

## AO4ELT8 PROGRAM AT A GLANCE

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time
8:00-8:30	REGISTRATION					8:00-8:30
8:30-9:30	REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION	
9:30-10:00	OPENING CEREMONY	WAVEFRONT RECONSTRUCTION AND CONTROL I	AO PATHFINDERS AND NEW CONCEPTS	DEEP LEARNING FOR AO	TURBULENCE CHARACTERIZATION AND PROFILING	8:30-10:15
10:00-10:35	PLENARY 1					
10:35-11:05	COFFEE BREAK			Coffee Break + Exhibition	BRUNCH POSTER SESSION EXHIBITION	10:15-11:55
11:05-13:10	CURRENT DESIGNS OF ELT AO SYSTEMS I	POST PROCESSING WITH AO DATA	CURRENT DESIGNS OF ELT AO SYSTEMS II	WAVEFRONT SENSING	AO SIMULATION	11:55-14:00
13:10-14:30	Lunch Break	Lunch Break	Lunch Break	Lunch Break	COFFEE BREAK	14:00-14:30
14:30-16:40	ELT SCIENCE WITH AO I	ELT AO SYSTEMS	WAVEFRONT RECONSTRUCTION AND CONTROL II	WAVEFRONT CORRECTION		
		PLENARY 2	PLENARY 3	PLENARY 4	ELT SCIENCE WITH AO II	14:30-16:35
16:40-18:00	COFFEE POSTER SESSION EXHIBITION	COFFEE POSTER SESSION EXHIBITION	COFFEE POSTER SESSION EXHIBITION	COFFEE POSTER SESSION EXHIBITION	CLOSING REMARKS	16:35-17:00
18:30-20:30	RECEPTION	ALPAO RECEPTION <i>*by invitation only</i>	BANQUET	VALPO TOUR		19:30-00:30

## MONDAY

8:00 - 9:30

REGISTRATION

Session 0 AO4ELT

9:30 - 10:00

AO4ELT8 WELCOME  
Speaker: AO4ELT8 Chairs

10:00 - 10:35

PLENARY 1  
The Adaptive Optics Renaissance  
Speaker: Jean-Pierre Veran, NRC

10:35 - 11:05

COFFEE BREAK

Session 1 CURRENT DESIGNS OF ELT AO SYSTEMS 1  
Presider: Pascale Hibon

11:05 - 11:30

ANDES, the high resolution spectrograph for the ELT: the AO system  
Speaker: Chiara Selmi , INAF

11:30 - 11:50

Towards the definition of ANDES-SCAO control strategy and expected performance through E2E simulations: aiming at high-resolution spectroscopy with the ELT  
Speaker: Guido Agapito, INAF

11:50 - 12:10

Update on the ESO ELT optomechanics status  
Speaker: Elise Vernet, ESO

12:10 - 12:30

Status of the Diffraction-limited AO Science Instruments for the Giant Magellan Telescope  
Speaker: Gustavo Rahmer, GMTO

12:30 - 12:50

MORFEO: Advancing Towards Final Design  
Speaker: Lorenzo Busoni, INAF

12:50 - 13:10

European Solar Telescope: Adaptive Optics Preliminary Design  
Speaker: Esther Soria Hernández, IAC

13:10 - 14:30

LUNCH BREAK

Session 2 ELT SCIENCE WITH AO I  
Presider: Gaetano Sivo

14:30 - 14:55

On-sky sub-diffraction measurement tests with photonic lanterns on Subaru/SCEXAO  
Speaker: Kim Yoo Jung, UCLA

14:55 - 15:15

Simulating the Polarimetric Mode of TMT-MODHIS  
Speaker: Rebecca Zhang , UCSB

15:15 - 15:35

Globular clusters as diagnostic to verify Adaptive Optics performance  
Speaker: Maria Tantaló, INAF

15:35 - 15:55

From Deep Fields to Wide Surveys: Optimized Target Selection for Next-Generation AO-Assisted Multi-Object Spectroscopy  
Speaker: Nelson Nunes, York University

- 15:55 - 16:15      TURBO: a 24hr turbulence monitoring facility in Barcelona  
Speaker: Kathryn Hartley, Durham University
- 16:15 - 16:40      Rubin Observatory Active Optics System On-Sky Performance  
Speaker: Sandrine Thomas , NOIRLab
- 16:40 - 18:10      COFFEE + POSTERS + EXHIBITION

## TUESDAY

8:00 - 8:30

### REGISTRATION

Session 3 WAVEFRONT RECONSTRUCTION AND CONTROL I  
Presider: Julien Lozi

8:30 - 8:55

ULTIMATE-Subaru : Prototype activities for the GLAO real-time control system  
Speaker: Yoshito Ono, Subaru telescope

8:55 - 9:15

Closing the Loop: Extending Telescope Metrology to the Adaptive Secondary Mirror at LBT  
Speaker: Luca Rosignoli, INAF

9:15 - 9:35

First autonomous full optimal control on a 10-m class telescope: on-sky opening movement on GTCOA  
Speaker: Marquis Lucas, University of Bern

