Professional Data for THOMAS L. CURTRIGHT

A. Curriculum Vitae

• CONTACT INFORMATION Address: Department of Physics, University of Miami, P. O. Box 248046, Coral Gables, FL 33124-8046; Telephone 305-284-7138; Email: curtright@miami.edu; URL: http://curtright.com

• PERSONAL DATA Born in 1948, near Paris, Missouri. Married, with three daughters.

• ACADEMIC POSITIONS

[1] Professor of Physics, University of Miami, Coral Gables, FL 33124, August 1988 — present.

[2] Honorary Professor of Physics, Washington University, St Louis, Missouri, September 2018 — present.

[2] Clark Way Harrison Visiting Professor, Washington University, St Louis, Missouri, August — December 2017.

[3] Scientific Associate, CERN, Geneva, Switzerland, May — November 2010; June — December 1987.

[4] Alan Richards Fellow in Mathematics, University of Durham, UK, 31 May — 9 July 2007.

[5] Member, Institute for Advanced Study, Princeton, NJ 08540, January — July 2006; January — May 1990.

[6] Visiting Scientist, Center for Theoretical Physics, MIT, Cambridge, MA 02139, April — May 1996.

[7] Visiting Associate Professor of Physics, Yale University, New Haven, CT 06511, January — June 1987.

[8] Visiting Associate Professor of Physics, Institute for Theoretical Physics, State University of New York, Stony Brook, NY 11794, September 1986 — January 1987.

[9] Associate Professor of Physics (with tenure), University of Florida, Gainesville, September 1985 — August 1988.

[10] DOE Outstanding Junior Investigator and Assistant Professor of Physics, University of Florida, Gainesville, FL 32611, September 1980 — August 1985.

[11] Robert R. McCormick Fellow, The Enrico Fermi Institute, University of Chicago, Chicago, IL 60637, July 1978 — August 1980.

[12] Research Fellow, University of California, Irvine, CA 92717, September 1976 — June 1978.

• EDUCATION Ph.D. in Theoretical Physics, California Institute of Technology, 1977 (thesis supervised by R. P. Feynman);
B.S. & M.S. in Physics, University of Missouri, Columbia, 1970 (advised by B. DeFacio, J. Huang, and K. Lee).

• AWARDS AND HONORS American Physical Society Fellow, APS Jesse Beams Award, ARCS Foundation Fellow, FQXi Membership, McCormick Research Fellow, NSF Graduate Fellow, O. M. Stewart Scholar, ΦBK, ΠME, $\Sigma\Xi$, University of Miami Cooper Fellow, University of Miami Provost's Scholarship Award, University of Miami Senate Distinguished Faculty Scholar Award, University of Missouri College of Arts and Science Distinguished Alumni Award, University of Missouri Department of Physics Distinguished Alumni Award.

• RESEARCH SUMMARY

2023 Scattering and phase space

2022 Geometry and scattering theory

2020-2021 QM and wormholes

2019 Massive dual fields revisited.

2018-2019 Worm holes and electrodynamics.

2017 String bits.

2016-2018 Worm holes and galileons.

2013-2016 Branched Hamiltonians; spin expansions and products.

2012-2013 Naked singularities; umbral calculus; QMPS.

2009-2012 Functional methods and flow equations; galileons; strings.

2007-2010 Quasi-hermitian Hamiltonians; n-Lie algebras; super-Landau models.

2004-2006 Nonrelativistic branes and biorthogonal quantum systems.

2002-2003 Superintegrability, Nambu mechanics, and fluid dynamics.

2001-2002 Areal theory and superintegrability.

1999-2000 Deformation quantization; duality and time.

1997-99 Phase-space deformations and duality.

1997 Membranes and integrability.

1995-96 Supersymmetry and duality.

1993-94 Chiral models and duality.

1992 Super-Yangians.

1991 Functional analysis of Liouville field theory.

1989-90 Quantum Lie algebras.

1987-89 Supermembranes and other superimmersions.

1986-87 Extrinsic curvature in strings and superstrings.

