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Michael B. Schulz

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Bryn Mawr College

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Grants, Fellowships, and Honors (while at Bryn Mawr)

Feinberg Foundation Visiting Faculty Fellowship, Weizmann Institute of Science, Rehovot, Israel, 2013{2014 (declined).

NSF Grant No. PHY09-12219, String Compactification, generalized geometry, and 4D physics ($150,000), 2009{2013.

Kavli Institute for Theoretical Physics Scholar ($7,950), 2009{2011.

Tri-Co Mellon, Lunchtime Theory Seminar (co-recipient, $2700), 2008{2009.

Funded participation in CERN TH Instititute on String Phenomenology, Geneva (3000 CHF), 2008.

Grants, Fellowships, and Honors (pre 2007)

Funded participation in KITP string theory programs, 2006, 2005, 2003, 2001.

NSF/NSF-NATO Travel Grants, 2002, 1999, 1998, 1997.

National Science Foundation Graduate Research Fellowship, 1997{2000.

UC Berkeley, University Fellowship, 1996{1997.

2nd Place, Boston Area Undergraduate Physics Competition, 1996.

Sidney and Alma Roos Scholarship, 1993{1996.

US Physics Team Member, IPhO Silver Medalist in Helsinki, Finland, 1992.

1st place, NY Math League, 1992.

Professional Service and Outreach

Referee for JHEP, Physical Review D, and Physical Review Letters.

Greater Philadelphia Cares Discsov /Ii3 551

Sidney

Service at Bryn Mawr College (and in Tri-Co)

Ph.D. Disser. Supervised

Tyler DeMan, in progress, 2018{present.

Elliott Tammaro, "Kaluza-Klein Reduction of Pure Gravity and its Implications for K3 Surface Compactifications," BMC (April 2014); now Assistant Professor at Chestnut Hill College.

Senior Theses Supervised

Saif Kuraishi, \Instanton Methods in Quantum Mechanics," HC (May 2020).

Srividya Suresh, \Hawking Radiation as Quantum Tunneling," BMC (May 2013).

Nadia Bolis, \Extremal Black Holes and Black Branes," BMC (March 2009).

Shirley Chen, \Simulation and Analysis of Decay Channels in a Supersymmetric Model with R-Parity Violation," BMC (May 2008).

Doctoral Dissertation Committees

Olivia McAuley (in progress, prelim exams 2020).
Dan White, BMC Math (in progress, prelim exams 2019).
Andy Clark (in progress, prelim exams 2019).
Carlos Cartagena-Sanchez (in progress, prelim exams 2018).
Lindsay Dever, BMC Math (in progres, prelim exams 2018).
Bashkim Kokona, BMC Chemistry (Ph.D. 2018).
Samantha Pezzimenti, BMC Math (prelim exams 2015).
Ziva Myer, BMC Math (prelim exams 2013, Ph.D. 2017).
Laura Mansfield, BMC Math (prelim exams 2011).
Donald Fahey, BMC Physics (prelim exams 2010, Ph.D. 2014).
Elliott Tammaro, BMC Physics (prelim exams 2010, Ph.D. 2014).
Melanie Lott, BMC Physics (prelim exams 2010, Ph.D. 2012).
Jonas Swann, BMC Math (Ph.D. 2010).
Robert Richter, U Penn Physics (Ph.D. 2008).
Peng Gao, U Penn Physics (Ph.D. 2007).

Masters Committees

Kristen Recine, BMC Physics (M.A. oral exam November 2013).
Vincent Gregoric, BMC Physics (M.A. oral exam October 2013).
Donald Fahey, BMC Physics (M.A. oral exam April 2009).
Joseph Croman, BMC Physics (M.A. oral exam April 2008).

