Stanford



Shamit Kachru

Professor of Physics and Director, Stanford Institute for Theoretical Physics, Emeritus

CONTACT INFORMATION

- **Administrative Contact**

  SITP

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Bio

BIO

Effective 9/1/23, I became Professor of Physics and Director, Stanford Institute for Theoretical Physics, Emeritus. I am now working with PDT Partners (a quantitative hedge fund). My research is focused on the modeling challenges, real-time dynamics, and rapid feedback processes that arise in understanding and trading liquid global financial markets.

My current work is NDA-protected, but a talk on related themes from the 2025 International Congress of Basic Science is on YouTube: https://www.youtube.com/watch?v=Rzi3nlkVLSk, and the slides are available here: https://bit.ly/icbs-tapestry.

More generally, I am interested in the application of quantitative methods to complex adaptive systems across science, technology, and economics.

My previous research interests included diverse topics in theoretical physics, ranging from string theory to cosmology, condensed matter theory and biophysics. Highlights of my past research include:

- The discovery of string dualities with 4d N=2 supersymmetry, and their use to find exact solutions of gauge theories (with Cumrun Vafa)
- The construction of the first examples of AdS/CFT duality with reduced supersymmetry (with Eva Silverstein)
- Foundational papers on string compactification in the presence of background fluxes (with Steve Giddings and Joe Polchinski)
- Basic models of cosmic acceleration in string theory (with Renata Kallosh, Andrei Linde, and Sandip Trivedi)
- First computation of the non-Gaussianity in general single field inflation (with Xingang Chen, Min-xin Huang, and Gary Shiu)
- Developing the framework underlying holography for non-relativistic field theories, relevant for modeling quantum matter at finite density (with Xiao Liu and Michael Mulligan)
- Simple and tractable models of non-Fermi liquids (with Liam Fitzpatrick, Jared Kaplan, and Sri Raghu)
- Studies of adaptive trade-offs in evolutionary dynamics of organisms exposed to a varying environment (with Daniel Fisher and Mikhail Tikhonov)
- Developing a new approach — using string duality — to find precise expressions for Ricci flat metrics on K3 surfaces (with Arnav Tripathy and Max Zimet)

For details about my former students, please see the “Research and Scholarship” link in my full Stanford profile.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Physics
- Member, Bio-X

ADMINISTRATIVE APPOINTMENTS

- Department Chair, Stanford Physics, (2018-2021)
- Wells Family Director, Stanford Institute for Theoretical Physics, (2017- present)
- Professor of Physics, Stanford University, (1999- present)
- KITP Member and Visiting Professor, UCSB, (2009-2010)
- Member, Institute for Advanced Study, (1999-2000)
- Assistant Professor, UC Berkeley, (1997-1999)
- Research Associate, Rutgers University, (1996-1997)
- Junior Fellow, Harvard Society of Fellows, (1994-1996)

HONORS AND AWARDS

- Elected as member, American Academy of Arts and Sciences (2022-)
- Simons Investigator Award, Simons Foundation (2017 -)
- Packard Fellow, David and Lucile Packard Foundation (2000-2005)
- Bergmann Memorial Award, Israeli Science Foundation (1999)
- Sloan Fellow, Sloan Foundation (1998-2000)
- Outstanding Junior Investigator, Department of Energy (1997-99)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Associate Editor, The Princeton Companion to Physics, Princeton University Press (forthcoming); General Editor: Frank Wilczek (2024 - present)
- Scientific Advisory Committee, Kavli Institute for Theoretical Science (KITS), Beijing (2019 - 2022)
- Editorial Board, Research in Mathematical Sciences (2015 - present)
- Scientific Advisory Committee, Perimeter Institute (2015 - 2019)
- Advisory Board, Kavli Institute for Theoretical Physics (KITP), Santa Barbara (2014 - 2017)
- External Organizer, ICTP Spring School (2007 - 2010)
- Member, Aspen Center for Physics (2006 - 2015)
- Editor, JHEP (2004 - 2019)
- External Organizer, TASI 1999, 2005, 2007 (1999 - 2007)

PROFESSIONAL EDUCATION

- Ph.D., Princeton University , Physics (1994)
- A.B., Harvard University , Physics (1990)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Starting fall of 2021, I will be taking an extended sabbatical/leave. Much of my effort during this period will be spent developing my skills in rapidly developing areas like machine learning, with a view towards the science emerging from analysis of large datasets.