1986 String model partition functions; Torsion, strings, and nonlinear supersymmetry.

1984-85 Torsion, supersymmetry, and renormalization of σ-models.

1982-84 Conformal invariance, Liouville QFT, and strings.

1981-82 Higher dimensional theories and radiative corrections using transverse rotation group representation indices.

1981 Nonlocal algebras and Ward identities; charge renormalization due to any spin.

1979-80 Integrability of σ-models; σ-models with N=2 and N=4 supersymmetry; generalized gauge fields; dual graviton.

1979 Anomaly-free SU(8) grand unified models.

1978-79 Gauge fields with supersymmetry and any spin.

1977-78 N=4 supercurrent multiplet; dimensionally regularized hyperspherical expansions and dispersion relations.

1976-77 Supercurrent anomalies.

1974-76 Vacuum stability; radiatively induced supersymmetry breaking; dimensional regularization of supersymmetric theories; renormalization schemes with exact one-loop β functions.

1972-74 Field operator formulation of the parton model; factorization of single hadron distributions; non-standard neutrino production.

B. Grant Support

• 2019 FQXi Grant from Silicon Valley Community Foundation, 2019-210857

• 2016 and 2018 FQXi "Physics of the Observer" Grants from Silicon Valley Community Foundation, 2016-166041 and 2018-185325

• 1988-2015 NSF Awards PHY- 1214521, 0937580, 0855386, 0802988, 0555603, 0303550, 0073390, 9870101, 9507829, 9209978, 9007517, 8703390

• Julian Schwinger Foundation Grants JSF 08100000 and JSF 06090000

• NATO Advanced Research Workshop Grant, 1990-1991.

• 1981-1988 DOE support at the University of Florida (including Outstanding Junior Investigator Award)

C. Recent Research Papers (last eight years)

• "Scale Invariant Scattering in 2D" with C. Vignat, Bulg. J. Phys. 50 (2023) to appear, arXiv:2303.14861 [quant-ph]

• "Mean Sinc Sums and Scale Invariant Scattering" submitted to J. Math. Phys., arXiv:2212.13884 [quant-ph]

• "Newtonian Gravity on an N-Sphere" with H. Alshal, Bulg. J. Phys. 50 (2023) to appear, arXiv:2211.08236 [physics.class-ph]

• "Holistic Scattering" with S. Subedi, unpublished.

• "Geometric Cloaks and Resonances" with S. Subedi, Bulg. J. Phys. 50 (2023) to appear.

• "Potentials versus Geometry, Revisited" with S. Subedi, J. Math. Phys. 63 (2022) 112101.

• "Lie Groups and Propagators Exemplified" with Z. Cao, A. Peca, D. Sarker, and B.D. Shrestha, Bulg. J. Phys. 50 (2023) to appear, arXiv: 2112.14401 [quant-ph]

• "Dual Fields of Massive/Massless Gravitons in IR/UV Completions" with A. Danehkar and H. Alshal, Int. J. Mod. Phys. D 30 (2021) 2142021, arXiv:2109.05148 [hep-th]

• "Yet Another Paper on the Oscillator Propagator" with Z. Cao, A. Peca, D. Sarker, and B.D. Shrestha, 10.13140/RG.2.2.27951.87205

• "Potentials versus Geometry" with S. Subedi, arXiv: 2101.01107 [quant-ph]

• "On Enceladian Fields" with T.S. Van Kortryk and H. Alshal, Bulg. J. Phys. 48 (2021) 138-145, arXiv: 2012.13959 [physics.pop-ph]

• "Charge Densities for Conducting Ellipsoids" with Z. Cao, S. Huang, J. S. Sarmiento, S. Subedi, D. A. Tarrence, and T. R. Thapaliya, Eur. J. Phys. 41 (2020) 3, 035204, arXiv:1911.03602 [physics.class-ph]

• "Massive Dual Gravity in N Spacetime Dimensions" with H. Alshal, JHEP 09 (2019) 063, arXiv:1907.11537 [hep-th]