9:35 - 9:55

Cascade adaptive optics with a second stage based on a Zernike wavefront sensor for exoplanet observations: in-lab validation on the ESO/GHOST testbed in broadband light  
Speaker: Anna Rahim, OCA/CNRS/UniCA

9:55 - 10:15

PAPYRUS@OHP: DD4AO first on sky results of an optimal frequency based controller  
Speaker: Bernardino Dinis Isaac, University of Geneva

10:15 - 10:35

High Order Keck Adaptive Optics: First results from lab integration and testing of the High Order Deformable Mirror  
Speaker: Maria Vincent, University of Hawai'i

10:35 - 11:05

### COFFEE + EXHIBITION

Session 4 POST PROCESSING WITH AO DATA  
Presider: Maaïke van Kooten

11:05 - 11:30

Beyond the Blur: The Path to 30x Contrast Enhancement with Coherent Differential Imaging  
Speaker: Kaitlyn Hessel, University of Victoria

11:30 - 11:50

Blind deconvolution and reconstruction of complex point spread functions  
Speaker: Anthony Berdeu, Observatoire de Paris

11:50 - 12:10

TipTop: a single tool for all ELT instrument's PSF prediction  
Speaker: Lisa-Marie Mazzolo, CNRS

12:10 - 12:30

How do our telescopes vibrate? - Data fusion of mechanical and optical telemetry to tackle vibrations at the VLT  
Speaker: Nuno Morujão, Universidade do Porto

12:30 - 12:50

Blind deconvolution and PSF subtraction of AO observations with Convolutional Neural Networks  
Speaker: Pierre Vermot, Observatoire de Paris

12:50 - 13:10

Quantum Limits to Extreme Wavefront Sensing  
Speaker: Jacob Trzaska, University of Arizona

13:10 - 14:30

### LUNCH BREAK

Session 5 ELT STATUS  
Presider: Esteban Vera

14:30 - 14:50	Advancements in Adaptive Optics at the Large Binocular Telescope Observatory Speaker: Ragland Sam, LBTO
14:50 - 15:10	Advances in Adaptive Optics at the Giant Magellan Telescope Speaker: Fernando Quiros Pacheco, GMTO
15:10-15:30	The Thirty Meter Telescope: A Northern Hemisphere ELT with Powerful AO Capabilities Speaker: David Andersen, TMT
15:30-15:50	Update on EELT construction Speaker: Joël Vernet, ESO
15:50-16:25	PLENARY 2 New frontiers for wavefront correction Speaker: Roberto Ragazzoni, INAF
16:25 - 18:00	COFFEE + POSTERS + EXHIBITION

## WEDNESDAY

8:00 - 8:30

REGISTRATION

Session 6 AO PATHFINDERS AND NEW CONCEPTS

Presider: Tim Morris

8:30 - 8:55

GRAVITY+ Extreme AO for Large Telescope Interferometry: ELTs Science in VLT era  
Speaker: Guillaume Bourdarot, MPIA

8:55 - 9:15

PAPYRUS @ OHP: An On-sky Adaptive Optics Platform for Technology Development  
Speaker: Mary Angelie Alagao, Aix-Marseille University

9:15 - 9:35

The Bi-O-Edge Wavefront Sensor : In-Lab Experimental Validation  
Speaker: François Leroux, ONERA

9:35 - 9:55

Pushing the Limits of Visible-Light Spectro-Imaging: The Evolution of FIRST on SCEXAO  
Speaker: Sebastien Vievard, University of Hawaii

9:55 - 10:15

GNAO: Progress and Status towards Final Design  
Speaker: Masen Lamb, NSF's NOIRLab

10:15 - 10:35

Progress report on laboratory testing and facilitization of the IRTF adaptive secondary mirror  
Speaker: Ellen Lee, University of Hawai'i

10:35 - 11:05

COFFEE BREAK + EXHIBITION

Session 7 CURRENT DESIGNS OF ELT AO SYSTEMS II

Presider: Sandrine Thomas

11:05 - 11:30

Towards completion of the ELT M4 Unit: insights from Integration and Electromechanical Testing  
Speaker: Matteo Tintori, A.D.S. International

11:30 - 11:50

GMTO ASMS Risk Reduction Test Results  
Speaker: Peter Thompson, GMTO

11:50 - 12:10

AO3k and SCEXAO: Status of the double extreme-AO  
Speaker: Julien Lozi, NAOJ

12:10 - 12:30

The Giant Magellan Telescope Adaptive Optics and Phasing Sensors Testbed (GAPS)  
Speaker: Fernando Quiros Pacheco, GMTO

12:30 - 12:50

Development of Vibration Damping Control Strategy using Laser Guide Stars at Large Telescopes  
Speaker: Pascal Jaufmann, MPIA

12:50 - 13:10

HARMONI at ELT MCAO mode Science performance and mode validation  
Speaker: Benoit Neichel, CNRS