My recent research has involved three directions:

— Mathematical aspects of string theory, with a focus on interplay between BPS state counts, physics of black holes, geometry, and number theory.

— Quantum field theory and condensed matter physics, with a particular interest in the emergence of non-Fermi liquid states of matter and of fracton phases.

— Theoretical biology, with a focus on evolution and ecology. This is a new initiative for me. My first paper in this area appeared on bioRxiv in 2019, and I have started accepting students with a primary interest in this area.

I typically work with a small number of graduate students and SITP postdocs. I've also taken undergraduate researchers for summer or thesis projects. My students have gone on to various interesting places after leaving Stanford.

Present and former Graduate Advisees:

Brandon Rayhaun (to Stony Brook postdoc, now at IAS)
Milind Shyani (now at Microsoft working on ML)
Richard Nally (to Klarman Fellow at Cornell, now a Pappalardo Fellow at MIT)
Xinghe Li (M.A., 2021)
Max Zimet (to Harvard postdoc, now at Voleon)
Nathan Benjamin (to Princeton PCTS; now faculty at USC)
Natalie Paquette (to Caltech postdoc, now a faculty member at UW - Seattle)
Dan Whalen (now at Renaissance Technologies)
Huajia Wang (to Illinois postdoc, faculty at Kavli Institute for Theoretical Sciences, Beijing)
Sarah Harrison (to Harvard postdoc, joint math/physics faculty at McGill)
Dusan Simic (to KITP postdoc)
Mike Mulligan (to MIT postdoc, now faculty at UC Riverside)
Wu-yen Chuang (to Rutgers postdoc, now mathematics faculty at National Taiwan University)
Alexander Giryavets (now Vice-President at Morgan Stanley)
Xiao Liu (to Perimeter Institute postdoc, now faculty at UESTC)
Liam McAllister (to Princeton postdoc, now Cornell faculty)
John McGreevy (to Princeton postdoc, now UCSD faculty)
Michael Schulz (to Caltech postdoc, now Bryn Mawr faculty)

Present and former undergraduate research students:

Anna Biggs (Harvard undergrad), summer 2019 (to graduate school at Princeton)

Inigo Lombera, summer 2019

Jordi Montana-Lopez, summer 2019

Sandra Nair (UCSC undergrad), summer 2019 (to math graduate school, Michigan)

Sandip Roy, 2019-20 (to graduate school at Princeton)

Lark Wang, 2019-20 (to graduate school at UC Berkeley)

George Hulsey, 2018-19 (to graduate school at UCSB)

Sungyeon Yang, 2018-19 (now in graduate school at Stanford)

Newton Cheng, 2017-18 (to graduate school at UC Berkeley)

Tudor Ciobanu, 2017-18 (to graduate school at Stony Brook)

Ethan Sussman, 2016-18 (to graduate school in mathematics at MIT)

Preethi Pallegar, 2015-16 (to graduate school at Princeton)

Marc Robbins, 2015 (to graduate school at Illinois)

Zhiming Wang, 2015 (to graduate school at Princeton)

Temple He, 2009-10 (to graduate school at Harvard)

Daniel Balick, 2005-06 (UCSB PhD in theoretical biology, now at Harvard)

Christopher Beem, 2005-06 (Berkeley PhD in string theory, now faculty at Oxford)

Dan Wohns, 2005-06 (Cornell PhD in string theory, now at Perimeter)

Publications

PUBLICATIONS

- **Gravity duals of Lifshitz-like fixed points** *PHYSICAL REVIEW D*
  Kachru, S., Liu, X., Mulligan, M.
  2008; 78 (10)
- **Observational signatures and non-Gaussianities of general single-field inflation** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
  Chen, X., Huang, M., Kachru, S., Shiu, G.
  2007
- **Towards inflation in string theory** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
  Kachru, S., Kallosh, R., Linde, A., Maldacena, J., McAllister, L., Trivedi, S. P.
  2003
- **de Sitter vacua in string theory** *PHYSICAL REVIEW D*
  Kachru, S., Kallosh, R., Linde, A., Trivedi, S. P.
  2003; 68 (4)
- **Hierarchies from fluxes in string compactifications** *PHYSICAL REVIEW D*
  Giddings, S. B., Kachru, S., Polchinski, J.
  2002; 66 (10)
- **4D conformal field theories and strings on orbifolds** *PHYSICAL REVIEW LETTERS*
  Kachru, S., Silverstein, E.
  1998; 80 (22): 4855-4858

