

AO4ELT3 Timeline

Sunday May 26th

15:00

Registration & Poster setup

18:00

18:00 Welcome reception

Monday May 27th

8:30 Welcome

ELT Astronomy with AO - I [Chair: L. Simard]

8:40 Gael Chauvin **The EELT View of the Circumstellar Environments** [I]
9:10 Isobel Hook **The high redshift universe and cosmology** [I]
9:40 Giuseppe Bono **A selection of science cases for the European ELT** [I]
10:10 Matthias Schoeck Developing Performance Estimates for High Precision Astrometry with TMT

10:30 Coffee Break

AO systems for ELTs - I [Chair: R. Davies]

11:00 Antonin Bouchez **Preliminary Design of the Giant Magellan Telescope Adaptive Optics System** [I]
11:30 Brent Ellerbroek **Adaptive Optics for the Thirty Meter Telescope** [I]
12:00 Remko Stuik The two faces of the METIS Adaptive Optics system
12:20 Emiliano Diolaiti Overview of the E-ELT MCAO module project

12:40 Lunch

AO pathfinders & new ideas - I [Chair: B. Ellerbroek]

14:00 Benoit Neichel **GeMS first science results** [I]
14:30 Tim Morris **Multiple Object Adaptive Optics: Mixed NGS/LGS tomography** [I]
15:00 Markus Hartung Final A&T stages of the Gemini Planet Finder
15:20 Norbert Hubin The ESO Adaptive Optics Facility under Test

15:40 Coffee Break

16:00 **Poster session**

Data post processing and optimization [Chair: E. Diolaiti]

17:00 Olivier Martin From CANARY to ELT: lessons learned in open-loop tomography
17:20 Frantz Martinache Super resolution imaging with an ELT: Kernel-phase interferometry
17:40 Damien Gratadour Practical issues with phase diversity for NCPA compensation resolved on the CANARY demonstrator
18:00 Laurent Jolissaint PSF reconstruction for W. M. Keck and Gemini-North AO systems: practical experience with static aberration estimation using phase diversity on sky images, and last PSF-R results on Altair

Tuesday May 28th

Laser guide star systems [Chair: F. Rigaut]

8:30	Paul Hickson	Properties of the mesospheric sodium region that impact AO [I]
8:50	Andrei Tokovinin	GLAO in the visible, the SAM experience
9:10	Chadwick Trujillo	Altair at Gemini North: Full Sky Coverage Laser AO Correction at Visible Wavelengths
9:30	Ronald Holzloehner	Larmor-resonant Sodium Excitation for Laser Guide Stars
9:50	Thomas Pfrommer	Horizontal structure of mesospheric sodium
10:10	Sebastian Rabien	Performance Evaluation of Refocussed and Uplink Corrected Laser Guide Stars
10:30	Steffan Lewis	Upgrade of the ESO Laser Guide Star Facility

10:50 Coffee Break

AO numerical simulations and modeling - I [Chair: R. Conan]

11:20	Christian Marois	Exoplanet Imaging with TMT: A Complete End-to-End TMT/NFIRAOS/IRIS Fresnel Simulation and a New LOCI SSDI Algorithm
11:40	Brent Ellerbroek	Evaluation of Astrometry Errors due to the Optical Surface Distortions in Adaptive Optics Systems and Science Instruments
12:00	Luc Gilles	Laser guide star Fourier tomography on extremely large telescopes
12:20	S. Mark Ammons	On-Sky Pathfinder Tests of Calibrated MCAO Astrometry and Implications for MCAO on ELTs

12:40 Lunch

AO pathfinders & new ideas - II [Chair: Y. Clénet]

14:00	François Rigaut	LGS MCAO systems experience in light of the ELTs [I]
14:30	Olivier Guyon	High Contrast Imaging: New Techniques and Scientific Perspectives for ELTs [I]
15:00	Thierry Fusco	Integration of SAXO, the VLT-SPHERE eXtrem AO : final performance and lesson learned
15:20	Richard Dekany	First exoplanet and disk results with the PALM-3000 adaptive optics system

15:40 Coffee Break

16:00 Poster session

System control & algorithms - I [Chair: R. Stuik]

17:00	Enrico Fedrigo	Trends on real time control for adaptive optics [I]
17:30	Damien Gratadour	Building a reliable, scalable and affordable RTC for ELTs AO instruments
17:50	Ronny Ramlau	Fast iterative reconstructors for MCAO, MOAO and LTAO
18:10	Jean-Pierre Véran	NFIRAOS Real-Time Controller Trade Study

Wednesday May 29th

AO pathfinders & new ideas - III [Chair: A. Bouchez]

- 8:30** Armando Riccardi **Adaptive telescope pathfinders for the ELTs: MMT, LBT, Magellan and VLT [I]**
9:00 Laird Close **Into the Blue: AO Science in the Visible with MagAO and ELTs [I]**
9:30 Friedrich Woeger **ATST and Solar AO state of art [I]**
10:00 Fabrice Vidal GeMS: from the on-sky experimental system to science operation. The AO point of view.
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10:20 Coffee Break

Wave-front sensing - I [Chair: T. Fusco]

- 10:50** Philippe Feautrier, Gert Finger **Visible and Infrared Wavefront Sensing detectors review [I]**
11:30 Jean-Pierre Véran Improved tilt sensing in an LGS-based tomographic AO system
11:50 Cedric Plantet On-sky validation of the LInearized Focal-plane Technique on GEMS
12:10 Simone Esposito Natural Guide Star WFS for the GMT Preliminary Design
12:30 Baptiste Paul COFFEE: Coronagraphic phase diversity improvements for high-order quasi-static aberrations compensation. Application to the SPHERE system
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12:50 Lunch