13:10 - 14:30

LUNCH

Session 8 WAVEFRONT RECONSTRUCTION AND CONTROL II

Presider: Iciar Montilla

14:30 - 14:55	Performance of MICADO's SCAO: From End-to-End Simulations to First Bench Tests Speaker: Nicolas Levraud, Observatoire de Paris
14:55 - 15:15	Keck Observatory as a testbed for validating wavefront sensing and control techniques on a segmented telescope Speaker: Maissa Salama, UCSC
15:15 - 15:35	WF reconstruction and AO Control for Single Laser Guide Star Adaptive Optics (SLAO) Systems Speaker: Andreas Obereder, Johannes Kepler University Linz
15:35 - 15:55	AOB-WAN: The new adaptive optics bench at GEMINI North Speaker: Jouve Pierre, Space ODT
15:55 - 16:30	<b>PLENARY 3</b> Adaptive Optics for Astronomy, Defense and Free-space optics : Driving Synergy and Innovation in a Virtuous Cycle Speaker: Thierry Fusco, ONERA
16:30 - 18:00	<b>COFFEE + POSTERS + EXHIBITION</b>

## THURSDAY

8:00 - 8:30

REGISTRATION

### Session 9 DEEP LEARNING FOR AO

Prsident: Cedric Taïssir Heritier

8:30 - 8:55

It works! On-sky closed-loop AO demonstration of deep neural nets for unmodulated pyramid wavefront sensing using Papyrus at OHP  
Speaker: Esteban Vera, PUCV

8:55 - 9:15

Reinforcement learning for wavefront control: from WFS control to focal plane and from numerical simulations to lab and on-sky with PAPHYRUS @ OHP  
Speaker: Markus Kasper, ESO

9:15 - 9:35

Deep Learning for Autonomous Segmented Aperture Control in the Small ExoLife Finder (SELF) Telescope  
Speaker: Natalia Arteaga-Marrero, IAC

9:35 - 9:55

Improved Pyramid Wavefront Sensor Reconstruction using a Physics-Informed Neural Network  
Speaker: Ashtyn Gibbs, University of Victoria

9:55 - 10:15

Reconstructing atmospheric residual phase in modal bases using Convolutional Neural Networks  
Speaker: Pierre Vermot, Observatoire de Paris

10:15 - 10:35

Deep in the Lows: A Deep Learning-based Wavefront Reconstructor for the Lyot-based Low Order Wavefront Sensor  
Speaker: Andre Fogal, University of Victoria

10:35 - 11:05

COFFEE BREAK + EXHIBITION

### Session 10 WAVEFRONT SENSING

Prsident: Benoit Neichel

11:05 - 11:30

On-sky Demonstration of Fast and Furious for Low Wind Effect correction on Subaru/SCEXAO  
Speaker: Sebastien Vievard, University of Hawaii

11:30 - 11:50

PAPHYRUS @ OHP: On-sky results with the focal-plane assisted wavefront sensor : NCPA compensation  
Speaker: Cedric Taïssir Heritier, ONERA / LAM

11:50 - 12:10

Response of the Ingot WFS to low-order aberrations introduced with a deformable lens  
Speaker: Tania Gomes Machado, INAF

12:10 - 12:30

On sky tests of a Diffractive Optics Element for 3 Laser Guide Stars with a high-power laser  
Speaker: Iciar Montilla, IAC

12:30 - 12:50

The photonic lantern wavefront sensor and imager integrated focal-plane wavefront sensing and coherent-differential-imaging beyond the diffraction limit  
Speaker: Barnaby Norris, University of Sydney

12:50 - 14:10

LUNCH

### Session 11 WAVEFRONT CORRECTION

Prsident: Maissa Salama

14:10 - 14:35

Title: High-Accuracy and Lightweight Deformable Silicon-Based Mirrors & FlexSiMirror  
Speaker: Gil Moretto, CNRS

- 14:35 - 14:55 Addressing the Fragility: Strategies for Safe Handling of (Ultra-)Thin Deformable Mirrors  
Speaker: Matteo Tintori, A.D.S. International
- 14:55 - 15:15 New wavefront correctors for XAO: electromagnetic, piezoelectric and SLMs  
Speaker: Julien Charton, Bertin Alpao
- 15:15 - 15:35 Test results and future developments of TNO's ASM technology  
Speaker: Matthew Maniscalco, TNO
- 15:35 - 15:55 Fifth generation AdOptica deformable mirrors for adaptive optics systems: Subaru ASM, GMT ASMS, MORFEO DM1/DM2, VLT 2GDMS  
Speaker: Roberto Biasi, Microgate

15:55 - 16:30 **PLENARY 4**  
From Sky to Cell: Adaptive Optics Technologies Shaping the Next Decade  
Speaker: Domenico Bonaccini Calia, Durham University

16:30 - 18:00 **COFFEE + POSTERS + EXHIBITION**

## FRIDAY

8:00 - 8:30

### REGISTRATION

#### Session 12 TURBULENCE CHARACTERIZATION AND PROFILLING

Presider: Nelly Cerpa-Urra

8:30 - 8:55

Profiling of the Atmosphere by Remote Sensing and Radiosonde Balloon Launches above our Astronomical Observatory Sites - PARABOLAS  
Speaker: Florian Kerber, ESO

