
4. J. Reifengerger (undergraduate, NASA/U of A Space Grant Intern, B.Sc. 1999)
5. S. Iyer (Ph.D., 2001)
6. J. Uscinski (Ph.D., 2008)

Publication by students related to their thesis:

Qiang Gao:

1. “Heavy Quark Production at Fermilab Tevatron Collider Energies”, *Phys. Rev.* **D40**, 3600 (1989). *Phys. Rev.* **D40**, 3600, (1989).
2. “Correlations and Intermittency in High Energy Multihadron Distributions”, *Int. J. of Mod. Phys.* **A6**, 3031 (1991).

Hans Eggers:

1. “Correlations and Intermittency in High Energy Multihadron Distributions”, *Int. J. of Mod. Phys.* **A6**, 3031 (1991).
2. “Analysis of Multiplicity Moments for Hadronic Multiparticle Distributions”, *Phys. Lett.* **B254**, 258 (1991).
3. “Correlation Functions and Factorial Correlator Data”, *Phys. Rev.* **D44**, 1975 (1991).
4. “Correlations and Intermittency in High Energy Nuclear Collisions”, *Phys. Rev.* **C44**, 1629 (1991).

Peter Valerio:

1. “Charm Production at RHIC to $O(\alpha_s^3)$ ”, *Phys. Lett.* **B338**, 426 (1994);

2. “Charm Production in Hadronic and Heavy-Ion Collisions at RHIC and LHC Energies to $O(\alpha_s^3)$ ”, *Phys. Rev.* **C51**, 1433 (1995) and
3. “What is the Brightest Source for Dilepton Emissions at RHIC?”, *Phys. Rev.* **C56** (1997) 1637.

Sharada Iyer:

1. “Searching for $\nu_\mu \rightarrow \nu_\tau$ Oscillations with Extragalactic Neutrinos”, (with M. H. Reno and I. Sarcevic), *Phys. Rev.* **D61**, 053003 (2000).
2. “Tau Neutrinos Underground: Signals of $\nu_\mu \rightarrow \nu_\tau$ Oscillations with Extragalactic Neutrinos” (with M. H. Reno and I. Sarcevic), *Phys. Rev.* **D62**, 123001 (2000).
3. “Propagation of Muons and Taus at High Energies” (with M. H. Reno, I. Sarcevic and D. Seckel), *Phys. Rev.* **D63**, 094020 (2000).
4. “High-Energy Neutrino Signals of Four Neutrino Mixing”, (S. Iyer Dutta, M.H. Reno and I. Sarcevic), *Phys. Rev.* **D63**, 113001 (2001).

Jessica Uscinski:

1. “Weak Interactions of Supersymmetric Charged Sleptons at High Energies”, (with Y. Huang, M. H. Reno and J. Uscinski), *Phys. Rev.* **D74**, 115009 (2006).
2. “Probing Late Neutrino Mass Properties with Supernova Neutrinos”, (J. Baker, H. Goldberg, G. Perez and I. Sarcevic), *Phys. Rev.* **D76**, 063004 (2007).
3. “Weak Interactions and Quasi-stable Particle Energy Loss”, (M.H. Reno, I. Sarcevic and J. Uscinski), in the Proceedings of *2nd Workshop on TeV Particle Astrophysics*, Madison, Wisconsin, 28-31 Aug 2006, *J. Phys. Conf. Ser.* **60** 203 (2007).
4. “Cosmogenic Neutrinos and Quasi-stable Supersymmetric Particle Production”, (M. H. Reno, I. Sarcevic and J. Uscinski), *Phys. Rev.* **D76**, 125030 (2007).

Arif E. Erkoca:

1. “Higgs Production and Decay from TeV Scale Black Holes at the LHC”, (with A. E. Erkoca and G. Nayak), *Phys. Rev.* **D 79**, 094011 (2009).
2. “Muon Flux from Dark Matter Annihilation”, (with A. E. Erkoca and M. H. Reno), *Phys. Rev.* **D 80**, 043514 (2009).
3. “Muon Flux and Showers from Dark Matter Annihilation in the Galactic Center”, (with A. E. Erkoca, G. Gelmini and M. H. Reno), arXiv:1002.2220, to be published in *Phys. Rev.* **D**.

Dr. Sharada Iyer is Research Assistant Professor in Department of Physics and Astronomy at SUNY, Stony Brook.

Dr. Jessica Uscinski is Assistant Professor at American University in Washington, DC.

Postdoctoral Fellows supported from my research grants:

Dr. Raj Gandhi (now permanent staff at Harish-Chandra Research Institute, Allahabad)

Dr. Peter Lipa (now permanent staff at University Medical Center, University of Arizona)
Dr. Hung Jung Lu
Dr. Arjun Berera (faculty at University of Edinburgh, Scotland)
Dr. Zheng Huang (now at BNP/Cooper Neff)
Dr. Sean Gavin (faculty at Wayne State University)
Dr. Kostas Orginos (faculty at College of William and Mary)
Dr. Jamal Jalilian-Marian (faculty at Baruch College, New York)
Dr. Greg Mahlon (faculty at Penn State University)
Dr. Yasushi Nara (postdoc at Johann Wolfgang Goethe Universitat, Frankfurt)
Dr. Irina Mocioiu (faculty at Penn State University)
Dr. Rikard Enberg (faculty at Uppsala University, Sweeden)
Dr. Gouranga Nayak (postdoc at University of Arizona)