• "Massive Dual Spin 2 Revisited" with H. Alshal, Nucl. Phys. B 948 (2019) 114777, arXiv:1907.11532 [hep-th]

• "Massive Dual Spinless Fields Revisited" Nucl. Phys. B 948 (2019) 114784, arXiv:1907.11530 [hep-th]

• "Image Charges Re-Imagined" with H. Alshal and S. Subedi, Bulg. J. Phys. 48 (2021) 202-224, arXiv:1808.08300 [physics.class-ph]

• "Grounded Hyperspheres as Squashed Wormholes" with H. Alshal, J. Math. Phys. 60 (2019) 032901, arXiv:1806.03762 [physics.class-ph]

• "The Conducting Ring Viewed as a Wormhole" with H. Alshal, P. Baral, S. Huang, J. Liu, K. Tamang, X. Zhang, Y. Zhang, Euro. J. Phys. 40 (2019) 015206, arXiv:1805.11147 [physics.class-ph]

• "Fundamental Supermultiplet in Twelve Dimensions" Front. Physics 11 (2018) 00137.

• "Introduction to BASIC 2017 and a Big Bang in a Little Room" with E. Guendelman, Bulg. J. Phys. 45 (2018) 81-84

• "The BASICs of Branched Hamiltonians" Bulg. J. Phys. 45 (2018) 102-113

• "Extrinsic Curvature, Polyakov, Weyl, and Einstein" Bulg. J. Phys. 45 (2018) 173-179

• "Color Characters for White Hot String Bits" with S Raha and C B Thorn, Phys. Rev. D 96 (2017) 086021, arXiv:1708.03342 [hep-th]

• "Spin Multiplicities" with T. S. Van Kortryk, and C. K. Zachos, Phys. Lett. A381 (2017) 422-427, arXiv:1607.05849 [hep-th]

• "Charged line segments and ellipsoidal equipotentials" with N M Aden, X Chen, M J Haddad, S Karayev, D B Khadka, and J Li, Euro. J. Phys. 37 (2016) 035201, arXiv:1601.04047 [physics.class-ph]

• "Elementary results for the fundamental representation of SU(3)" with C. K. Zachos, Rep. Math. Phys. 76 (2015) 401-404, arXiv:1508.00868 [math.RT]

• "More on Rotations as Spin Matrix Polynomials" J. Math. Phys. 56 (2015) 091703, arXiv:1506.04648 [math-ph]

• "On Rotations as Spin Matrix Polynomials" with T.S. Van Kortryk, J. Phys. A: Math. Theor. 48 (2015) 025202, arXiv:1408.0767 [math-ph]

D. Seminars, Conferences, and Visits (since 1997)

• Co-organizer and participant, BASIC 2024, 3-9 March 2024.

• Co-organizer and participant, Miami 2023, 13-19 December 2023.

• Co-organizer and participant, Miami 2022, 14-20 December 2022.

• Co-organizer, participant, and talk, BASIC 2022, 20-26 October 2022.

• Participant, PPC 2022, Washington University, Saint Louis, Missouri, 6-10 June 2022.

• Co-organizer and participant, Miami 2021, 15-22 December 2021.

• Co-chairman, participant, and talk, Symmetry 2021, 8-13 August 2021.

• Co-organizer and participant, Miami 2020, 10-21 December 2020 & 11-12 January 2021.

• Co-organizer, participant, and talk, BASIC 2020, 9-15 February 2020.

• Co-organizer and participant, Miami 2019, 12-18 December 2019.

• Seminar, Fontbonne University, 15 November 2019.

• Seminar, Chapman University, 11 October 2019.

• Seminar, University of Kansas, 26 September 2019.

• Seminar, University of Iowa, 7 June 2019.

• Seminar, University of Missouri - Columbia, 28 May 2019

• Co-organizer, participant, and talk, BASIC 2019, 6-12 January 2019.

• Co-organizer and participant, Miami 2018, 13-19 December 2018.

