

PROGRAM 5/11

Sunday PM May 13

6:00 Registration and Reception

Monday AM: Setting the Stage

May 24 Chair: F. Fidecaro

8:20 S. Meshkov Welcome
8:30 D. Reitze (Caltech) Setting the Stage
8:55 Discussion

Monday AM: Astrophysical GW Sources

May 14 Convenor B.S. Sathyaprakash

9:00 B.S. Sathyaprakash (Cardiff) Cosmology with Advanced and 3G Detectors
9:25 Discussion
9:30 Break
10:00 C. Miller (Maryland) Gravitational Wave Sources from a Few Hz to a Few kHz
10:25 Discussion
10:30 C. Van Den Broeck (NIKHEF) Tests of GR
10:55 Discussion

Monday AM: Mitigating Thermal Noise I

May 14 Convenors: R. Flaminio, E. Gustafson, G. Harry, S. Rowan

11:00 S. Kroker (Jena) Waveguide Grating Mirrors
11:20 Discussion
11:25 G. Cole (Vienna) Recent Progress in Substrate-Transferred Crystalline Mirrors
11:45 Discussion
11:50 A. Lin (Stanford) Growth and Characterization of III-V Epitaxial Mirror Coatings on Silicon
12:10 Discussion
12:15 T. Westphal (AEI) TNI @ AEI 10m
12:35 Discussion
12:40 A. Freise (Birmingham) Laguerre Gauss Modes
1:00 Discussion
1:05 H. Yang (Caltech) Brownian Thermal Noise in Dielectric Coatings
1:10 Discussion
1:12 Adjourn

Monday PM: Mitigating Thermal Noise II

May 14

4:30 R. Bassiri (Stanford) Investigating Coating Material Properties for Future Generations of GW Detectors
4:50 Discussion
4:55 M. Granata (LMA) Coating R&D at LMA
5:15 Discussion
5:20 R. DeSalvo (Sannio) Nanolayer Coatings
5:40 Discussion
5:45 Break
6:10 S. Penn (HWS) Future Plans with Amorphous Materials
6:30 Discussion
6:35 I. Martin (Glasgow) Coating Research at Glasgow
6:55 Discussion
7:00 Adjourn

Monday PM

May 14

7:15 Reception

Tuesday AM Mitigating External Forces

May 15 Convenors: R. DeSalvo, F. Matichard, J. Van Den Brand

8:30 T. Sekiguchi (Kagra, Tokyo U) External Forces from Heat Links in Cryogenic Suspensions

8:50 Discussion

8:55 R. DeRosa (LSU) Global Seismic Noise Subtraction in Advanced GW Detectors

9:15 Discussion

9:20 Break

9:50 E. Hennes (NIKHEF) Noise Issues for Vibration Isolation

10:10 Discussion

10:15 R. DeSalvo Round Table

F. Matichard

J. Van Den Brand

T. Sekiguchi

R. DeRosa

E. Hennes

10:35 Discussion

10:40 Session Ends

Tuesday AM Advanced Noise Cancellation

May 15 Convenor: J. Harms

10:45 S. Klimenko (Florida) Regression of Environmental Noise in GW Detectors

11:05 Discussion

11:10 N. Lockerbie (Strathclyde) Newtonian Gravitational Coupling of Local Sources to Cylindrical GW Detector Test-masses

11:30 Discussion

11:35 J. Driggers (Caltech) "Measured" Newtonian Noise: Implications for Advanced Detectors

11:55 Discussion

12:00 M. Beker (Nikhef) Simulation and Subtraction of Newtonian Noise

12:25 Discussion

12:30 Adjourn

Tuesday PM New Optics - Simulations and Reality

May 15 Convenors: A. Freise, H. Yamamoto

4:05 G. Billingsley (Caltech) All About the Reality About Mirrors

4:25 Discussion

4:30 J. Harms (Caltech) Various Losses Related to Filter Cavity and Squeezing

4:50 Discussion

4:55 A. Chiummo (EGO) Tackling Stray Light in Advanced Virgo: Frequency and Spatial Simulations

5:15 Discussion

5:20 Break

5:50 D. Brown (Birmingham) Optical Simulations Within and Beyond the Paraxial Limit

6:10 Discussion

6:15 R. Day (EGO) New FFT code FOG

6:35 Discussion

6:40 M. Kasprack (LAL) Performances of a Thermally Deformable Mirror for Correction of Low-order Beam Aberrations in Advanced GW Detectors

7:00 Discussion

7:05 R. Bonnard (LMA) Improving the Substrate Flatness: The Corrective Coating Technique

7:25 Discussion

7:30 Adjourn

Wednesday AM Interferometer Topologies and Prepared States of Light - Quantum Noise and Squeezing

May 16 Convenor: R. Schnabel

8:30 R. Schnabel (AEI)	Introduction: Why Squeezing is Remarkable
8:40 Discussion	
8:45 S. Dwyer (MIT)	The Squeezed H1 Detector
9:00 Discussion	
9:05 H. Grote (AEI)	The Squeezed GEO Detector
9:20 Discussion	
9:25 Break	
9:55 H. Miao (UWA)	Introduction to Radiation Pressure Noise Squeezing and Opto-mechanical Coupling
10:10 Discussion	
10:15 P. Kwee (MIT)	Filter Cavity Concepts
10:25 Discussion	
10:30 R. Ward (ANU)	Ponderomotive Squeezing Rotator
10:40 Discussion	
10:45 S. Gossler (AEI)	How to Observe RPN in Prototype-scale Experiments
11:00 Discussion	
11:05 B. Barr (Glasgow)	Observing Optical Springs with 100g Mirrors
11:20 Discussion	
11:25 G. Cole (Vienna)	Quantum Optomechanics Outside the GW Community
11:40 Discussion	
11:45 H. Kaufer (AEI)	Optomechanics with a 50ng Membrane
11:55 Discussion	
12:00 K. Agatsuma (NAOJ)	Accurate Measurement of the Quantum Efficiency
12:10 Discussion	
12:15 D. Friedrich (ICRR)	Quantum Radiation Pressure Experiment with a Suspended 20mg Mirror
12:25 Discussion	
12:30 Adjourn	

