String Vacuum Project

2008 Kickoff Meeting

Tucson, Arizona

April 10-12, 2008

** ***Note*: All talks are 30 minutes + 5 minutes for questions.**

==========

THURSDAY, April 10 MARRIOTT VENTANA ROOM

==========

8:50 Welcome [Dienes, Kane, Raby]

9:00 - 9:30 Fernando Quevedo (Cambridge University, UK)
"Overview: General Aspects of the String Vacuum Project"

9:35 - 10:05 Scott Watson (University of Michigan)
"Islands in the Landscape"

10:10 - 10:40 Jing Shao (University of Michigan)
"Distinguishing String Vacua at the LHC"

10:45 - 11:15 Coffee Break

11:15 - 11:45 Jacob Bourjaily (Princeton University)
"Locally Engineering Phenomenological Models in M-Theory"

11:50 - 12:20 Timo Weigand (University of Pennsylvania)
"(Non-)BPS Bound States and D-Brane Instantons"

12:25 - 2:00 Lunch

2:00 - 3:15 DISCUSSION SESSION #1: [moderator: Gordy Kane]

Topic: ISSUES IN STRING MODEL CONSTRUCTION
AND PHENOMENOLOGICAL ANALYSIS

Model Construction Issues:

* Type I developments
* heterotic developments
* G2 developments
* fertile patches
* general obstructions and strategies, prospects

Model Analysis Issues:

* strategies for extracting low-energy particle phenomenology
* cosmological implications
* theoretical uncertainties and their impacts
* comparisons with LHC data, strategies for solving the inverse problem

---

3:15 - 3:45 Coffee Break

3:45 - 4:45 SPECIAL UNIVERSITY OF ARIZONA
PARTICLE AND NUCLEAR THEORY SEMINAR
Speaker: Patrick Meade (IAS, Princeton)
Title: "General Gauge Mediation"

Abstract:
I will discuss a general framework that encompasses all models of gauge mediated SUSY breaking. This framework allows for one to understand the generic predictions of a gauge mediated model, even one that includes a strongly coupled hidden sector.

5:30 - 7:00 STRING VACUUM PROJECT
WELCOME HORS D'OEUVRES RECEPTION
[Marriott Atrium]

FRIDAY, April 11 MARRIOTT VENTANA ROOM

9:30 - 10:00 Piyush Kumar (UC Berkeley)
"Framework of G2 Compactifications:
Phenomenology and Overview"

10:05 - 10:35 Konstantin Bobkov (University of Michigan)
"Stabilizing Moduli in M-Theory and the G2-MSSM"

10:40 - 11:10 Coffee Break

11:10 - 11:40 Yang-Hui He (Oxford University, UK)
TBA

11:45 - 12:15 Sky Bauman (University of Arizona)
"Renormalization of Kaluza-Klein Theories"

12:20 - 2:30 Lunch

2:30 - 3:00 Brooks Thomas (University of Arizona)
"Metastability is U(1)biquitous:
A Study of Metastable Vacua in the String Theory Landscape"

3:05 - 3:35 Michael Lennek (Ecole Polytechnique, France)
"SUSY versus Gauge Theory on the Heterotic Landscape"

3:40 - 4:10 Ben Dundee (Ohio State University)
“Unification Using Anisotropic Orbifolds in a Stringy MSSM”

4:15 - 4:45 Coffee Break

4:45 - 6:00 DISCUSSION SESSION #2: [moderator: Keith Dienes]

Topic: LANDSCAPE SURVEYS AND SOFTWARE ISSUES

Landscape surveys:

* role/implications of statistical analyses?
* general trends/correlations
* top-down classification issues, mathematical inputs

Software issues:

* developing code for generating and analyzing models
* developing databases
* networking across different groups

7:00 CONFERENCE BANQUET [Marriott Canyon Room C]

SATURDAY, April 12: PHYSICS BUILDING (PAS) ON UNIVERSITY OF ARIZONA CAMPUS
1118 East 4th Street
Room 218

9:30 - 10:00 Mary K Gaillard (UC Berkeley/LBL)
"Two Challenges for Heterotic String Phenomenology"

10:05 - 10:35 Alexander Westphal (Stanford)
"Monodromy in the CMB: Gravity Waves and String Inflation"

10:40 - 11:10 Espresso Break

11:10 - 11:40 Bret Underwood (University of Wisconsin, Madison)
"Progress in Understanding Warped String Vacua"

11:45 - 12:15 Gerald Cleaver (Baylor University)
"Further Systematic Investigation of the Free-Fermionic Heterotic String Landscape"

12:20 - 2:30 Lunch

(continued next page...)

2:30-4:00 DISCUSSION SESSION #3 [moderator: Stuart Raby]

Topic: SVP COLLABORATION AND FUNDING

Areas ripe for collaboration:
* ideas proposed by participants
* beyond our talks, what are we all working on now?
* what would we like to be moving into?
* what issues are most pressing, most likely to yield successful outcomes in short- and medium-term timeframes?

International connections:
* European SVP status [Quevedo update?]

Interdisciplinary connections:
* Mathematicians
* Computer scientists, computational physicists

Next SVP Meeting:
* Where/when ?
* SVP research goals for the coming year

Funding:
* next NSF propoal(s), other sources of funding
* how to structure future proposals?
(European network model? Grad versus postdoc funding?
Intra-network collaborations? Node structures?, etc...)

4:00 WRAP-UP
Rest of day free
(will present options for those who have time)

END OF WORKSHOP