Atmospheric turbulence & AO disturbances [Chair: M. Schoek]

- 14:00** Elena Masciadri MOSE: a feasibility study for the prediction of the optical turbulence and meteorological parameters at Cerro Paranal and Cerro Armazones
14:20 Angela Cortes Analysis of the frozen flow assumption using GeMS telemetry data
14:40 Jean Marc Conan Cn2 profile reconstruction with Shack-Hartmann slope and scintillation data: first on-sky results
15:00 Marc Sarazin Defining reference turbulence profiles for E-ELT AO performance simulations
15:20 James Osborn Stereo SCIDAR: Profiling atmospheric optical turbulence with improved altitude resolution
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15:40 Coffee Break

ELT Astronomy with AO - II [Chair: C. Max]

- 16:00** Giuliana Fiorentino The space motion and stellar content of Galactic satellites seen with GeMS/GSAOI
16:20 Jacques Beckers Adaptive Optics for the 8 meter Chinese Giant Solar Telescope
16:40 Philip Hinz The LBT Interferometer: a high-resolution, high-contrast imager for a 23 m telescope
17:00 Sylvana Yelda Astrometry in the Galactic center with TMT
17:20 Niranjana Thatte HARMONI: the E-ELT's AO assisted first light integral field spectrograph
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Wednesday May 29th (*Continued*)

18:30

Visit to Palazzo Corsini

20:00

20:00

Social Dinner

23:00

Thursday May 30th

AO systems for ELTs - II [Chair: B. Neichel]

8:30	Norbert Hubin	Toward the Adaptive Optics for the 40 m class European ELT [I]
9:00	Roberto Ragazzoni	Global MCAO aiming to the (whole) sky
9:20	Brian McLeod	The phasing system for the Giant Magellan Telescope
9:40	Thierry Fusco	The AO modes for HARMONI: from classical to Laser-assisted tomographic AO systems
10:00	Markus Kasper	Roadmap for PCS
10:20	Rodolphe Conan	Laser Tomography Adaptive Optics for the Giant Magellan Telescope

10:40 Coffee Break

Wave-front correctors [Chair: G. Herriot]

11:10	Elise Vernet	The E-ELT M4 Adaptive Unit
11:30	Paul Bierden	MEMS Deformable Mirrors for Advanced AO Instrumentation
11:50	Daniele Gallieni	The new VLT-DSM M2 unit: construction and electro-mechanical testing
12:10	Runa Briguglio	Optical calibration and test of the VLT Deformable Secondary Mirror

12:30 Lunch

Wave-front sensing - II [Chair: M. Kasper]

14:00	Thierry Fusco	Lab demonstration of the Zernike phase mask near-coronagraph quasi static aberrations sensor, ZELDA
14:20	Valentina Viotto	A study of Pyramid WFS behaviour under imperfect illumination
14:40	Olivier Guyon	Putting the non-linear Curvature Wavefront Sensor on the 6.5m MMT telescope
15:00	Fernando Quiros-Pacheco	Pyramid wavefront sensor performance with laser guide stars
15:20	Jean-Luc Gach	First results of a 2000+ frame per second OCAM2

15:40 Coffee Break

16:00 Poster session

AO numerical simulations and modeling - II [Chair: J.P. Véran]

17:00	Marcos van Dam	Wavefront Reconstruction for a Natural Guide Star Ground Layer Adaptive Optics System on the Giant Magellan Telescope
17:20	Hugh Thompson	Development and validation of vibration source requirements for TMT to ensure AO performance
17:40	Clémentine Béchet	Modeling wide-field wavefront sensing in solar adaptive optics and its effect on tomographic reconstruction
18:00	Manal Chebbo	Fast E2E simulation tools and calibration strategies for EAGLE on the E-ELT

Friday May 31st

ELT Astronomy with AO - III [Chair: N. Thatte]

8:30	Luc Simard	Exploring the Full Cosmic Timeline with TMT [I]
9:00	Patrick McCarthy	Scientific Promise and Status of the Giant Magellan Telescope Project [I]
9:30	Mathieu Puech	Simulations of high-z galaxy observations with an E-ELT/MOS
9:50	Jessica Lu	Astrometry with the Gemini Multi-Conjugate Adaptive Optics System
10:10	Fraser Clarke	High resolution science with SWIFT and PALM3K

10:30 Coffee Break

System control & algorithms - II [Chair: R. Myers]

11:00	Mykhaylo Yudytskiy	Fast wavefront reconstruction with wavelet regularization for MCAO
11:20	Lianqi Wang	Design and Testing of GPU based RTC for TMT NFIRAOS
11:40	Niek Doelman	Reliable optimal control for ELT AO systems
12:00	Richard Myers	Real-time control system verification for ELT AO systems
12:20	Iuliia Shatikhina	P-CuReD – a fast wavefront reconstruction algorithms for XAO with pyramid WFS

12:40 Lunch

AO pathfinders & new ideas - IV [Chair: N. Hubin]

14:00	S. Mark Ammons	Fourier-Based Predictive AO Schemes for Tomographic AO systems on ELTs
14:20	Gaetano Sivo	First on-sky validation of full LQG control with vibration mitigation on the CANARY MOAO pathfinder
14:40	Derek Kopon	Laboratory results and status update for Pathfinder, the LINC-NIRVANA ground-layer AO subsystem
15:00	Yutaka Hayano	Wide field adaptive optics and near-infrared instrument for Subaru Telescope
15:20	Katie Morzinski	Overview of High-contrast O/IR imaging with Magellan AO: Simultaneous images of an exoplanet host star with VisAO and Clio
15:40	Pierre Haguenauer	Adaptive Phase-Mask Coronagraph