8:55 - 9:15

A wide-band, achromatic, programmable turbulence generator using a spatial light modulator, delivering large optical path differences at high speed  
Speaker: Alessandra Carmichael-Martins, ESO

9:15 - 9:35

The effect of turbulence induced quasi-static aberrations on off-axis control of ELTs.  
Speaker: Gill Polly, Durham University

9:35 - 9:55

Modeling Dome Seeing in ESO's ELT with Aerothermal Simulations  
Speaker: Ronald Holzloehner, ESO

9:55 - 10:15

Temporal and spatial scaling of optical turbulence in the ground layer: complementary profiling of heterogeneous flow regimes  
Speaker: Dario Perez, PUCV

10:15 - 11:55

### BRUNCH + POSTERS + EXHIBITION

#### Session 13 AO SIMULATION

Presider: Cedric Plantet

11:55 - 12:20

Simulation-Driven Diagnostics of Keck adaptive optic systems with OOPAO  
Speaker: Mahawa Cisse, WM Keck Observatory

12:20 - 12:40

SAOS: Solar Adaptive Optics Simulator  
Speaker: Nicolas Rodriguez Linares, IAC

12:40 - 13:00

Low Order Natural Guide Star Selection Tool and Sky Coverage Update for TMT NFIRAOS  
Speaker: Lianqi Wang, TMT

13:00 - 13:20

Simulations on use of MKID for Optical Transfer Function based phasing of segmented mirrors  
Speaker: Radhika Dharmadhikari, Durham University

13:20 - 13:40

Data-driven PSF prediction for MUSE-NFM and SPHERE  
Speaker: Arseniy Kuznetsov, ESO

13:40 - 14:00

Optical-digital co-design strategy for adaptive-optics-assisted systems: application to spectral band selection for imaging satellites and asteroids.  
Speaker: Florian Cheyssial, ONERA

14:00 - 14:30

### COFFEE BREAK

#### Session 14 ELT SCIENCE WITH AO II

Presider: Charlotte Bond

14:30 - 14:55

SHARK-NIR: Updates from the early science runs  
Speaker: Simone Di Filippo, INAF

- 14:55 - 15:15 Exoplanet science with MICADO at the ELT: Simulations, challenges, and first-light strategies  
Speaker: Paulina Palma-Bifani, Observatoire de Paris
- 15:15 - 15:35 Status of the MICADO PSF Reconstruction Tool and Validation with ERIS@VLT  
Speaker: Matteo Simioni, INAF
- 15:35 - 15:55 Integrating METIS SCAO  
Speaker: Markus Feldt, Max Planck Society
- 15:55 - 16:15 The Programmable Liquid-crystal Active Coronagraphic Imager for the 4-m DAG telescope (PLACID) instrument as an ELT pathfinder  
Speaker: Marquis Lucas, University of Bern
- 16:15 - 16:35 AO science demonstration with the Adaptive Optics Telemetry format  
Speaker: Nuno Morujão, Universidade do Porto

16:35 - 17:00 CLOSING REMARKS  
Speaker: AO4ELT8 Chairs

ADJOURN

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**POSTERS MONDAY / WEDNESDAY / (FRIDAY)**

- 1 Laser operations at Cerro Pachon, Chile. Influence of space satellites and air traffic.  
Presenter: Vincent Garrel , NOIRLab
- 2 Advances In The Field Of Free Space Optical Communications And The Application Of Adaptive Optics At Instituto De Astrofisica De Canarias  
Presenter: Elena Reyes , IAC
- 3 First results of AO for optical coupling on free space communication  
Presenter: Nelly Cerpa , UA
- 4 Atmospheric Turbulence characterization at AIUIa Manara Observatory in Saudi Arabia: early results from SHIMM operations  
Presenter: Gianluca Lombardi , GRANTECAN
- 5 BINCAT: a catalog of close-binary stars for AO systems assistance and performance evaluation  
Presenter: Pietro Ferriauolo , INAF
- 6 Characterization of atmospheric boundary-layer turbulence using event-based cameras at SEETRUE optical ground station  
Presenter: Pablo Garrido , PUCV
- 7 Characterizing NCPA for NirvanaVIS  
Presenter: Remon Vangaalen, INAF
- 8 Dealing with platescale variations in multi-conjugate adaptive optics systems: impact on low order stroke and pointing stability in MORFEO-assisted observations  
Presenter: Lorenzo Busoni , INAF
- 9 Development of a narrow-band Magneto-Optical Filter (MOF) system for LGS detection in daytime  
Presenter: David Alaluf, ESA
- 10 Error Budget for Tip/Tilt Retrieval with Laser Guide Stars using the Propagation-Delay Method  
Presenter: Julienne Boettger, ESO
- 11 Establishing baseline models performances for optical turbulence forecasting  
Presenter: Camilo Weinberger , INAF
- 12 Exploration of turbulence profilers using event-based vision  
Presenter: Vicente Westerhout , PUCV
- 13 FATMOSS: a fast, non-Markov generator for turbulent phase screens  
Presenter: Arseni Kuznetsov, ESO
- 14 Final optical design of the adaptive optics module of MAVIS  
Presenter: Oleksandra Rebrysh , INAF
- 15 Focal-plane wavefront control using deep learning for high-contrast imaging  
Presenter: Iremsu Taskin, ULIEGE
- 16 Exploring Neural Network Approaches for Pyramid Wavefront Sensor Image Denoising  
Presenter: Jordan Raffard , CNRS