- **Non-perturbative results on the point particle limit of N=2 heterotic string compactifications** *NUCLEAR PHYSICS B*
  Kachru, S., Klemm, A., Lerche, W., Mayr, P., Vafa, C.
  1996; 459 (3): 537-555
- **EXACT RESULTS FOR N=2 COMPACTIFICATIONS OF HETEROTIC STRINGS** *NUCLEAR PHYSICS B*
  Kachru, S., Vafa, C.
  1995; 450 (1-2): 69-89
- **Counting spinning dyons in maximal supergravity: The Hodge-elliptic genus for tori** *Letters in Mathematical Physics*
  Benjamin, N., Kachru, S., Tripathy, A.
  2017; 107 (11): 2081-2092
- **Bosonization and mirror symmetry** *PHYSICAL REVIEW D*
  Kachru, S., Mulligan, M., Torroba, G., Wang, H.
  2016; 94 (8)
- **On the Elliptic Genera of Manifolds of Spin(7) Holonomy** *ANNALES HENRI POINCARE*
  Benjamin, N., Harrison, S. M., Kachru, S., Paquette, N. M., Whalen, D.
  2016; 17 (10): 2663-2697
- **Elliptic Genera and 3d Gravity** *ANNALES HENRI POINCARE*
  Benjamin, N., Cheng, M. C., Kachru, S., Moore, G. W., Paquette, N. M.
  2016; 17 (10): 2623-2662
- **Universal bounds on charged states in 2d CFT and 3d gravity** *JOURNAL OF HIGH ENERGY PHYSICS*
  Benjamin, N., Dyer, E., Fitzpatrick, A. L., Kachru, S.
  2016
- **Emergent space-time and the supersymmetric index** *JOURNAL OF HIGH ENERGY PHYSICS*
  Benjamin, N., Kachru, S., Keller, C. A., Paquette, N. M.
  2016
- **An extremal N=2 superconformal field theory** *JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL*
  Benjamin, N., Dyer, E., Fitzpatrick, A. L., Kachru, S.
  2015; 48 (49)
- **Mirror symmetry and the half-filled Landau level** *PHYSICAL REVIEW B*
  Kachru, S., Mulligan, M., Torroba, G., Wang, H.
  2015; 92 (23)
- **Enhanced pairing of quantum critical metals near d=3+1** *PHYSICAL REVIEW B*
  Fitzpatrick, A. L., Kachru, S., Kaplan, J., Raghu, S., Torroba, G., Wang, H.
  2015; 92 (4)
- **Emergent Fermi surfaces, fractionalization and duality in supersymmetric QED** *JOURNAL OF HIGH ENERGY PHYSICS*
  Hook, A., Kachru, S., Torroba, G., Wang, H.
  2014
- **Non-Fermi-liquid behavior of large-N-B quantum critical metals** *PHYSICAL REVIEW B*
  Fitzpatrick, A. L., Kachru, S., Kaplan, J., Raghu, S.
  2014; 89 (16)
- **Twining genera of (0,4) supersymmetric sigma models on K3** *JOURNAL OF HIGH ENERGY PHYSICS*
  Harrison, S., Kachru, S., Paquette, N. M.
  2014
- **Interpolating from Bianchi attractors to Lifshitz and AdS spacetimes** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Kundu, N., Saha, A., Samanta, R., Trivedi, S. P.
  2014

