

# GWDAW - 13

San Juan, Puerto Rico January 19-22, 2009



UTB  
TSC



## データ解析国際ワークショップ GWDAW13報告

大阪市立大学 神田展行

@3/6/2009, 重力波研究交流会

# GWDAW13報告

毎年開催の  
重力波データ解析国際会議

期間：1/19-22/2009

場所：サンファン

(San Juan, プエルトリコ, 米国州外自治区)

アレシボ天文台のお膝元

現在、重力波のソサエティは、  
相補的な観測となる分野と交流  
をすすめている。

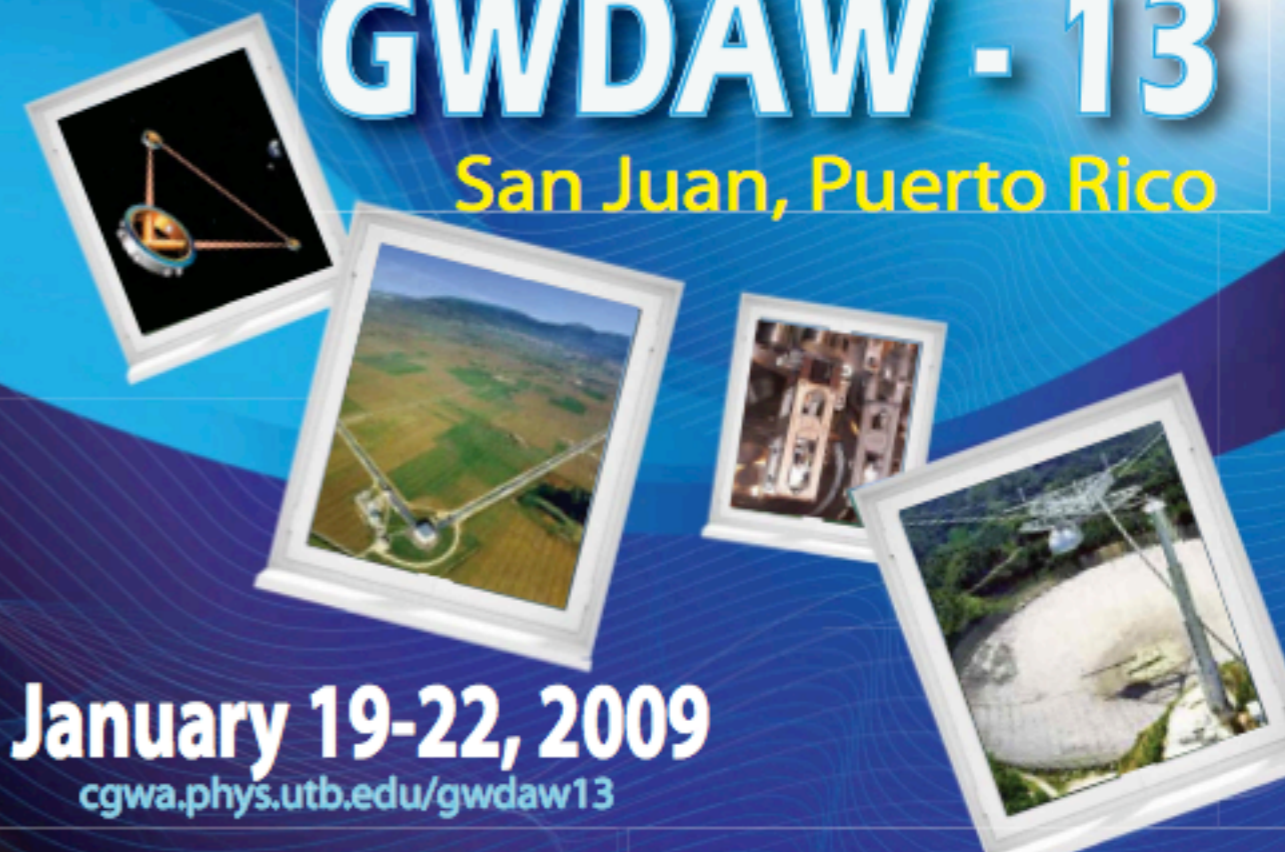
参加者：約110名

## GWDAW - 13

Bridging Gravitational Wave Astronomy and Observational Astrophysics

# GWDAW - 13

## San Juan, Puerto Rico



### January 19-22, 2009

[cgwa.phys.utb.edu/gwdaw13](http://cgwa.phys.utb.edu/gwdaw13)

The scientific focus of GWDAW 13 will be on strengthening the connection between gravitational wave data analyses of current and planned detectors with traditional observational astrophysics, a path initiated with GWDAW 12 at MIT. Puerto Rico furnishes an ideal location for this exchange: less than 50 miles from the conference site, NAIC (the National Astronomy and Ionosphere Center) houses the Arecibo radio telescope, the largest single dish telescope in the world. We hope the location will symbolize the synergy we seek to create between gravitational wave and electromagnetic wave astronomers. The conference will continue the more workshop-like format established at GWDAW-12, allowing time for discussion and interaction among all participants.