Wednesday PM Cryogenics

May 16 Convenors: R. Nawrodt and K. Yamamoto

2:00 K. Yamamoto (ICRR)	KAGRA Cryogenics
2:20 Discussion	
2:25 R. Ottens (Florida)	Evanescent-wave Heat Transfer
2:40 Discussion	
2:45 Break	
3:15 G. Hofmann (Jena)	Bulk Material Investigations at Cryogenic Temperatures
3:30 K. Haughian (Glasgow)	Bond and Bulk Loss Studies at Cryogenic and at Room Temperature
3:45 Discussion	
3:50 J. Komma (Jena)	Investigation of Optical Properties of Silicon at Cryogenic Temperatures
4:05 Discussion	
4:10 M. Ohashi (ICRR)	Lessons from CLIO
4:25 Discussion	
4:30 Adjourn	

Wednesday PM Luau

5:00 - 8:00 PM

Thursday AM: Novel Technologies

May 17 Convenor: D. McClelland

8:10 M. Ando (Kyoto)	Torsion Bar Antennae
A. Shoda (S.U.U-Tokyo)	Results from TOBA Prototype Detectors
8:40 Discussion	
8:50 K. Schwab (Caltech)	Superfluidity and GW Detection (working title)
9:20 Discussion	
9:30 Break	
10:00 H. Muller (Berkeley)	Atom Interferometer GW Detectors: prospects and outlook (working title)

10:30 Discussion
10:40 End Session

Thursday AM Pulsar Timing
May 17 Convenor: L.S. Finn

10:40 L.S. Finn (PSU)	Pulsar Timing Arrays as Galactic-scale GW Detector: Systems Overview
11:05 Discussion	
11:10 J. Cordes (Cornell)	Pulsar Timing Array Implementations: Noise Budget, Surveys, Timing, and Instrumentation Requirements
11:35 Discussion	
11:40 J. Lazio (JPL/Caltech)	Pulsar Timing Arrays: Current and Future Instrumentation
12:05 Discussion	

Thursday AM Challenges in the High Frequency Region
May 17 Convenor: B.S. Sathyaprakash

12:10 B.S. Sathyaprakash (Cardiff) Round Table
L. Barsotti (MIT)
S. Hild (Glasgow)
12:40 Adjourn

Thursday PM: Terrestrial Global Detector Network 2015 - 2020
May 17 Convenors: S. Kawamura, G. Losurdo, D. Shoemaker

3:30 J. Kissel (MIT)	aLIGO Emphasizing Approaches to the Low-frequency Band (Seismic, Newtonian)
3:50 Discussion	
3:55 K. Yamamoto (ICRR)	KAGRA Emphasizing Approaches to the Mid-frequency Band (Thermal, Cryogenic)
4:15 Discussion	
4:20 G. Vajente (INFN Pisa)	AdVirgo Emphasizing Approaches to the High-frequency Band (Shot Noise, Optical Systems)
4:40 Discussion	
4:45 S. Kawamura (ICRR) D. Shoemaker (MIT) J. Kissel (MIT) K. Yamamoto (ICRR) G. Vajente (INFN Pisa)	Round-table Discussion/Q&A on How the Differences Came About
5:15 Break	

Thursday PM: Space Antennae
May 17 Convenors: G. Heinzel, D. Shaddock

5:45 K. McKenzie (JPL)	A Space-based GW Detector with Geometric Suppression of Spacecraft Noise
6:05 Discussion	
6:10 S. Sato (Hosei Univ.)	DECIGO and DECIGO PathFinder
6:30 Discussion	
6:35 R. Ward (ANU)	The GRACE Follow-on Mission Laser Ranging Instrument
6:55 Discussion	
7:00 E. Hultgren (Stanford)	Laser Gravitational-wave Antenna in Geodetic Orbit
7:20 Discussion	
7:30 Adjourn	

Friday AM Detectors beyond 2020 I
May 18 Convenors: R. Adhikari, S. Ballmer, S. Hild

8:30 H. Miao (Caltech)	Comparison of Interferometer Topologies
8:50 Discussion	
8:55 S. Hild (Glasgow)	LIGO-3 Red design
9:25 Discussion	

9:30 Break
10:00 R. Adhikari (Caltech) LIGO-3 Blue design
10:20 Discussion
10:25 S. Ballmer (Syracuse) LIGO-3 Red/Blue Issues
10:45 Discussion
10:50 H. Lueck (AEI) Recent Research towards ET
11:20 Discussion
11:25 M. Evans (MIT) Low Frequency Terrestrial Detector: MANGO
11:55 Discussion
12:00 Round Table: Moderators: A. Freise, M. Punturo
Compatibility/Interference between 3G Technologies
12:30 Adjourn

Friday PM Detectors beyond 2020 II
May 18 Convenors: R. Adhikari, S. Ballmer, S. Hild

4:30 Discussion Moderators: D. Shoemaker, B. Willke
5:20 Break

Friday PM Future of GWADW
May 18 Chairs: F. Fiducaro and S. Meshkov
5:45 Discussion of Future Workshops

Friday PM Workshop Summary
May 18 Chair: J. Hough
7:00 K. Kuroda (ICRR) Summary
7:25 Discussion
7:30 Workshop Adjourn