- 17** Ground layer adaptive optics wavefront error budget for MOSAIC  
Presenter: Timothy Butterley , Durham
- 18** HARMONI at the ELT: Performance analysis of the single conjugate and high contrast AO systems  
Presenter: Charlotte Bond , UKATC
- 19** HARMONI at the ELT: Revised design of the HARMONI AO calibration unit behind MORFEO  
Presenter: Noah Schwartz , UKATC
- 20** Laboratory tests of the MAVIS DNU Shack Hartmann Wavefront Sensor  
Presenter: Paolo Cerpelloni , INAF
- 21** Laser Guide Star System Electronics at the Giant Magellan Telescope  
Presenter: Juan Pablo Haddad , GMTO
- 22** LOR optomechanical design and analyses  
Presenter: Edoardo Redaelli , INAF
- 23** MORFEO wavefront error budget  
Presenter: Guido Agapito, INAF
- 24** Multi-Purpose Laser Pointing Camera for Laser Guide Stars Adaptive Optics and Satellite Communication  
Presenter: Felipe Pedreros, ESO
- 25** VOID
- 26** Ongoing Developments for WaveDriver, a Laser Guide Star Adaptive Optics System for HWO  
Presenter: Dominic Sanchez, Department of Energy
- 27** EKARUS: The future of PAPHYRUS at the Cima Ekar Telescope  
Presenter: Cédric Taïssir, ONERA
- 28** PAPHYRUS @ OHP: Improving the AO for fiber-fed spectrographs  
Presenter: Mary Angelie Alagao, LAM
- 29** PAPHYRUS @ OHP: trade-offs in the infrared extension optical design.  
Presenter: Mary Angelie Alagao, LAM
- 30** Papyrus@OHP: DAO real-time controller  
Presenter: David Barr, Durham
- 31** Real-Time Adaptive Optics Controller for Deep Learning Wavefront Sensors  
Presenter: Benjamín González, PUCV
- 32** Updated design of the MORFEO Real-Time Computer towards Final Design Review  
Presenter: Alfio Puglisi, INAF
- 33** Design and Implementation of the Real-Time Control Pipeline for the MATTO Test Bench  
Presenter: Lorenzo Merli, INAF

- 34 DAO Real-time control for large aperture solar telescopes  
Presenter: David Barr, Durham
- 35 Prototyping Status of Laser/Natural Wavefront Sensors for ULTIMATE-Subaru GLAO  
Presenter: Hajime Ogane, ANU
- 36 The AO-Petalometer Test Bench: a laboratory facility for the segmented mirror emulation in ELTs  
Presenter: Guido Agapito, INAF
- 37 The INAF-OAR Laser Guide Star AO Laboratory: a national facility for Assembly, Integration and Testing of Advanced LGS-AO Systems  
Presenter: Roberto Biasi, Microgate
- 38 The Laser Guide Star Facility for the ULTIMATE-Subaru Ground Layer Adaptive Optics system: Final Design  
Presenter: Hajime Ogane, ANU
- 39 The MICADO first light imager: first results of the MICADO SCAO beta flat configuration AO tests and first integration of the flat configuration  
Presenter: Nicolas Levraud, Observatoire de Paris
- 40 Updating the Ingot WFS laboratory bench with new LGS simulator  
Presenter: Simone Di Filippo, INAF
- 41 Upgrading SPHERE with the second-stage adaptive optics system SAXO+: Design and Assembly of the Near-Infrared Common Path and Wavefront Sensor Subsystem  
Presenter: Matteo Lombini, INAF
- 42 Using a network of smart telescopes to measure atmospheric turbulence  
Presenter: Benoit Neichel, LAM
- 43 A Generalized Framework for On-Sky Training of AO Reconstructors  
Presenter: Robin Swanson, U Toronto
- 44 First On-Sky Demonstration of a Three-Sided Reflective Pyramid Wavefront Sensor with ShaneAO  
Presenter: Dominic Sanchez, Department of Energy
- 45 LAVA: The next generation Laser Guide Star Facility for the W.M. Keck Observatory  
Presenter: Eduardo Marin, W. M. Keck Observatory
- 46 Multi-object adaptive optics for GIRMOS: moving towards the manufacturing and integration  
Presenter: Uriel Conod, UBC
- 47 REVOLT-COPPER: a pyramid wavefront sensor testbed from real-time control to time-resolved wavefront sensing  
Presenter: Maaïke van Kooten, NRC-Herzberg
- 48 Unmodulated 3-sided pyramid wavefront sensor: laboratory and on-sky tests  
Presenter: Muskan Shinde, UNIGE
- 49 Recording, Implementation and Testing of Holographic Fourier-plane Wavefront Sensors  
Presenter: Rodrigo Muñoz, PUCV
- 50 ULTIMATE-Subaru: Ground Layer Adaptive Optics Project Overview and Calibration Strategy  
Presenter: Yosuke Minowa, NAOJ