The conference will be held at the Condado Plaza Hotel (<http://www.condadoplaza.com/>) in San Juan, Puerto Rico. The venue is a beachfront resort, located within walking distance from old San Juan and its fort, a UNESCO World Heritage site.



### Early Registration Deadline November 15, 2008

#### Scientific Organizing Committee

- Bruce Allen (AEI, Germany)
- Patrick Brady (U. Wisconsin Milwaukee, USA)
- Deepto Chakraborty (MIT, USA)
- Eugenio Cocchia (INFN, Gran Sasso, Italy)
- James Cordes (Cornell University, USA)
- Mario Diaz (U. Texas Brownsville, USA) chair
- Sam Finn (Penn State, USA)
- Neil Gehrels (NASA GSFC, USA)
- Fredrick A. Jenet (U. Texas Brownsville, USA)
- Nobuyuki Kanda (Osaka City U., Japan)
- Erik Katsavounides (MIT, USA)
- Dick Manchester (ATNF, Australia)
- Soumya Mohanty (U. Texas Brownsville, USA)
- Benoit Mours (LAPP-Anecy, France)
- Maria Alessandra Papa (AEI, Germany)
- Kate Scholberg (Duke U., USA)
- Susan Scott (The Australian National U.)
- Alberto Vecchio (U. of Birmingham, UK)
- Andrea Vicere (INFN - Sezione di Firenze, Italy)
- Stan Whitcomb (LIGO CALTECH, USA)



引用したトラペに関しては、オリジナル

<http://cgwa.phys.utb.edu/gwdaw13/program.html>

からご覧ください。



## Program

### Monday, January 19, 2009-Day 1

8:20 AM - 10:30 AM

#### 1. Instruments and detection I

Chair: Stan Whitcomb

8:20 - 8:30	Welcome and Logistic	M. Diaz
8:30 - 9:10	<u>Status of Ground Based Interferometers (30+10)</u>	G. Gonzalez
9:10 - 9:50	Status of Space Based Interferometers (30+10)	C. Cutler
9:50 - 10:30	<u>Status of Nano-Hertz gravitational wave detection using pulsar timing (30+10)</u>	R. Jenet

10:30 AM-11:00AM Coffee Break

11:00 AM- 12:00 PM

#### 2. Instruments and detection II

Chair: G. Gonzalez

11:00-11:20	<u>Automated multidimensional glitch classification analysis and complete near-real time glitch identification for the sixth science run of LIGO (15+5)</u>	Soma Mukherjee
11:20-11:40	Characterization of specific noise events in the VIRGO Science Run 1(VSR1) (15+5)	M. Del Prete
1:40-12:00	<u>Low latency automatic glitch classification using the tracksearch analysis pipeline (15+5)</u>	Cristina Valeria Torres

12:00PM-2:00PM Lunch

2:00PM-3:00PM

#### 3. Instruments and detection III

Chair: Soma Mukherjee

2:00-2:30	<u>It's (almost) all signal processing (20+10)</u>	Warren Johnson
2:30-3:00	Robust estimation of the parameters of a disturbed non-stationary Gaussian process (20+10)	P.Astone, S.Frasca

3:00 PM- 4:00 PM

CLIOの進展は注目されたようだ。

PTAについてもレギュラー?扱い。



## 4. Burst I

Chair: Peter Shawhan

3:00-3:30	<u>An Analytic Approach to the Concept of Noise with Application to the Detection of Gravitational Waves (20+10)</u>	D. Bessis
3:30-4:00	<u>Wavelets entropy based decomposition filter and cross-correlation of gravitational waves data (20+10)</u>	R. Terenzi and R. Sturani
4:00PM -4:30 PM	Coffee Break	
4:30PM - 6:10 PM		
<b>5. Burst II</b>		
Chair: Nobuyuki Kanda		
4:30-4:50	<u>Reconstruction of coordinates of un-modeled burst sources with networks of gravitational wave detectors (15+5)</u>	Antony Searle
4:50-5:10	<u>Stacking Gravitational Waves from SGR Bursts (15+5)</u>	P. Kalmus
5:10-5:30	<u>Gravitational-Wave Burst Searches Using LIGO-GEO S5 and Virgo VSR1 Data (15+5)</u>	Peter Shawhan
5:30-5:50	<u>Real-time searches for unmodeled gravitational waves burst in the next LIGO-Virgo joint science run (15+5)</u>	Jameson Rollins
5:50-6:10	<u>Coherent network analysis: new constraints in coherent WaveBurst (15+5)</u>	Sergey Klimenko
End of Monday		

