SURF 2014 (DRAFT 8/15/14)
LIGO Livingston Observatory Trip, August 18-20, 2014
and SURF Summer Seminar Day, August 21, 2014

27 people going to LLO: Alan Weinstein, Michael Pedraza, James Kent Blackburn, Christian Cepeda and 23 students (list below).

Useful Phone Numbers: Alan's Cell 626-660-4347, Michael's Cell 661-361-2304, Kent's Cell 626-617-6602, and Christian's Cell 626-298-2254
At Livingston: Amber Stuver 225-686-3190 (cell 814-574-9158), Melanie McCandless 225-686-3100, Joe Giaime 225-686-3169 (cell 225-316-8653)

Monday, August 18th

8:35am — Meet at California Blvd./S. Arms Lab - 1201 E. California Blvd. (driveway on the north side of California Blvd, right across from Cahill). **Don't be late – the vans will leave at 8:54am**. (with or without you; and yes, we have left people behind in the past). Don't forget your identification for boarding.

Please pack light …carry-on only if possible.

8:54am — SuperShuttles leaves for LAX

11:24 am — Flight departs Los Angeles (LAX) –Delta #1325, Nonstop to New Orleans (MSY), 3:51 flight time *(LHO students will depart Pasco – Alaska Airlines #2101 to Seattle at 6:00am, depart Seattle -- Alaska Airlines #0788 to New Orleans (MSY) at 10:15am)*

5:15 pm — Flight arrives in New Orleans (MSY), pick up 3 vans at National. Van drivers: Michael Pedraza, Kent Blackburn, and Christian Cepeda *(LHO students will arrive at 5:00pm - meet rest of group at National rental area)*

6:00 pm — Drive to French Quarter of New Orleans. Free time for all: walk around, have dinner, etc… All pay for themselves.

Drive straight down Toulouse, no turn at Decatur, park in JAX lot.

You can find a guide to the French Quarter, including some historic sites, at
http://www.neworleanscvb.com/meeting-planners/marketing-resources/fq-walking-map/
Of course there are many excellent places to eat. I recommend you do your own research online to see what's in the French Quarter. Note: No drinking for van drivers; otherwise, it's up to you.

10:30 pm — Meet back at vans – Don't be late! Drive ~ 1.5 hours to hotel near LLO

Hotel: The Hampton Inn, 201 Rushing Road West, Denham Springs, LA
16 rooms booked for late arrival; Rooms have been pre-paid.
Students will be sharing rooms
Hotel has pool, wireless internet; Free breakfast 6:00am-10:00am
Marie Lu is across the street in Candlewood Suites.

Tuesday, August 19th

8:30 am	Breakfast on own, at hotel (free)
9:30 am	Meet in lobby to drive from hotel to LLO; Tour LIGO facilities, including LVEA
12:00pm	Lunch at LLO, Visit Science Education Center Group Photo
1:20pm	Presentations: Session I
1:20 – 1:40	Carell Hamil, New York U (T1400511) Investigating Mechanical Upconversion noise in Steel
1:40 – 2:00	Brian Charous, Carleton (nothing in DCC!) Improvement of Fiber Optic Based Optical Levers By Elimination of Higher Order Cladding Modes
2:00 – 2:20	Leo Tsukada, U Tokyo (nothing in DCC!) Modernizing the Interferometer's Control Loops
2:20 – 2:40	Britt Christy, UC Santa Barbara (G1400840) Extracting physics from the stochastic gravitational wave background
2:40 – 2:50	Break
2:50 – 3:10	Chasya Church, Texas State U (T1400499) Dynamical tuning of signal recycling
3:10 – 3:30	Andrew Hall, College of William and Mary (nothing in DCC!) Phase Locked Loop for Dual Wavelength Laser Stabilization
3:30 – 3:50	Farzan Vafa, Harvard (nothing in DCC!) Dynamics and Gravitational Wave Signatures of Magnetized Neutron Stars
4:15pm	Leave for planetarium
5:00pm	Private planetarium show: Black Holes and the Digital Universe, Irene W. Pennington Planetarium, Louisiana Art & Science Museum
7:30pm	Dinner at Boutin's Restaurant, 8322 Bluebonnet Blvd, Baton Rouge
10:00pm	Return to hotel

Wednesday, August 20th

8:30 am Breakfast on own, at hotel (free)