- 51 CB2: A Next Generation High-Speed CMOS Camera Platform for Wavefront Sensing  
Presenter: Tom Seccull, Oxford Instruments
- 52 Coupling adaptive optics with a coronagraph module in ELT/ANDES for exoplanet observations: contrast performance results and opto-mechanical design  
Presenter: Ernico Pinna, INAF
- 53 Developing the MOSAIC GLAO sub-system: take me to the light!  
Presenter: Tim Morris, Durham
- 54 Developments in Infrared e-APD Wavefront Sensing Camera Technology  
Presenter: Tom Seccull, Oxford Instruments
- 55 EST MCAO testbed: Preliminary MCAO results.  
Presenter: Noelia Feijoo, IAC
- 56 Fast and curious : AO imaging at 96kHz with a SPAD array  
Presenter: Maaïke van Kooten, NRC-Herzberg
- 57 From DrWHO to ProfWHO: Evolving from Global to Individual Speckle Correction On-Sky  
Presenter: Nour Skaf, UH
- 58 MOSAIC at ELT: Instrument Integration and Verification Plan  
Presenter: Kacem El Hadi, amU - LAM
- 59 On-Chip Interferometric Wavefront Sensing and Correction Using a Photonic Integrated Circuit  
Presenter: Diego Portero, IAC
- 60 Overcoming Low-Frequency Control Constraints in AO Systems through Frequency-Domain Characterization  
Presenter: Nicolas Rodriguez Linares, IAC
- 61 Pushing high contrast with new wavefront control methods  
Presenter: Valentin Fonteneau, UCBL
- 62 The Keck All sky Precision Adaptive Optics Tomography System  
Presenter: Avinash Surendran, W. M. Keck Observatory
- 63 The METIS focal plane wavefront control for high-contrast imaging  
Presenter: Prashant Pathak, IITK
- 64 Bubble, Boil, and Trouble? Dome turbulence measured by on-sky adaptive optics.  
Presenter: Deborah Malone, Durham
- 65 Estimating M4 Petal Modes in SCAO: Beyond Atmospheric Turbulence  
Presenter: Fabio Rossi, INAF
- 66 GPI 2.0: Calibration of the Pyramid Wavefront Sensor  
Presenter: Saavidra Perera, UCSC
- 67 How Good Is Good Enough? Image Quality Metrics for High-Resolution Solar Observations with EST  
Presenter: Nicolas Rodriguez Linares, IAC

- 68** MAVIS AO-Module: exploring the sensitivity to atmospheric conditions using TIPTOP  
Presenter: Guido Agapito, INAF
- 69** Phase Unwrapping via Virtual Wavefront Sensors  
Presenter: Bernadett Stadler, RICAM
- 70** Updates of the LAser guide Star Sensor Integrated Extreme adaptive optics (LASSIE) Project  
Presenter: Lauren Schatz, Air Force Research Lab
- 71** Data-driven design of high-performance deep learning wavefront sensors  
Presenter: Esteban Vera, PUCV
- 72** End-to-end design of Wavefront Sensor and Reconstruction using differentiable optical propagation  
Presenter: Francisco Oyarzun, LAM
- 73** The extreme AO system of the ELT's Planetary Camera and Spectrograph  
Presenter: Nuno Morujao, U Porto
- 74** Slow focus sensor for the Keck I laser guide star adaptive optics system using focal plane wavefront sensing  
Presenter: Benoit Neichel, LAM
- 75** Advancing 24/7 Optical Ground-to-Satellite Communication: progress in the CaNaPy/ALASCA Adaptive Optics System  
Presenter: Matteo Tintori, A.D.S International
- 76** Probing the MORFEO and MICADO NCPAs using the MORFEO Post-Focal DMs  
Presenter: Gabriele Rodeghiero, INAF
- 77** SPECULA: A Next-Generation Adaptive Optics Simulation Framework  
Presenter: Fabio Rossi, INAF
- 78** Correction of tip tilt, beam wandering and aberrations for fiber coupling Enhancement in Free-Space Optical links Using refractive Adaptive Optics  
Presenter: Stefano Bonora, Institute of Photonics and Nanotechnology
- 79** Quantifying Water Vapor Seeing Effects on METIS HCI using VLTI data  
Presenter: Prashant Pathak, IITK

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**POSTERS TUESDAY / THURSDAY / (FRIDAY)**