• Seminar, "The Pleasure of Remembering Richard Feynman", King's College, London, 26 October 2018.

• Participant, *Feynman at 100*, NTU, Singapore, 22-24 October 2018.

• Invited speaker, *All Possible Paths*, Art Science Museum, Singapore, 20 October 2018.

• Invited participant, *Freund Memorial Events*, 14-15 September 2018.

• Co-organizer, participant, and talk, BASIC 2018, 1-14 July 2018.

• Seminar, University of Missouri - Columbia, 6 June 2018

• Co-organizer, participant, and talk, BASIC 2018, 13-18 May 2018.

• Co-organizer, participant, and talk, Miami 2017, 13-19 December 2017.

• Colloquium, "*Phase Space*", Washington University, Saint Louis, Missouri, 6 December 2017.

• Co-organizer, The Great American Solar Eclipse Physics Conference, 19-21 Aug 2017.

• Seminar, Fontbonne University, St Louis, 12 May 2017.

• Seminar, IFT, U of Florida, Gainesville, 7 April 2017.

• Co-organizer, participant, and two talks, BASIC 2017, 12-18 March 2017.

• Co-organizer and participant, Miami 2016, 14-20 December 2016.

• Seminar, "Spin products", Fontbonne University, St Louis, 6 September 2016.

• Participant and invited speaker, R D Field Symposium, U of Florida, Gainesville, 29 April 2016.

• Co-organizer, participant, and two talks, BASIC 2016, 7-12 January 2016.

• Co-organizer and participant, Miami 2015, 16-22 December 2015.

• Participant and seminar, "Galileons and Gravity", STARS 2015, Havana, Cuba, 10-13 May 2015.

• Co-organizer and seminar, "Rotations as Spin Matrix Polynomials", Miami 2014, 17-22 December 2014.

• Seminar, "Galileons and Gravity", University of Groningen, 20 May 2014.

• Participant, Solvay Institute Workshop "Fast is Beautiful: Supersymmetry and Strings in a Null Frame" 14-15 May 2014, ULB, Brussels.

• Seminar, "Galileons and Gravity", College of William and Mary, 15 April 2014.

• Participant, "50 Years of Quarks and Color", University of Maryland – College Park, 11-12 April 2014.

• Visiting Scientist, Argonne National Lab., 13-18 March 2014.

• Co-organizer and participant, Miami 2013, 12-18 December 2013

• Participant, "Quark 50", Caltech, 9-10 December 2013.

• Seminar, "Branched Hamiltonians and Supersymmetry", Wigner Research Centre for Physics, 12 November 2013.

• Participant, "Wigner 111", Hungarian Academy of Sciences, Budapest, 11-13 November 2013.

• Seminar, "Galileons and Gravity", Washington University, St Louis, 17 October 2013.

• Seminar, "Galileons and Gravity", University of Iowa, 26 July 2013.

• Visiting Scientist, Argonne National Lab., July 2013.

• Seminar, "Five Talks with Myron", Bander Symposium, University of California - Irvine, 8 June 2013.

• Seminar, "Galileons Unchained", University of Missouri - Columbia, 12 March 2013.

• Co-organizer and participant, Miami 2012, 13-20 December 2012.

• Seminar, "Galileons and Naked Singularities", FAU, 14 November 2012.

• Participant and session chair, Solvay Institute Workshop "The Quantum Quest: A Fascinating Journey" 5-7 November 2012, ULB, Brussels.

• Participant, "Review of Discovery Physics Results from ICHEP", Argonne National Lab., 17 July 2012.

• Visiting Scientist, Argonne National Lab., July 2012.

• Colloquium, "*Phase Space*", University of Kansas, Lawrence, 30 April 2012.

• Seminar, "Conjugation, Cycles and the C-theorem", University of North Carolina, Chapel Hill, 20 March 2012.

• Colloquium, "*Phase Space*", University of North Carolina, Chapel Hill, 19 March 2012.

• Co-organizer and participant, Miami 2011, 15-20 December 2011.