# Compact Binaries

## Tuesday, January 20, 2009-Day 2

9:00 AM - 10:30 AM

### 6. Compact Binaries Coalescence I

Chair: Patrick Brady

9:00-9:40	<u>Results of the Numerical INJection Analysis (NINJA) Project (30+10)</u>	Duncan Brown
9:40-10:05	<u>A gravitational wave burst search for binary black hole mergers in the Virgo C7 commissioning run data. (15+10)</u>	K. G. Arun
10:05-10:30	<u>Systematics of NR waveform accuracy and burst searches for binary black hole mergers(15+10)</u>	Laura Cadonati

10:30 AM - 11:00AM Coffee Break

11:00 AM- 12:30 PM

### 7. Compact Binaries Coalescence II

Chair: Laura Cadonati

11:00-11:15	<u>Probing seed black holes using the Einstein Telescope (10+5)</u>	Jonathan Gair
11:15-11:30	<u>Investigation of the viability of a coincidence test based on a comparison of triggers from inspiral and ringdown searches (10+5)</u>	Lisa Goggin
11:30-11:45	Tuning Coherent WaveBurst for Detection of Compact Binary Coalescence Signal (10+5)	C. Pankow
11:45-12:00	<u>In Search of Optimal Statistic for Compact Binary Coalescence Analysis Pipeline (10+5)</u>	Ruslan Vaulin
12:00-12:15	<u>Bayesian model selections and tests of general relativity (10+5)</u>	Walter Del Pozzo
12:15-12:30	<u>Status of the First Search for Gravitational Waves from Compact Binary Coalescences with Joint LIGO-Virgo Data</u>	Jessica Clayton

12:30 PM - 2:00 PM Lunch

2:00 PM- 3:20 PM

## 8. Continuous Waves I

Chair: Maria Alessandra Papa

2:00-2:30	<u>Blandford's argument: The strongest continuous gravitational wave signal (20+10)</u>	Benjamin Knispel
2:30-3:00	<u>A new search method for continuous gravitational waves exploiting global correlations (20+10)</u>	Holger Pletsch
3:00-3:20	<u>How 'optimal' is the F-statistic? A Bayesian approach to detecting continuous gravitational waves (15+5)</u>	Reinhard Prix

3:20PM -4:00 PM Coffee Break

4:00 PM- 5:15 PM

## 9. Continuous Waves II

Chair: Ben Owen

4:00-4:25	<u>Cleaning the peak maps using the Hough transform in the frequency-spin down plane (15 + 10)</u>	F.Antonucci, P.Astone, S.D'Antonio, S.Frasca, C.Palomba
4:25-4:50	<u>The search for gravitational waves from known pulsars (15 + 10)</u>	Matthew Pitkin
4:50-5:15	<u>An All-sky, Broadband Search for Continuous-Wave Gravitation Radiation with LIGO using PowerFlux (15+10)</u>	Vladimir Dergachev

End of Tuesday



# Bursts, Stochastic

## GWDAW - 13

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### Wednesday, January 21, 2009 - Day 3

9:00 AM - 10:30 AM

#### 10. Supernovae, neutrinos and gravitational waves

Chair: Kate Scholberg

9:00-9:40	<u>Core-Collapse Supernova Mechanisms and their Signatures in Gravitational Waves (30 + 10)</u>	Christian D. Ott
9:40-9:55	<u>Correlation analysis of data from gravitational collapse neutrino and gravitational wave detectors (10 + 5)</u>	Kate Scholberg et al
9:55-10:15	Gravitational-wave Detector Network and High-Energy Neutrino Detectors (15 + 5)	Shin'ichiro Ando et al
10:15-10:30	<u>Bayesian reconstruction of supernova gravitational wave burst signals (10 + 5)</u>	C. Roever et al.