- 81** Real-Time Regulator Optimization for Tip-Tilt Compensation on Extremely Large Telescopes  
Presenter: Marco Falotico, INAF
- 82** Robust myopic deconvolution combining the parametric marginal approach and a support constraint: experimental validation on Adaptive-Optics corrected images  
Presenter: Laurent Mugnier
- 83** Simulations of polychromatic laser guide stars  
Presenter: Joschua Hellemeier, ANU
- 84** Tomographic Reconstructor Library for AO: From KAPA LTAO to ELT Systems  
Presenter: Uriel Conod, UBC
- 85** An FPGA-GPU readout architecture for novel MKIDs based WFS  
Presenter: David Barr, Durham
- 86** From Power Spectral Density to Infinite Phase Screens Generation: towards hybrid simulation strategies in Adaptive Optics  
Presenter: Fabio Rossi, INAF
- 87** Beyond Kolmogorov: Bolgiano-Obukhov regimes in the sites of future extremely large telescopes and their implications for optical turbulence modeling  
Presenter: Marco Sepulveda, PUCV
- 88** SCIDAR Returns to Maunakea: Initial Concepts and Status  
Presenter: Ryan Dungee, U Toronto
- 89** A nonlinear solver for robust pyramid wavefront sensing during strong atmospheric turbulence conditions  
Presenter: Victoria Laidlaw, JKU
- 90** Unrolling networks for non-linear wavefront reconstruction with pyramid wavefront sensors  
Presenter: Felipe Guzmán, PUCV
- 91** First Experimental Results with a Time- Resolved Pyramid Wavefront Sensor  
Presenter: Simon Carrier, U Sherbrooke
- 92** Hybrid-Mode Selective Photonic Lanterns for High-Contrast Spectroscopy on the ELT  
Presenter: Julien Lozi, NAOJ
- 93** The Donut method: a "sweet" alignment strategy for MORFEO at ELT  
Presenter: Alessandro Ballone, INAF
- 94** A hybrid pyramid-Zernike sensor? Anything goes with meta materials!  
Presenter: Markus Feldt, MPIA
- 95** An ELT in operation: the VLTI with GRAVITY+  
Presenter: Sylvain Oberti, ESO
- 96** Auto-calibration and performance monitoring of GRAVITY+ Adaptive Optics system with physics-based methods and inverse problem approaches  
Presenter: Anthony Berdeu, OBSPM/ESO

- 97** Experimental demonstration of super resolution with a pyramid WFS  
Presenter: Charlotte Bond, UKATC
- 98** First Results from the CaNaPy Project: Demonstration of Visible LGS-AO with a Pyramid Wavefront Sensor  
Presenter: Pierre Haguenaier, ESO
- 99** Improving the SPHERE's Extreme Adaptive Optics correction with SAXO+  
Presenter: Maud Langlois , CNRS
- 100** MORFEO and LIFT: are you allergic to petals?  
Presenter: Cedric Plantet, INAF
- 101** Creating an ELT scale command matrix for METIS in less than one second on a consumer grade GPU using Python  
Presenter: Horst Steuer, MPIA
- 102** From simulations to laboratory: testing the "CiaoCiao WFS" for phase discontinuities detection in segmented telescopes  
Presenter: Maria Bazzicalupo, INAF
- 103** High-Contrast Imaging and Polarimetry with SCEXAO/VAMPIRES  
Presenter: Miles Lucas, UH
- 104** Less Twinkle, More Transit: Using Adaptive Optics for Transit Photometry  
Presenter: Saavidra Perera, UCSC
- 105** MORFEO control strategy  
Presenter: Guido Agapito, INAF
- 106** NirvanaVIS, final design and path toward sky of the visible GLAO-assisted speckle holography upgrade of LINC-NIRVANA  
Presenter: Remon Van Gaalen, INAF
- 107** On-sky demonstration of a photonic lantern wavefront sensor in closed loop  
Presenter: Jonathan Lin, UCLA
- 108** HARMONI at the ELT: Real time control prototyping on PAPHYRUS  
Presenter: Charlotte Bond, UKATC
- 109** PAPHYRUS @ OHP: On-sky results with the monomode fiber-fed VIPA spectrometer  
Presenter: Angelie Alagao, LAM
- 110** Optical gain tracking and contrast improvement with a polychromatic pyramid WFS  
Presenter: Tim Morris, Durham
- 111** Quantifying Near-Infrared Point Source Sensitivity for the ELTs: A Comparative Study  
Presenter: David Andersen, TMT
- 112** REVOLT 2.0: Performance analysis of the upgraded AO system at the Dominion Astrophysical Observatory's 1.2m telescope  
Presenter: Kate Jackson, NRC-HAA
- 113** The Impact of Telescope Field Distortions on ELT Instrument Performance  
Presenter: Deborah Malone, Durham