• Seminar, "Functional Composition, Conjugation, Cycles, and the C-theorem", Vanderbilt University, 28 October 2011.

• Visiting Scientist, Center for Theoretical Physics, MIT, 16 August 2011.

• Seminar, "Functional Methods", University of Iowa, 2 June 2011.

• Co-organizer and participant, Miami 2010, 14-19 December 2010.

• Seminar, "Functional Conjugation Methods: Renormalization Group", Feza Gürsey Institute, Istanbul, 5 November 2010.

• Seminar, "Functional Conjugation Methods: Dynamical Systems", Physics Dept., Boğaziçi University, Istanbul, 2 November 2010.

• Visiting Scientist, Physics Departments, Boğaziçi and Koç Universities, Istanbul, Turkey, 1-5 November 2010.

• Visiting Scientist, Physics Department, Mons University, Belgium, 25 October 2010.

• Seminar, "Potentials Unbounded Below", Centro de ciencias de Benasque Pedro Pascual, Spain, 29 July 2010.

• Participant, *Supersymmetric Quantum Mechanics and Spectral Design*, Centro de ciencias de Benasque Pedro Pascual, 25-30 July 2010.

• Participant, *Non-Perturbative Techniques in Field Theory*, London Mathematical Society - EPSRC Durham Symposium, 18-25 July 2010.

• Participant, *Planck 2010: From the Planck Scale to the Electro Weak Scale*, CERN, 31 May - 4 June 2010.

• Co-organizer and seminar, "Associativity, Jacobi, Bremner, and All That", Miami 2009, 15-20 December 2009.

• Seminar, "Associativity, Jacobi, Bremner, and All That", *QTS6*, University of Kentucky, 21 July 2009.

• Participant, *Quantum Theory and Symmetry 6*, University of Kentucky, 20-25 July 2009.

• Participant, Gravitational Wave Advanced Detector Workshop, 15-20 May 2009.

• Co-organizer and seminar, "Ternary Lie Algebras in Physics", Miami 2008, 16-21 December 2008.

• Invited participant, Nambu Nobel Prize ceremony, University of Chicago, 10 December 2008.

• Co-organizer and participant, Miami 2007, 13-18 December 2007.

• Plenary talk, "Quasi-hermitian Liouville Theory", City Univ. London, UK,16 July 2007.

• Participant, 6th International Conf. on Quasi-hermitian Models, London, 16-18 July 2007.

• Seminar, "Quasi-hermitian Liouville Theory", Univ. Liverpool, UK, 13 July 2007.

• Visiting Scientist, DAMTP, Univ. Cambridge, UK, 9-12 July 2007.

• Seminar, "Quasi-hermitian Liouville Theory", Dublin Inst. Adv. Studies, Ireland, 27 June 2007.

• Seminar, "Quasi-hermitian Liouville Theory", Univ. of York, UK, 11 June 2007.

• Grey College Fellow, Univ. Durham, UK, 31 May - 9 July 2007.

• Seminar, "Quasi-hermitian Quantum Mechanics", Univ. Missouri, Columbia, 20 March 2007.

• Colloquium, "Quasi-hermitian Quantum Mechanics", Univ. Missouri, St Louis, 16 March 2007.

• Co-organizer and seminar, "Quasi-hermitian QM in Phase Space", Miami 2006, 13-17 December 2006.

• Seminar, "Biorthogonal Quantum Systems", Univ. Minnesota, Minneapolis, 26 November 2006.

• Seminar, "Biorthogonal Quantum Systems", Univ. Illinois, Chicago, 19 October 2006.

• Seminar, "Biorthogonal Quantum Systems on Supermanifolds", *ICGTMP26*, CUNY, 26 June 2006.

• Seminar, "Quasi-hermitian solvable models", E Schrödinger Institute, Vienna, 19 June 2006.

• Seminar, "Quasi-hermitian solvable models", *ISQS-15*, Prague, 15 June 2006

• Seminar, "Imaginary Liouville Theory", IAS, Princeton, 24 February 2006

• Co-organizer and participant, Miami 2005, 14-18 December 2005.

