

# 2014 ASU-TUFTS JOINT WORKSHOP ON COSMIC STRINGS

**Sunday February 2<sup>nd</sup>, 2014 Residence Inn Marriott Tempe (510 S. Forest Ave. Tempe, AZ)**

6:00-8:00 Reception at the Rooftop of Residence Inn Marriott (11<sup>th</sup> Floor, Rooftop Patio, Alta)

**Monday February 3<sup>rd</sup>, 2014 Memorial Union 228 Cochise**

9:00-9:10 Welcome Address by Tanmay Vachaspati

**Session 1 Chair: Alex Vilenkin**

9:10-9:35 Qaisar Shafi - Inflation and Cosmic Strings (25')

9:35-9:55 Junichi Yokoyama - Cosmic Strings and Inflation (20')

9:55-10:15 Henry Tye - Multi-throat String Compactifications and Spectrum of Cosmic String Tension (20')

10:15-10:35 Ken Olum - Large Parallel String Network Simulations (20')

10:35-11:00 *Coffee Break (25')*

**Session 2 Chair: Tom Kibble**

11:00-11:25 Ben Shlaer - The Number, Size, and Speed of Loops (25')

11:25-11:45 Jose Blanco-Pillado - Shapes of Loops (20')

11:45-12:10 Christophe Ringeval - Loops (25')

12:10-12:30 Discussion (20')

12:30-2:00 *Lunch at Engrained Cafe (90')*

**Session 3 Chair: Paul Shellard**

2:00-2:20 David Daverio - Massively Parallel Simulation of Abelian Higgs Model: LATfield2d and LAH (20')

2:20-2:40 Mark Hindmarsh - High Resolution Simulations of Strings in the Abelian Higgs Model (20')

2:40-3:00 Jon Urrestilla - CMB Predictions from New Abelian Higgs Simulation in the Lattice (20')

3:00-3:20 Levon Pogosian - An Update on CMBACT (20')

3:20-3:50 *Coffee Break (30')*

**Session 4 Chair: Robert Brandenberger**

3:50-4:10 Ana Achucarro - Intercommutation Puzzles (20')

4:10-4:35 Anastasios Avgoustidis - Analytic Modelling of Cosmic String and Superstring Networks (25')

4:35-5:00 Vitaly Vanchurin - Kinetic Theory of Strings (25')

5:00-5:20 Daniel Schubring - Fluid Mechanics of Strings (20')

5:20-5:40 Discussion (20')

6:30-9:00 *Dinner at Caffe Boa (398 S Mill Ave, Tempe)*

**Tuesday February 4<sup>th</sup>, 2014 Memorial Union 228 Cochise**

**Session 5 Chair: Ana Achucarro**

9:00-9:20 Andrei Lazanu - The Power Spectrum of Nambu-Goto Cosmic Strings (20')

9:20-9:40 Adam Moss - The Cosmic String CMB Power Spectrum and Constraints from the Planck Satellite (20')

9:40-10:00 Donough Regan - Matter Power Spectrum and Bispectrum of Cosmic String Wakes (20')

10:00-10:20 Paul Shellard - Planck Non-Gaussianity Searches for Cosmic Strings (20')

10:20-10:50 *Coffee Break (30')*

**Session 6 Chair: Henry Tye**

10:50-11:10 Robert Brandenberger - Searching for Cosmic Strings in New Observational Windows (20')

11:10-11:30 Oscar Hernandez - How to See the Dark: Signatures of Strings in the 21 cm Radiation from High-redshift Hydrogen (20')

11:30-11:50 Daniele Steer - Radio Bursts from Superconducting Strings (20')

11:50-12:10 Eray Sabancilar - Particle Radiation and Cosmic Ray Signals from Cosmic Strings (20')

12:10-1:40 *Lunch at Engrained Cafe (90')*

**Session 7 Chair: Ruth Gregory**

1:40-2:00 Jeff Hyde - Cosmic Strings in the Dark Sector (20')

2:00-2:20 Andrew Long - Light from Dark Strings (20')

2:20-2:40 Mairi Sakellariadou - Strings with Junctions: Cuspy Events and Unzipping Mechanisms (20')

2:40-3:05 Richard Battye - Constraints on Cosmic String from Pulsar Timing Arrays (25')

3:05-3:30 *Coffee Break (25')*

**Session 8 Chair: Qaisar Shafi**

3:30-3:50 Daisuke Yamauchi - Weak Lensing of CMB by Cosmic Strings and its Detectability (20')

3:50-4:10 David Chernoff - Microlensing and Gravitational Emission by the Galaxy's Superstring Loops (20')

4:10-4:30 Discussion (20')

5:00-5:15 Shuttle to Botanical Garden (Departs from Residence Inn at 5:00)

6:30-9:00 *Dinner at Botanical Garden (Binns Wildflower Pavillion)*

**Wednesday February 5<sup>th</sup>, 2014 Memorial Union 241A Ventana**

**Session 9 Chair: Ken Olum**

9:00-9:25 Leandros Perivolaropoulos - Topological Quintessence: Do We Live in the Core of a Cosmic Defect? (25')

9:25-9:45 Ruth Gregory - Twisting Strings and Black Holes (20')

9:45-10:05 Jeremy Wachter - Electromagnetic Back-reaction from Currents on a Straight String (20')

10:05-10:25 Johanna Karouby - Baryon Production from Embedded Metastable Strings (20')

10:25-10:50 *Coffee Break (25')*

**Session 10 Chair: Mark Hindmarsh**

10:50-11:10 Patrick Peter - Microscopic Structure of Cosmic Strings (20')

11:10-11:30 Dimitri Skliros - Highly Excited Strings in String Perturbation Theory (20')

11:30-11:55 Adolfo del Campo - Testing Universality of Topological Defect Formation: An Update (25')

11:55-12:15 Discussion and Closing Remarks (20')

12:15-12:30 *Pick up Box Lunch*

*Hike (To be determined)*