10:30 AM - 11:00AM Coffee break

11:00 AM- 12:30 PM

#### 11. Stochastic

Chair: Joe Romano

11:00-11:40	Optimal Strategies for Detecting Stochastic Backgrounds of Gravitational Waves from Pulsar Timing Data (30 + 10)	Larry Price
11:40-12:00	<u>Directional Searches for Stochastic Gravitational-wave Background with LIGO (15 + 5)</u>	Eric Thrane
12:00-12:15	<u>Prospects for Gravitational Wave detection with forthcoming Pulsar Timing Arrays (10 + 5)</u>	Alberto Sesana
12:15-12:30	<u>Pulsar timing near supermassive black holes: Schwarzschild holes and eclipsing orbits. (10 + 5)</u>	Teviet Creighton et al

12:30 PM - 2:00 PM Lunch

2:00 PM- 3:20 PM



## 12. Electromagnetic Waves and Gravitational Waves I Chair: Szabolcs Marka

2:00-2:40	<u>How photon astronomy affects searches for continuous gravitational waves (30 + 10)</u> (ppt)	Ben Owen
2:40-3:00	<u>Rapid sky localization of bursts to Bayesian confidence regions (15 + 5)</u>	Antony Searle
3:00-3:20	<u>Detecting gravitational waves from accreting neutron stars (15 + 5)</u>	Badri Krishnan

3:20 PM - 3:50 PM Coffee Break

3:50 PM- 4:50 PM

## 13. Electromagnetic Waves and Gravitational Waves II Chair: Susan Scott

3:50-4:20	<u>Gamma-Ray Burst afterglow plateaus and Gravitational Waves (20 + 10)</u> (ppt)	Alessandra Corsi
4:20-4:50	Gravitational Waves and Multimessenger Astrophysics (20+10)	Szabolcs Marka

6:00 PM- 7:30 PM

**POSTERS**



## Thursday, January 22, 2009-Day 4

9:00 AM - 10:30 AM

### 14. LISA and Space detectors I

Chair: Alberto Vecchio

9:00-9:40	<u>The status, achievements, and prospects of the Mock LISA Data Challenges" (30 + 10)</u>	Michele Vallisneri
9:40-10:10	Non-Gaussianity of LISA's Confusion Background (20+10)	Curt Cutler
10:10-10:30	<u>Search for isotropic stochastic GW background using noise-suppressed TDI variables in LISA (15 + 5)</u>	Emma Robinson

10:30 AM - 11:00AM coffee break

11:00 AM - 12:00 PM

### 15. LISA and Space detectors II

Chair: Curt Cutler

11:00-11:20	<u>Numerical trial of cleaning of gravitational wave foreground from neutron star binaries in DECIGO (15+5)</u>	Mitsuru Tokuda, Nobuyuki Kanda
11:20-11:40	<u>Searching for spinning supermassive black hole binaries using a genetic algorithm (15+5)</u>	Antoine Petiteau, Shang Yu, Stanislav Babak
11:40-12:00	Searching for spinning SMBHs in the 3rd Mock LISA Data Challenge (15+5)	Ed. Porter