• Participant, Aspen Center for Physics, June-July 2005.

• Feynman letters panel discussion, Chicago Public Library, 12 May 2005.

• Co-organizer and participant, Miami 2004, 15-19 December 2004.

• Seminar, "Evolving branes with generalized dynamics", Global Foundation Conf, 17-21 December 2003.

• Seminar, "Some 'Recent' Developments in Time Evolution", University of Virginia, 26 March 2003.

• Participant, "Pierre Fest", University of Florida, Gainesville, 1-2 February 2003.

• Seminar, "Quantizing Dirac and Nambu brackets", Global Foundation Conf, 11-14 December 2002.

• Seminar, "Superintegrability, Deformation Quantization, and Nambu Dynamics", LPTHE, U. Paris, 3 October 2002.

• Participant, "Fête Cremmer-Gervais", Lab de Physique Théorique de l'Ecole Normale Supérieure, Paris, France, 30 September - 1 October 2002.

• Visiting Scientist, Department of Mathematical Sciences, Durham University, UK, 25-28 September 2002.

• Seminar, "Nambu dynamics, deformation quantization, and superintegrability", Workshop on Superintegrability in Classical and Quantum Systems, Centre de recherches mathématiques, Université de Montréal, 16-21 September 2002.

• Seminar, "Quantization of Superintegrable Systems", Feynman Festival, U of Maryland, 23-28 August 2002.

• Visiting Scientist, The Enrico Fermi Institute, University of Chicago, August 2002.

• Visiting Scientist, Argonne National Lab., August 2002.

• Colloquium, "Phase-space, E-time, and Superintegrability", Florida Atlantic University, 18 January 2002.

• Seminar, "Areal Theory", Global Foundation Conf, 12-16 December 2001.

• Colloquium, "Phase-space, E-time, and Superintegrability", University of Florida, 29 November 2001.

• Participant, "JHS/60" Conference, California Institute of Technology, Pasadena, CA, 3-4 November 2001.

• Plenary talk, "An Eclectic Survey of Wigner Functions and Deformation Quantization", 24 August 2001.

• Participant, "7th International Wigner Symposium", August 24-29, 2001.

• Participant, "ANL Theory Institute 2001: From Supersymmetry To Extra Dimensions", June 17-29, 2001.

• Visiting Scientist, Argonne National Lab., June-July 2001.

• Seminar, "Duality and Time", Orbis Scientiae, 15 December 2000.

• Participant, Global Foundation "Orbis Scientiae" Conference, Ft Lauderdale, FL, December 2000.

• Seminar, "Duality and Time", ANL, 26 June 2000.

• Visiting Scientist, Argonne National Lab., June 2000.

• Participant, Aspen Center for Physics, June 2000.

• Participant, "String Theory at the Millenium", Caltech, January 2000.

• Seminar, "Schrödinger's Cataplex", Orbis Scientiae, 17 December 1999.

• Participant, Global Foundation "Orbis Scientiae" Conference, Ft Lauderdale, FL, December 1999.

• Visiting Scientist, Argonne National Lab., May and October 1999.

• Participant, Global Foundation "Orbis Scientiae" Conference, Ft Lauderdale, FL, December 1998.

• Visiting Scientist, Argonne National Lab., August 1998.

• Seminar, "Features of Time Dependent Wigner Functions", ANL, 25 August 1998.

• Visiting Scientist, Fermilab, June-July 1998.

• Participant, Global Foundation "Orbis Scientiae" Conference, Miami Beach, FL, December 1997.

• Participant, Leaders Conference, University of Missouri, October 1997.

• Visiting Scientist, Argonne National Lab., June 1997.

• Seminar, "Extrinsic Geometry, Quantum Effects, and Renormalization of the Dual Sphere", UIC, 16 June 1997.

• Participant, Supersymmetry and Integrable Models Workshop, University of Illinois at Chicago, June 1997.