Summer Research Supervised (last 5 years listed)

Tyler DeMan, Ellie Hughes, Shiksha Pandey, Catie Robinson, Shiksha Pandey (Summer 2021).
Tyler DeMan, Genevieve Love, Shiksha Pandey, Avalon Vanis (Summer 2020).
Tyler DeMan, Faryal Khan, Shiksha Pandey, Hurum Tohfa (Summer 2019).
Clare Allsopp-Shiner, Leyla Fahim, Carrie Filion (Summer 2016).

Courses Taught

Phys 101-1, Introductory Physics I (postbaccalaureate section),
Phys 101-2, Introductory Physics I (undergraduate section),
Phys 101/121 Lab, Introductory Physics Laboratory (fall),
Phys 102/122 Lab, Introductory Physics Laboratory (spring),
Phys 133/163, The Big Bang,
Phys 201 Lab, Analog and Digital Electronics Laboratory,
Phys 214, Waves and Quantum Mechanics,
Phys 3[illegible] jJTe1796 [illegible] (ctr)52 (-1.4244 0f 29)14ardhj /T1_

Pedagogy

Participation in Professional Meetings

Workshop on N=1 Compactifications, Fields Institute, Toronto, 2005.
DPF 2004, UC Riverside, 2004.
Simons Workshop in Mathematics and Physics, SUNY Stony Brook, 2004.
Onassis Lectures in Physics, Heraklion, Greece, 2004.
Strings 2004, Paris, 2004.
Superstring Cosmology Program, KITP, Santa Barbara, 2003.
Time and String Theory, ACP, Aspen, 2003.
Strings 2003, Kyoto, 2003.
Mathematics in String and Field Theory, ICTP, Trieste, 2003.
Geometry and Physics of G2 Manifolds, UCLA IPAM, Los Angeles, 2003.
DPF 2003/APS April Meeting, Philadelphia, 2003.
Secrets of the B Meson, SLAC, 2002
Progress in String, Field and Particle Theory, Cargese, 2002.
DPF 2002, The College of William & Mary, Williamsburg, 2002.
Superstrings and Related Matters, ICTP, Trieste, 2002.
Exploring Electroweak Symmetry Breaking, SLAC, Stanford, 2001.
Avatars of M-Theory, ITP, Santa Barbara, 2001.
M-Theory Program, ITP, Santa Barbara, 2001.
Strings 2000, Ann Arbor, 2000.
LennyFest, Stanford, 2000.
String Theory at the Turn of the Millennium, Jerusalem, 1999.
Symmetry Found and Lost, Princeton, 1999.
M-Theory and Quantum Geometry, Akureyri, Iceland, 1999.
TASI-99: Strings, Branes and Gravity, Boulder, 1999.

Research Talks

Compensator Fields in Dimensional Reduction and Compactification without Truncation | Part II: Yang-Mills Theory, APS April Meeting, Virtual, 19 April 2021.

Compensator Fields in Dimensional Reduction and Compactification without Truncation, APS April Meeting, Virtual, 19 April 2020.
APS Division of Particles and Fields Meeting, Boston, 29 July 2019.

T-folds, Doubled Geometry, and the SU(2) WZW model,
Cornell University, Ithaca, 14 Dec 2011.
University of Michigan, Ann Arbor, 8 April 2011.
Massachusetts Institute of Technology, 7 March 2011.
University of Massachusetts, Amherst, 25 February 2011.
Brown University, Providence, 23 February 2011.

Generalized Compactifications of String Theory and their Description via Doubled Geometry, Massachusetts Institute of Technology, 14 February 2011.

Nongeometric String Theory Compactifications,
University of Pennsylvania, 16 June 2009.

University of Southern California, 30 October 2002.

Torus Orientifolds and the N=2 Web of Vacua,
University of California, Los Angeles, 18 March 2003.

Moduli Stabilization from Fluxes,
Institut d'Études Scientifiques de Cargèse, 9 July 2002,
Division of Particles and Fields 2002, William & Mary, 25 May 2002.

Moduli Stabilization and SUSY Changing Bubbles from Fluxes,
Stanford University, 13 June 2002.