END OF WORKSHOP

LUNCH on your own

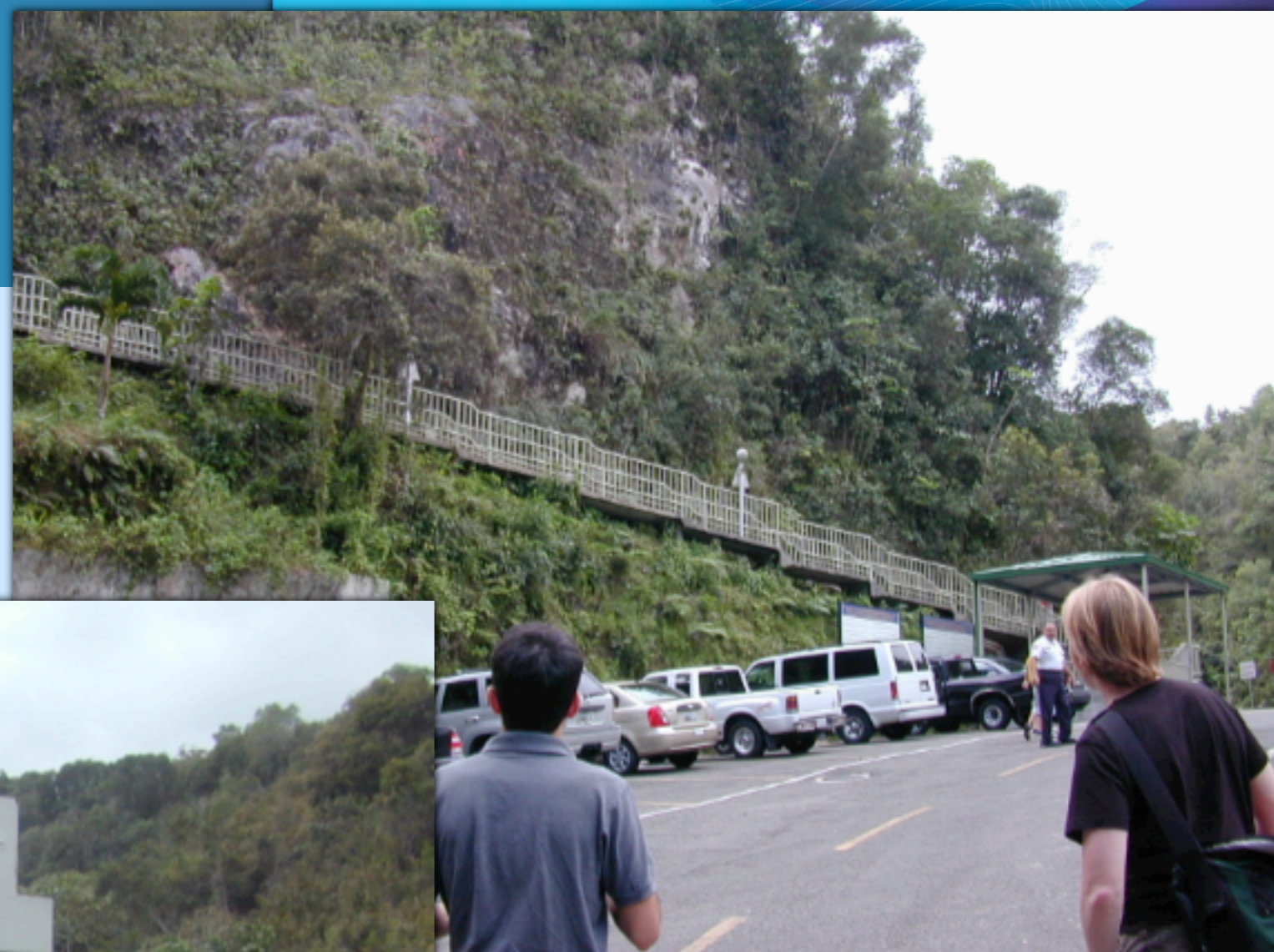
Afternoon visit to Arecibo radiotelescope for those who are interested.