- **Resolving Lifshitz horizons** *JOURNAL OF HIGH ENERGY PHYSICS*
  Harrison, S., Kachru, S., Wang, H.
  2014
- **A simple harmonic universe** *JOURNAL OF HIGH ENERGY PHYSICS*
  Graham, P. W., Horn, B., Kachru, S., Rajendran, S., Torroba, G.
  2014
- **Supersymmetric defect models and mirror symmetry** *JOURNAL OF HIGH ENERGY PHYSICS*
  Hook, A., Kachru, S., Torroba, G.
  2013
- **Non-Fermi-liquid fixed point in a Wilsonian theory of quantum critical metals** *PHYSICAL REVIEW B*
  Fitzpatrick, A. L., Kachru, S., Kaplan, J., Raghu, S.
  2013; 88 (12)
- **Quantum critical metals in d=3+1 dimensions** *PHYSICAL REVIEW B*
  Mahajan, R., Ramirez, D. M., Kachru, S., Raghu, S.
  2013; 88 (11)
- **Mathieu moonshine and N=2 string compactifications** *JOURNAL OF HIGH ENERGY PHYSICS*
  Cheng, M. C., Dong, X., Duncan, J. F., Harvey, J. A., Kachru, S., Wrase, T.
  2013
- **Vortex lattices and crystalline geometries** *PHYSICAL REVIEW D*
  Bao, N., Harrison, S., Kachru, S., Sachdev, S.
  2013; 88 (2)
- **Extremal horizons with reduced symmetry: hyperscaling violation, stripes, and a classification for the homogeneous case** *JOURNAL OF HIGH ENERGY PHYSICS*
  Iizuka, N., Kachru, S., Kundu, N., Narayan, P., Sircar, N., Trivedi, S. P., Wang, H.
  2013
- **A maximally supersymmetric Kondo model** *CLASSICAL AND QUANTUM GRAVITY*
  Harrison, S., Kachru, S., Torroba, G.
  2012; 29 (19)
- **Bianchi attractors: a classification of extremal black brane geometries** *JOURNAL OF HIGH ENERGY PHYSICS*
  Iizuka, N., Kachru, S., Kundu, N., Narayan, P., Sircar, N., Trivedi, S. P.
  2012
- **Aspects of holography for theories with hyperscaling violation** *JOURNAL OF HIGH ENERGY PHYSICS*
  Dong, X., Harrison, S., Kachru, S., Torroba, G., Wang, H.
  2012
- **Towards a holographic marginal Fermi liquid** *PHYSICAL REVIEW D*
  Jensen, K., Kachru, S., Karch, A., Polchinski, J., Silverstein, E.
  2011; 84 (12)
- **Effective field theory of fractional quantized Hall nematics** *PHYSICAL REVIEW B*
  Mulligan, M., Nayak, C., Kachru, S.
  2011; 84 (19)
- **Generalized attractor points in gauged supergravity** *PHYSICAL REVIEW D*
  Kachru, S., Kallosh, R., Shmakova, M.
  2011; 84 (4)
- **Adventures in holographic dimer models** *NEW JOURNAL OF PHYSICS*
  Kachru, S., Karch, A., Yaida, S.
  2011; 13