D-Branes and Fluxes for IIB on T^6/Z_2,
Stanford Linear Accelerator Center, 26 October 2001.

Poster Session

General Kaluza-Klein Reduction, Strings 2014, Princeton, 23 June 2014.

Pedagogical lectures

Nongeometric String Theory Compactifications and Generalized Complex Geometry,
RTG Graduate Summer School Geometry of Quantum Fields and Strings,
University of Pennsylvania, 8{20 June 2009.

Panel discussion

Applying for Jobs at Colleges and Universities,
Panel Discussion with Henriette Elvang and Vanessa Sih,
Life after Graduate School Series,
University of Michigan, Ann Arbor, 8 April 2010.

Publications

Preprints

M. Schulz, A class of Calabi-Yau 3-folds as manifolds of SU(2) structure, arXiv:1206.4027 [hep-th].

E. Tammaro and M. Schulz, M-theory/IIA duality and K3 in the Gibbons-Hawking approximation, arXiv:1206.1070 [hep-th].

Peer-Reviewed Articles

M. Schulz, T-folds, Doubled Geometry, and the SU(2) WZW Model, JHEP 1206, 158 (2012); arXiv:1106.6291 [hep-th].

R. Donagi, P. Gao and M. Schulz, Abelian Surface Fibrations, String Junctions and Flux/Geometry Duality, JHEP 0904, 119 (2009); arXiv:0810.5195 [hep-th].

A. Lawrence, T. Sander, M. Schulz and B. Wecht, Torsion and Soft Supersymmetry Breaking, JHEP 0807, 042 (2008); arXiv:0711.4787 [hep-th].

M. Cvetič, T. Liu and M. Schulz, Twisting $K3 \times T^2$ Orbifolds, JHEP 0709, 092 (2007); hep-th/0701204.

A. Lawrence, M. Schulz and B. Wecht, D-Branes in Nongeometric Backgrounds, JHEP 0607 038 (2006); hep-th/0602025.

M. Schulz, Calabi-Yau Duals of Torus Orientifolds, JHEP 0605, 023 (2006); hep-th/0412270.

M. Schulz, Superstring Orientifolds with Torsion: O5 Orientifolds of Torus Fibrations and their Massless Spectra, Fortsch. Phys. 52, 963 (2004); hep-th/0406001.

S. Kachru, M. Schulz, P. Tripathy and S. Trivedi New Supersymmetric String Compactifications, JHEP 0303, 061 (2003); hep-th/0211182.

S. Kachru, X. Liu, M. Schulz, and S. Trivedi, Supersymmetry Changing Bubbles in String Theory, JHEP 0305, 014 (2003); hep-th/0205108.

S. Kachru, M. Schulz, and S. Trivedi, Moduli Stabilization from Fluxes in a Simple IIB Orientifold, JHEP 0310, 007 (2003); hep-th/0201028.

S. Kachru, M. Schulz, and E. Silverstein, Bounds on Curved Domain Walls in 5D Gravity, Phys. Rev. D 62 085003 (2000); hep-th/0002121.

S. Kachru, M. Schulz, and E. Silverstein, Self-Tuning Flat Domain Walls in 5D Gravity and String Theory, Phys. Rev. D 62 045021 (2000); hep-th/0001206.

E. Karat and M. Schulz, Self-Adjoint Extensions of the Pauli Equation in the Presence of a Magnetic Monopole, Annals Phys. 254 11-24 (1997); quant-ph/9602013.

Proceedings

M. Schulz, \Moduli Stabilization from Fluxes," in Cargèse 2002, Progress in String, Field and Particle Theory, Kluwer Academic Publishers, Boston (2003); arXiv:0810.5197 [hep-th].

Dissertation

M. Schulz, Domain Walls, Branes, and Fluxes in String Theory: New Ideas on the Cosmological Constant Problem, Moduli Stabilization, and Vacuum Connectedness, UMI-30-67940-mc (microfiche), 2002, Ph.D. Thesis.