E. Past and Present Collaborators

H. Alshal, U. Miami; A. Beylin, U. Miami; E. Braaten, Ohio State U.; J. Brugues, U. Barcelona; D. Fairlie, Durham U.; D. Freedman, MIT; P. Freund, U. Chicago; G. Ghandour, Kuwait U. and U. Miami; J. Goldstone, MIT; J. Gomis, U. Barcelona; E. Ivanov, JINR, Moscow; X. Jin, U. Miami; J. Mandula, DOE; T. McCarty, U. Florida; L. Mezincescu, U. Miami; A. Polychronakos, CUNY; F. Ravndal, U. Oslo; D. Schuster, U. Miami; S. Subedi, U. Miami; C. Thorn, U. Florida; P. K. Townsend, DAMTP, Cambridge

U.; T. Uematsu, Kyoto U.; P. Van Nieuwenhuizen, YITP, Stony Brook; A. Veitia, U. Miami; C. Vignat, Tulane U.; C. Zachos, Argonne National Laboratory

F. Postdocs Supervised

J. Liu, 1988-91; E. Melzer 1990-92; L. Rozansky 1993-95; P. Watts 1995-98.

G. Courses Taught

PHY100-200 Discussion Sections, every semester except sabbatical leaves, 1988-2019.

PHY101, College Physics I, Summer II 1999.

PHY102, College Physics II, Spring 2003, Summer I 2002, Summer II 2000, Summer I 1998.

PHY206, University Physics II, Summer II 2002, Summer II 2000, Fall 1997, Spring 1994, Spring 1993.

PHY207, University Physics III, Spring 2002, Fall 2001, Spring 2001, Fall 2000, Spring 2000, Fall 1999, Summer I 1999, Spring 1999.

PHY350, Intermediate Electricity and Magnetism, Fall 2009.

PHY360, Modern Physics, Summer I 1991.

PHY540, Classical Mechanics, Fall 2007, Fall 2006, Fall 2023.

PHY610, Special Topics: Renormalization Group, Spring 2013.

PHY610, Special Topics: Group Theory, Spring 1997.

PHY612, Special Topics in Quantum Physics, Spring 2009.

PHY615, Methods of Mathematical Physics I, Fall 2011, Fall 2004, Fall 1995.

PHY616, Methods of Mathematical Physics II, Spring 2007, Fall 1998, Fall 1996.

PHY640, Classical Mechanics, Fall 2023.

PHY650, Electromagnetic Theory I, Fall 2014, Spring 2008, Spring 2005, Fall 2003, Fall 1994.

PHY651, Electromagnetic Theory II, Fall 2008, Fall 2005, Spring 2004.

PHY666, Elementary Particles, Spring 2011, Spring 1998.

PHY670, Quantum Theory I, Fall 2013, Spring 2012, Fall 1988.

PHY671, Quantum Theory II, Spring 2014, Fall 2012, Spring 1989.

PHY672, Quantum Field Theory, Fall 1995, Fall 1993.

PHY752, Electromagnetic Theory I, Fall 2015, Fall 2016, Spring 2018, Fall 2019, Fall 2021.

PHY753, Electromagnetic Theory II, Spring 2016, Spring 2017, Fall 2018, Spring 2022.

PHY766, Elementary Particles, Spring 2019.

PHY770, Quantum Theory I, Fall 2020, Fall 2022.

PHY771, Quantum Theory II, Spring 2021, Spring 2023.

H. Conferences Organized

BASIC 2024, 3-9 March 2024.

Miami 2023, 13-19 December 2023.

BASIC 2023, 8-14 February 2023, Stella Maris, Long Island, The Bahamas.

Miami 2022, 14-21 December 2022, a hybrid on-line/in-person topical conference on elementary particles, astrophysics, and cosmology.

BASIC 2022, 20-26 October 2022, Stella Maris, Long Island, The Bahamas.

Symmetry 2021, The 3rd International Conference on Symmetry.

Miami 2020 and Miami 2021, virtual online conferences on elementary particles, astrophysics, and cosmology.