- **Holography of dyonic dilaton black branes** *JOURNAL OF HIGH ENERGY PHYSICS*
  Goldstein, K., Iizuka, N., Kachru, S., Prakash, S., Trivedi, S. P., Westphal, A.
  2010
- **Isotropic to anisotropic transition in a fractional quantum Hall state** *PHYSICAL REVIEW B*
  Mulligan, M., Nayak, C., Kachru, S.
  2010; 82 (8)
- **Effects of Compactification in D-brane Inflation** *PHYSICAL REVIEW LETTERS*
  Baumann, D., Dymarsky, A., Kachru, S., Klebanov, I. R., McAllister, L.
  2010; 104 (25)
- **D3-brane potentials from fluxes in AdS/CFT** *JOURNAL OF HIGH ENERGY PHYSICS*
  Baumann, D., Dymarsky, A., Kachru, S., Klebanov, I. R., McAllister, L.
  2010
- **Gravity waves and the LHC: towards high-scale inflation with low-energy SUSY** *JOURNAL OF HIGH ENERGY PHYSICS*
  He, T., Kachru, S., Westphal, A.
  2010
- **Stable non-supersymmetric throats in string theory** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Simic, D., Trivedi, S. P.
  2010
- **Single-sector supersymmetry breaking in supersymmetric QCD** *PHYSICAL REVIEW D*
  Franco, S., Kachru, S.
  2010; 81 (9)
- **Dynamical supersymmetry breaking, with flavor** *PHYSICAL REVIEW D*
  Craig, N., Essig, R., Franco, S., Kachru, S., Torroba, G.
  2010; 81 (7)
- **Holographic lattices, dimers, and glasses** *PHYSICAL REVIEW D*
  Kachru, S., Karch, A., Yaida, S.
  2010; 81 (2)
- **Holographic gauge mediation** *JOURNAL OF HIGH ENERGY PHYSICS*
  Benini, F., Dymarsky, A., Franco, S., Kachru, S., Simic, D., Verlinde, H.
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- **Holographic systematics of D-brane inflation** *JOURNAL OF HIGH ENERGY PHYSICS*
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  Baumann, D., Jackson, M. G., Adshead, P., Amblard, A., Ashoorioon, A., Bartolo, N., Bean, R., Beltran, M., De Bernardis, F., Bird, S., Chen, X., Chung, D. J., Colombo, et al
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- **D-Brane Instantons in Type II Orientifolds** *ANNUAL REVIEW OF NUCLEAR AND PARTICLE SCIENCE*
  Blumenhagen, R., Cvetic, M., Kachru, S., Weigand, T.
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- **N-flation** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
  Dimopoulos, S., Kachru, S., McGreevy, J., Wacker, J. G.
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- **Geometric transitions and dynamical SUSY breaking** *NUCLEAR PHYSICS B*
  Aganagic, M., Beem, C., Kachru, S.
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- **Gravity dual of metastable dynamical supersymmetry breaking** *PHYSICAL REVIEW D*
  DeWolfe, O., Kachru, S., Mulligan, M.
  2008; 77 (6)
- **Meta-stable vacua and d-branes at the conifold** *TEN YEARS OF ADS/CFT*
  Argurio, R., Bertolini, M., Franco, S., Kachru, S.
  2008; 1031: 94-?
- **Simple stringy dynamical supersymmetry breaking** *PHYSICAL REVIEW D*
  Aharony, O., Kachru, S., Silverstein, E.
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- **Inflationary constraints on type IIA string theory** *JOURNAL OF HIGH ENERGY PHYSICS*
  Hertzberg, M. P., Kachru, S., Taylor, W., Tegmark, M.
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- **Searching for inflation in simple string theory models: An astrophysical perspective** *PHYSICAL REVIEW D*
  Hertzberg, M. P., Tegmark, M., Kachru, S., Shelton, J., Oezcan, O.
  2007; 76 (10)
- **Sequestering in string theory** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., McAllister, L., Sundrum, R.
  2007
- **Complex/symplectic mirrors** *COMMUNICATIONS IN MATHEMATICAL PHYSICS*
  Chuang, W., Kachru, S., Tomasiello, A.
  2007; 274 (3): 775-794
- **Stringy instantons and cascading quivers** *JOURNAL OF HIGH ENERGY PHYSICS*
  Aharony, O., Kachru, S.
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- **Metastable vacua and D-branes at the conifold** *JOURNAL OF HIGH ENERGY PHYSICS*
  Argurio, R., Bertolini, M., Franco, S., Kachru, S.
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- **Stringy instantons and quiver gauge theories** *JOURNAL OF HIGH ENERGY PHYSICS*
  Florea, B., Kachru, S., McGreevy, J., Saulina, N.
  2007
- **Metastable supersymmetry breaking and gauge/gravity duality** *FORTSCHRITTE DER PHYSIK-PROGRESS OF PHYSICS*
  Argurio, R., Bertolini, M., Franco, S., Kachru, S.
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- **Flux compactification** *REVIEWS OF MODERN PHYSICS*
  Douglas, M. R., Kachru, S.
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- **Physics of string flux compactifications** *ANNUAL REVIEW OF NUCLEAR AND PARTICLE SCIENCE*
  Denef, F., Douglas, M. R., Kachru, S.
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- **Gauge/gravity duality and meta-stable dynamical supersymmetry breaking** *JOURNAL OF HIGH ENERGY PHYSICS*
  Argurio, R., Bertolini, M., Franco, S., Kachru, S.
  2007