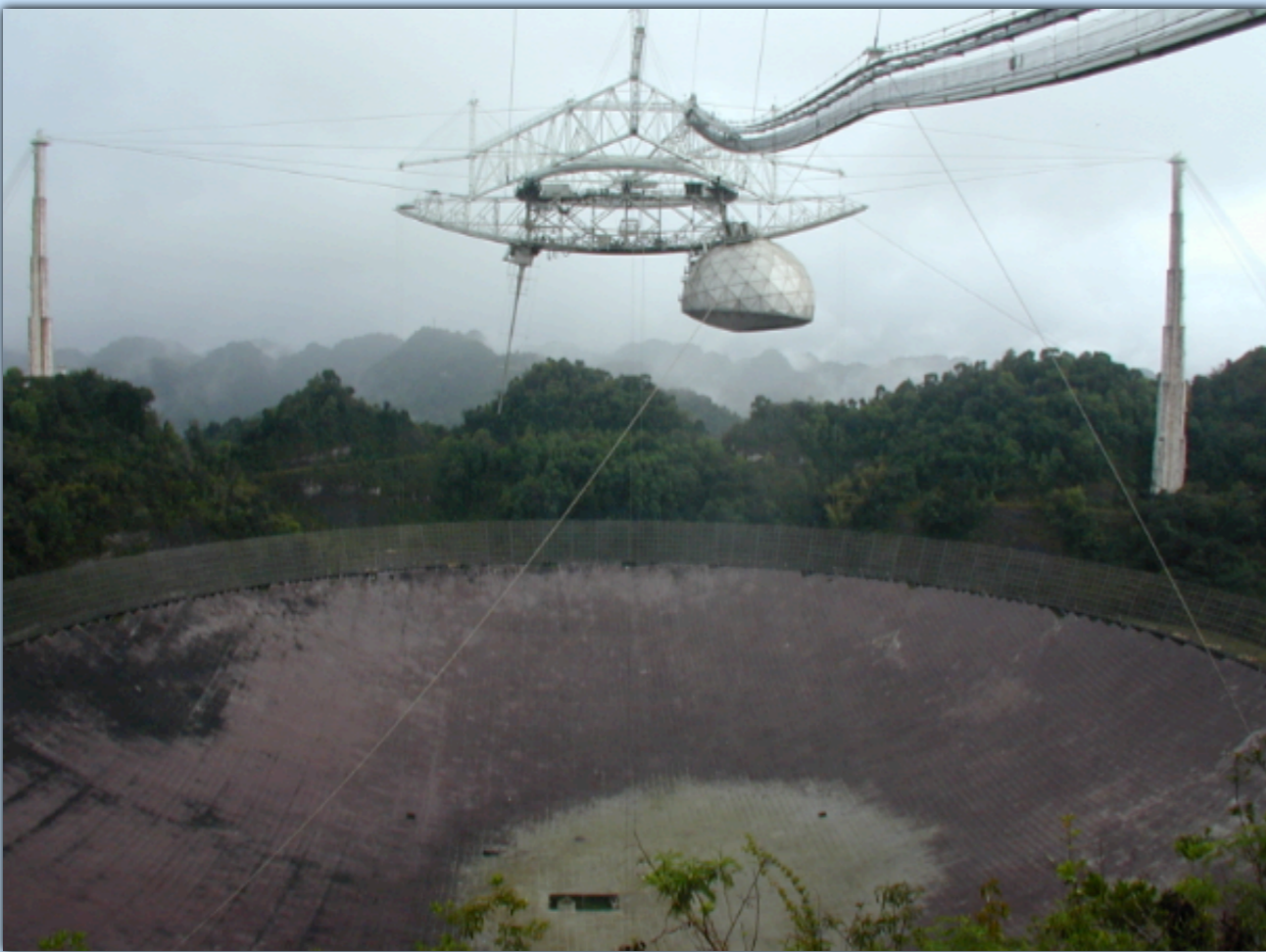
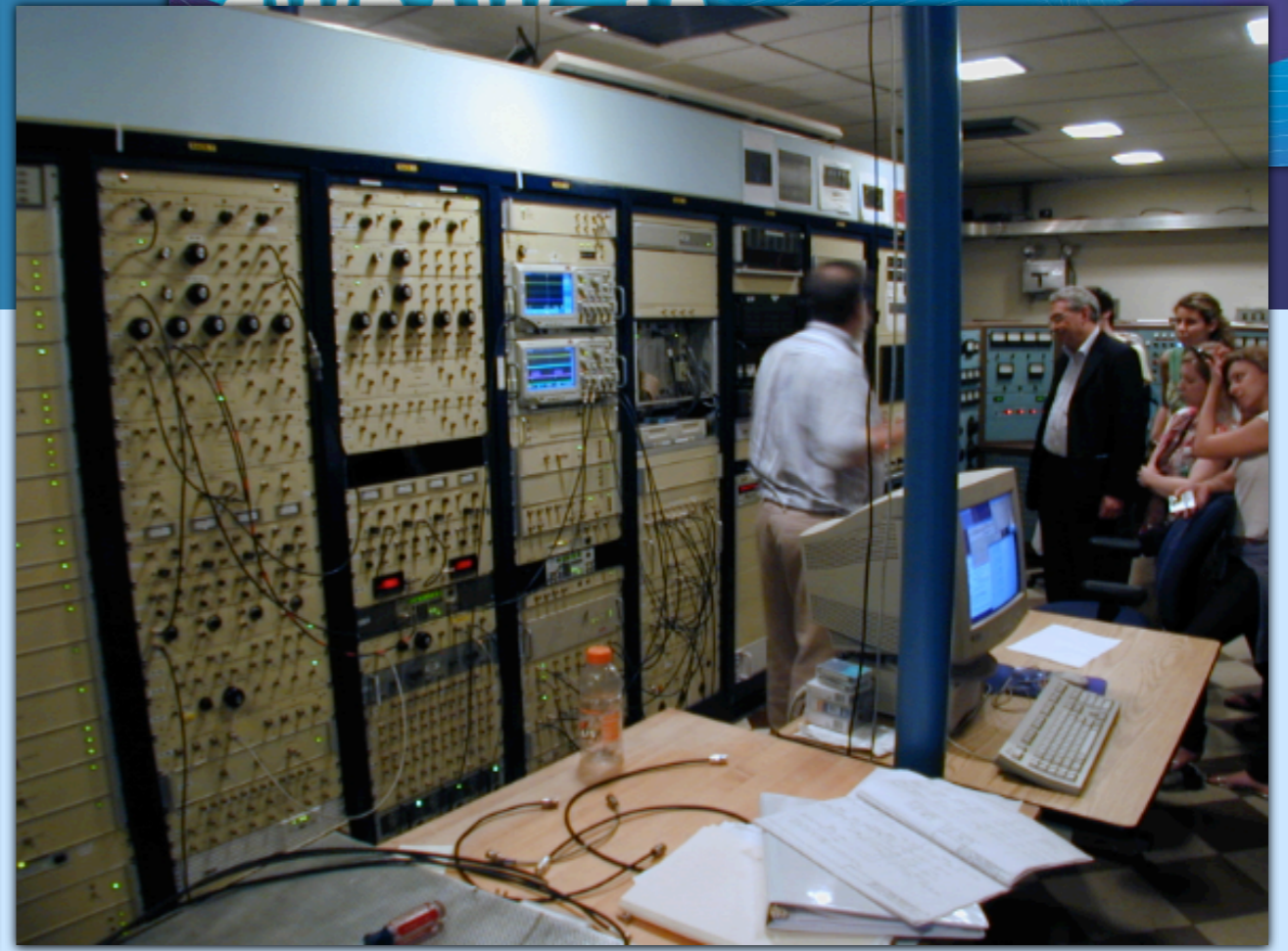