BASIC 2020, 9-15 February 2020, Stella Maris, Long Island, The Bahamas.

BASIC 2019, 6-12 January and 22 April - 6 May 2019, Stella Maris, Long Island, The Bahamas.

Miami topical conferences on elementary particles, astrophysics, and cosmology, annually in December, 2004-2019.

BASIC 2018, 13-19 May and 1-14 July 2018, Stella Maris, Long Island, The Bahamas.

The Great American Solar Eclipse Physics Conference, 19-21 August 2017, University of Missouri, Columbia.

BASIC 2017, 11-19 March 2017, Stella Maris, Long Island, The Bahamas.

BASIC 2016, 7-12 January 2016, Stella Maris, Long Island, The Bahamas.

Argonne Workshop on Branes and Generalized Dynamics, October 2003.

Argonne Summer Theory Institute: Topics in Non-Abelian Duality, June-July 1996.

NATO Advanced Research Workshop on Quantum Field Theory, Statistical Mechanics, Quantum Groups, and Topology, January 1991.

Argonne Workshop on Quantum Groups, April-May 1990.

I. Books

1) *A Concise Treatise on Quantum Mechanics in Phase Space*, T. Curtright, D. Fairlie, and C. Zachos, Imperial College Press and World Scientific, 2014.

2) *Quantum Mechanics in Phase Space*, T. Curtright, D. Fairlie, and C. Zachos (editors), World Scientific, 2005.

3) *The Launching of La Belle Epoque of High Energy Physics and Cosmology*, T. Curtright, A. Perlmutter, and S. Mintz (editors), World Scientific, 2004.

4) *Quantum field theory, statistical mechanics, quantum groups and topology*, T. Curtright, L. Mezincescu and R. Nepomechie (editors), World Scientific, 1992.

5) *Quantum groups*, T. L. Curtright, D. B. Fairlie, and C. K. Zachos (editors), World Scientific, 1991.

J. Additional Information Online

Homepage
(http://www.physics.miami.edu/~curtright/home.html)
Google Scholar
LinkedIn
ResearchGate
Wikipedia

K. Complete List of Publications

(also available online at http://inspirehep.net)

1. "Scale Invariant Scattering in 2D"
   T. Curtright and C. Vignat
   Bulg. J. Phys. 50 (2023) to appear
   arXiv:2303.14861 [quant-ph]

2. "Mean Sinc Sums and Scale Invariant Scattering"
   T. Curtright
   submitted to J. Math. Phys.
   arXiv:2212.13884 [quant-ph]

3. "Newtonian Gravity on an N-Sphere"
   T. Curtright and H. Alshal
   Bulg. J. Phys. 50 (2023) to appear
   arXiv:2211.08236 [physics.class-ph]

4. "Holistic Scattering"
T. Curtright and S. Subedi
unpublished.

5. "Geometric Cloaks and Resonances"
T. Curtright and S. Subedi
Bulg. J. Phys. 50 (2023) to appear.

6. "Potentials versus Geometry, Revisited"
T. Curtright and S. Subedi
J. Math. Phys. 63 (2022) 112101.

7. "Lie Groups and Propagators Exemplified"
T.L. Curtright, Z. Cao, A. Peca, D. Sarker, and B.D. Shrestha
Bulg. J. Phys. 50 (2023) to appear
arXiv: 2112.14401 [quant-ph]

8. "Dual Fields of Massive/Massless Gravitons in IR/UV Completions"
A. Danehkar, H. Alshal, and T. L. Curtright
Int. J. Mod. Phys. D 30 (2021) 2142021
arXiv:2109.05148 [hep-th]

9. "Yet Another Paper on the Oscillator Propagator"
T.L. Curtright, Z. Cao, A. Peca, D. Sarker, and B.D. Shrestha
10.13140/RG.2.2.27951.87205

10. "Potentials versus Geometry"
T. Curtright and S. Subedi
arXiv: 2101.01107 [quant-ph]

11. "On Enceladian Fields"
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