- **Bounds on masses of bulk fields in string compactifications** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., McGreevy, J., Svrcek, P.
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- **Gauge-mediated supersymmetry breaking in string compactifications** *JOURNAL OF HIGH ENERGY PHYSICS*
  Diaconescu, E., Florea, B., Kachru, S., Svrcek, P.
  2006
- **Fixing all moduli in a simple F-theory compactification** *ADVANCES IN THEORETICAL AND MATHEMATICAL PHYSICS*
  Denef, F., Douglas, M. R., Florea, B., Grassi, A., Kachru, S.
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- **Type IIA moduli stabilization** *JOURNAL OF HIGH ENERGY PHYSICS*
  DeWolfe, O., Giryavets, A., Kachru, S., Taylor, W.
  2005
- **Moduli potentials in type-IIA compactifications with RR and NS flux** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Kashani-Poor, A. K.
  2005
- **Enumerating flux vacua with enhanced symmetries** *JOURNAL OF HIGH ENERGY PHYSICS*
  DeWolfe, O., Giryavets, A., Kachru, S., Taylor, W.
  2005
- **Gaugino condensation and nonperturbative superpotentials in flux compactifications** *JOURNAL OF HIGH ENERGY PHYSICS*
  Gorlich, L., Tripathy, P. K., Trivedi, S. P., Kachru, S.
  2004
- **On the taxonomy of flux vacua** *JOURNAL OF HIGH ENERGY PHYSICS*
  Giryavets, A., Kachru, S., Tripathy, P. K.
  2004
- **Generating small numbers by tunneling in multi-throat compactifications** *INTERNATIONAL JOURNAL OF MODERN PHYSICS A*
  Dimopoulos, S., Kachru, S., Kaloper, N., Lawrence, A., Silverstein, E.
  2004; 19 (16): 2657-2704
- **The giant inflaton** *JOURNAL OF HIGH ENERGY PHYSICS*
  DeWolfe, O., Verlinde, H., Kachru, S.
  2004
- **Heterotic moduli stabilization with fractional Chern-Simons invariants** *PHYSICAL REVIEW D*
  Gukov, S., Kachru, S., Liu, X., McAllister, L.
  2004; 69 (8)
- **Flux compactifications on Calabi-Yau threefolds** *JOURNAL OF HIGH ENERGY PHYSICS*
  Giryavets, A., Kachru, S., Tripathy, P. K., Trivedi, S. P.
  2004
- **Moduli stabilization from fluxes in a simple IIB orientifold** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Schulz, M., Trivedi, S. P.
  2003
- **Supersymmetry changing bubbles in string theory** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Liu, X., Schulz, M., Trivedi, S. P.
  2003
- **Bouncing brane cosmologies from warped string compactifications** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., McAllister, L.
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- **New supersymmetric string compactifications** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Schulz, M. B., Tripathy, P. K., Trivedi, S. P.
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- **Linear sigma models for open strings** *JOURNAL OF HIGH ENERGY PHYSICS*
  Hellerman, S., Kachru, S., Lawrence, A., McGreevy, J.
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  Dimopoulos, S., Kachru, S., Kaloper, N., Lawrence, A., Silverstein, E.
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- **M-theory on manifolds of G(2) holonomy and type-IIA orientifolds** *JOURNAL OF HIGH ENERGY PHYSICS*
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- **Lectures on warped compactifications and stringy brane constructions** *Abdus Salam ICTP Trieste Spring Workshop on Superstrings and Related Matters*
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  Kachru, S., Schulz, M., Silverstein, E.
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- **Self-tuning flat domain walls in 5D gravity and string theory** *PHYSICAL REVIEW D*
  Kachru, S., Schulz, M., Silverstein, E.
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  Kachru, S., Kumar, J., Silverstein, E.
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- **Tension is dimension** *JOURNAL OF HIGH ENERGY PHYSICS*
  Harvey, J. A., Kachru, S., Moore, G., Silverstein, E.
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- **Supersymmetric three-cycles and (super)symmetry breaking** *PHYSICAL REVIEW D*
  Kachru, S., McGreevy, J.
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- **Vacuum energy cancellation in a nonsupersymmetric string** *PHYSICAL REVIEW D*
  Kachru, S., Kumar, J., Silverstein, E.
  1999; 59 (10)
- **On vanishing two loop cosmological constants in nonsupersymmetric strings** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Silverstein, E.
  1999
- **Matrix description of Calabi-Yau compactifications** *PHYSICAL REVIEW LETTERS*
  Kachru, S., Lawrence, A., Silverstein, E.
  1998; 80 (14): 2996-2999

- **Matrix description of (1,0) theories in six dimensions** *PHYSICS LETTERS B*
  Aharony, O., Berkooz, M., Kachru, S., Silverstein, E.
  1998; 420 (1-2): 55-63
- **Self-dual nonsupersymmetric type II string compactifications** *JOURNAL OF HIGH ENERGY PHYSICS*
  Kachru, S., Silverstein, E.
  1998

PRESENTATIONS

- A tapestry of mathematics, theoretical physics, and quantitative finance