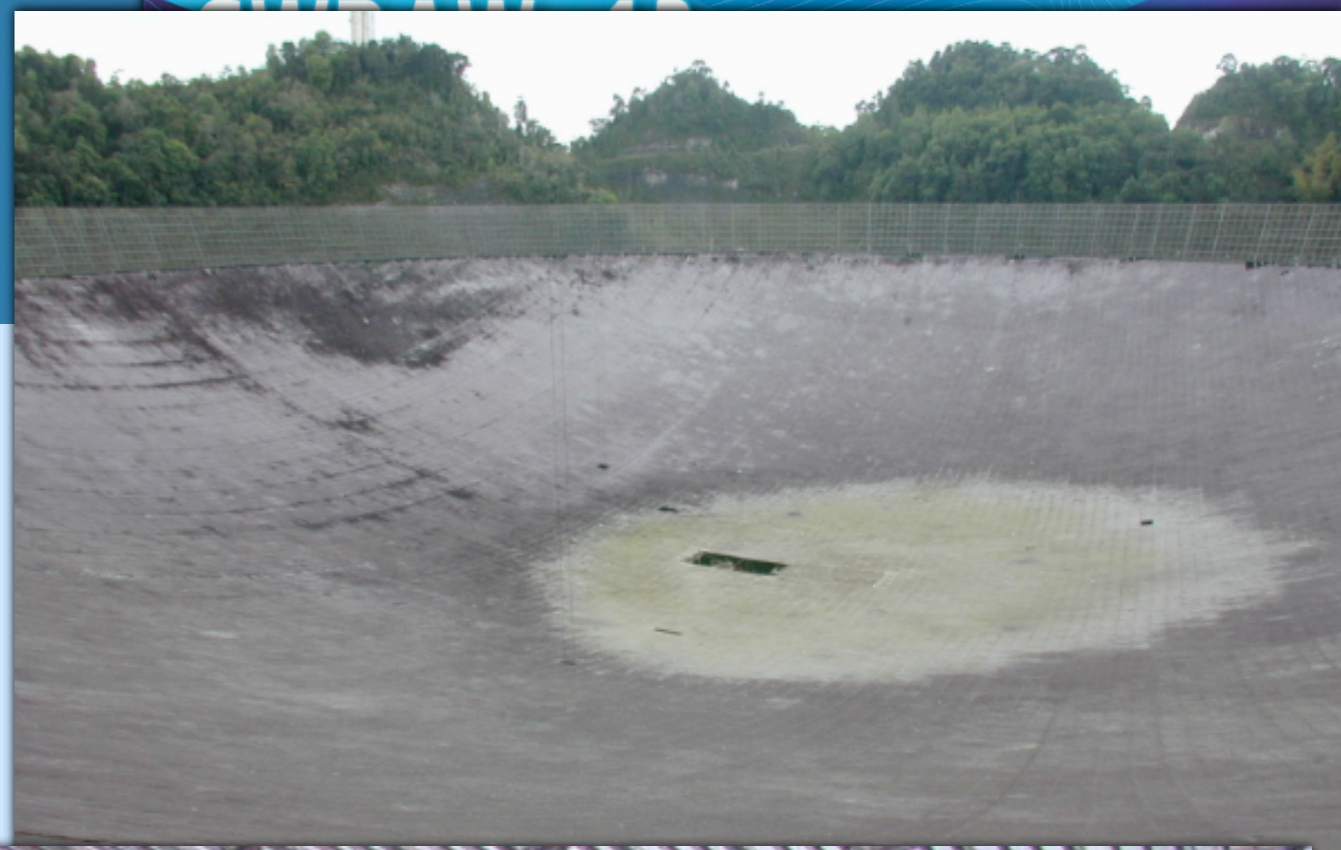
## 予定

- 期間：2010年1月25～30日
- 場所：ローマ大 (La Sapienza)