9:30 am Meet in lobby to drive from hotel to LLO

10:30 am Presentations: Session II
10:30 – 10:50 Brian Dawes, Columbia U (G1400781)
Modeling of Third Generation Interferometer
10:50 – 11:10 Horng-Sheng Chia, U Cambridge (T1400509)
Optimization of Michelson Interferometer Signals in Crackle Noise Detection
11:10 – 11:30 Sara Frederick, U Rochester (T1400426)
Improving the Detection Rate of GWs from Coalescing Binary Black Holes with Precessing Spins
11:30 – 11:50 Sophia Xiao, U of Virginia (T1400493)
Searching for gravitational waves from the coalescence of high mass black hole binaries

12:00 Lunch at LLO

1:15 am Presentations: Session III
1:15 – 1:35 Christina Daniel, UCLA (nothing in DCC!)
Investigations using the physical environment monitor system
1:35 – 1:55 Hunter Rew, College of William and Mary (nothing in DCC!)
GW Signal Calibration of the End Mirror Actuators

2:15 pm Leave for airport

3:45 pm Dinner at airport (not provided)

5:30 pm Flight departs for Los Angeles (LAX) – Delta #0984 nonstop to LAX, 3:56 flight time *(LHO students will depart on Alaska Airlines #0789 to Seattle at 5:55pm, depart Seattle on Alaska Airlines #2100 to Pasco at 11:10pm)*

7:26 pm Arrive at LAX, take SuperShuttle back to Caltech

9:00 pm Arrive at Caltech

SURF from CIT: Sara Frederick, Lydia Nevin, Samuel Moore, Andres Medina Taveras, Farzan Vafa, Ryan Horton, Emory Brown, Shannon Wang, Sophia Xiao, Horng Chia Sheng, Carell Hamil, Emily Conant, Marie Lu, Bence Borcsok, Brittany Christy, Halston Lim, Naomi Gendler, Brian Charous, Andrew Hall, Enrico Dardanis
SURF from LHO: Christina Daniel, Brian Dawes, and Chasya Church
SURF at LLO: Hunter Rew and Leo Tsukada

Thursday, August 21

10:00 am Presentations, Session IV, LIGO SCR

10:00 – 10:20 Nathan Zhao, Columbia U (via EVO) (D1400275)
Timing Investigation at the LIGO Hanford Observatory

10:20 – 10:40 Andres Medina, Columbia U (nothing in DCC!)
Automatic Alignment of High Finesse Optical Ring Cavities

10:40 – 11:00 Naomi Gendler, Reed College (T1400500)
Estimating the parameters of a population of coalescing compact binaries

11:00 – 11:20 Break

11:20 – 11:40 Lydia Nevin, Rensselaer Polytechnic Institute (T1400498)
Numerical Simulations of Superkick Binary Black Holes

11:40 – 12:00 Samuel Moore, MIT (T1400334)
Design of a coating-less reference cavity with total internal reflection

12:00 – 12:20 Shannon Wang, Caltech (T1400339)
Characterization of hardware injections in LIGO data

12:00 Lunch (not provided)

1:45 Group Photo at Millikan Pond

2:00 pm Presentations, Session V, LIGO SCR

2:00 – 2:20 Marie Lu, Stanford U (T1400513)
Mechanical Quality Factor of Cryogenic Silicon Cantilevers

2:20 – 2:40 Emily Conant, Bard College (T1400501)
Transportation of Ultra-Stable Light via Optical Fiber

2:40 – 3:00 Emory Brown, Caltech (nothing in DCC!)
Gravitational Wave Signatures of Alternative Theories of Gravity

3:00 – 3:20 Break

3:20 – 3:40 Ryan Horton, U Mass Amherst (G1400818)
Measuring the stochastic gravitational-wave background in the presence of correlated noise

3:40 – 4:00 Halston Lim, Caltech (T1400475)
Cutting Edge Computing for the Extraction of Astrophysical Parameters from GW Observations

4:00 – 4:20 Bence Borcsok, Cambridge program (nothing in DCC!)
Cryogenic Silicon Cavities: Laser Stabilization and Macroscopic Quantum Mechanics

5:30 – 8:00 **Farewell BBQ at Tournament Park, across the street**

Presented on Aug 6:
Reetika Dudi, IIT(BHU) Varanasi (G1400834)
Kalman Filter based state estimation for Thermal Adaptive Optics
Akhil Reddy, IIT Patna (G1400836)
Designing a frequency offset locking loop for 40m prototype Arm Length Stabilization System
Nichin Sreekantaswamy, Birla ITS, Goa (G1400835)
Automated Photodiode Frequency Response Measurement for Caltech 40m lab

Presenting in September:
Enrico Dardanis, INFN (nothing in DCC!)
Modeling and control for the Crackle 2 experiment

Presenting on October 21:
Laksh Bhasin, Caltech (T1400504)
Extracting CCSN Progenitor Parameters via GW Signatures: A Pattern-Recognition Approach