# アレシボ見学



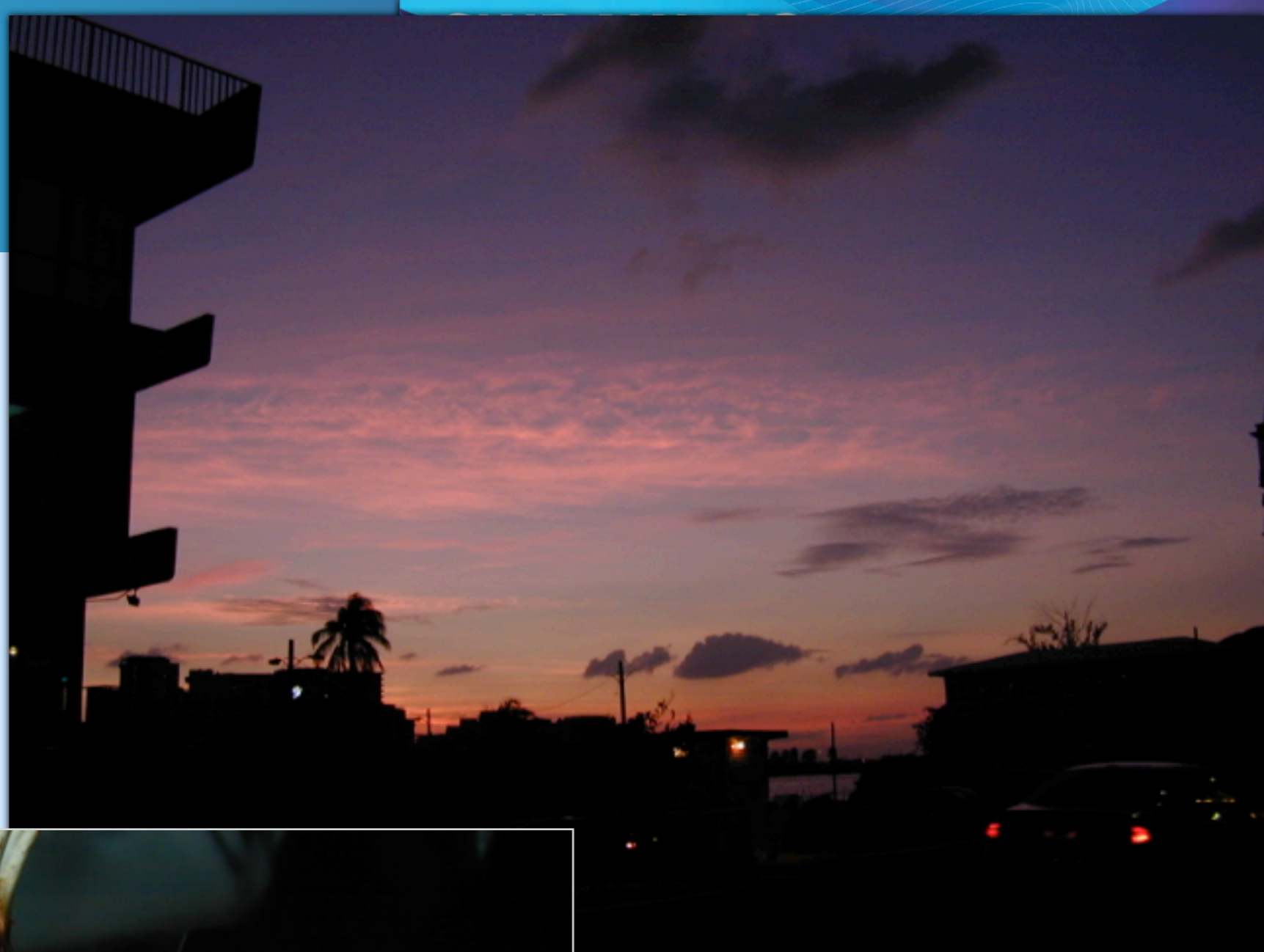








# Summary ?



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