- 114** A 5kHz Modulator for Pyramid Wavefront Sensors  
Presenter: Markus Feldt, MPIA
- 115** Advances in the Instrument Control System Software Design for MORFEO: Integration with MICADO and the post-focal Deformable Mirrors in the ELT Environment.  
Presenter: Elia Costa, INAF
- 116** Analysis and post-processing of the images of the Gran Telescopio Canarias Adaptive Optics System  
Presenter: Iciar Montilla, IAC
- 117** Comparing the Shack-Harmann and Pyramid wavefront sensors with laser guide stars for 40 m telescopes  
Presenter: Francisco Oyarzun, LAM
- 118** Metasurfaces for high-contrast imaging and spectroscopy  
Presenter: Frédéric Zamkotsian, LAM - CNRS
- 119** Multi-layer frozen profiler from single conjugated adaptive optics telemetry: novel approach and potential applications  
Presenter: Anthony Berdeu, OBSPM/ESO
- 120** On-sky validation of SPRINT at LBT to track DM/WFS mis-registrations during HARMONI AO operations  
Presenter: Ben Buky, UK Astronomy Technology Centre
- 121** Optimal Wide Field AO system at Mauna Kea: a statistical approach  
Presenter: Pierre Jouve, Space ODT
- 122** Point diffraction interferometer wavefront sensor with machine learning for laser guide star adaptive optics systems  
Presenter: Erin Holdorf, ANU
- 123** Slope estimation and wavefront reconstruction for laser tomography adaptive optics at the Giant Magellan Telescope  
Presenter: Marcos Van Dam, Flat Wavefronts
- 124** The Ingot-WFS project: getting ready for an on-sky experiment.  
Presenter: Tania Machado, INAF Abruzzo
- 125** Deep learning applied to the optical turbulence forecast in operational context  
Presenter: Camilo Weinberger, INAF
- 126** Integration of data-driven predictive control into the new Keck-II real time controller  
Presenter: Jules Fowler, UCSC
- 127** Novel Raman Fiber Amplifier Based High-Power 589-nm Guide Star Laser for Large Astronomical Telescopes and Optical Ground Stations  
Presenter: Daoping Wei, MPB Communications inc
- 128** Results from the GMT Wide-Field Phasing Testbed  
Presenter: Brian Mcleod, Harvard & Smithsonian
- 129** Singular Value-based Atmospheric Tomography with Fourier Domain Regularization (SAFER)  
Presenter: Bernadett Stadler, RICAM
- 130** Polychromatic Pyramid WFS " MKID project overview  
Presenter: Tim Morris, Durham

- 131** Design of an optical preconditioner for the nonlinear pyramid extension solver for unmodulated pyramid wavefront sensing  
Presenter: Felipe Guzmán, PUCV
- 132** Designing a highly sensitive Fourier-plane Wavefront Sensor using machine learning  
Presenter: Esteban Vera, PUCV
- 133** The potentiality of refractive wavefront correctors  
Presenter: Roberto Ragazzoni, INAF
- 134** Sensitivity analysis of deep learning-based differential piston estimation for the Extremely Large Telescope  
Presenter: Benoit Neichel, LAM
- 135** RECENT DEVELOPMENTS OF LARGE DEFORMABLE MIRRORS FOR THE VLT AT BERTIN ALPAO  
Presenter: Aline Pham, Bertin Alpao
- 136** The PROVIDENCE ground station, A 2.5m telescope Dedicated to space surveillance awareness  
Presenter: Thierry Fusco, ONERA
- 137** The Keck Adaptive Optics Refurbishment Project: Operations Software  
Presenter: Jacob Taylor, W. M. Keck Observatory
- 138** Towards GLAO-like Active Optics at the Vera C. Rubin Observatory  
Presenter: Guillem Megias Homar, Caltech
- 139** ULTIMATE-START : Calibration of the Tomography Adaptive Optics System  
Presenter: Akiyama Masayuki, Tohoku University
- 140** Shaping Light for the Next Era of Exoplanet Discovery with MEMS Deformable Mirror Technology  
Presenter: Paul Bierden, Boston Micromachines Corp.
- 141** Adaptive optics real time control for laser communication and for high power lasers  
Presenter: Stefano Bonora, Institute of Photonics and Nanotechnology
- 142** On-Sky Testing of the World's Most Powerful 75 W Sodium Beacon  
Presenter: Lauren Schatz, Air Force Research Lab
- 143** Beyond Lenses: Computational Optics empower Observational Astronomy  
Presenter: Shanglong Li, Tsinghua University
- 144** The optical design of AOB WaN for Gemini North  
Presenter: Andrew Rakich , Kiwistar Optics
- 145** Model Predictive control for Adaptive Optics  
Presenter: Pedro Escarate, PUCV
- 146** Laser Projection System for VLT and ELT  
Presenter: Speet Bart, TNO Optics
- 147** Deploying AI for Active Optics Wave-front Estimation During Rubin Observatory Commissioning  
Presenter: John Franklin Crenshaw, Stanford University

- 148** Advanced collision avoidance architecture for the MORFEO LOR WFS: integrating software, electrical and mechanical protections  
Presenter: Edoardo Maria Alberto Redaelli, INAF Osservatorio Astronomico di Brera
- 149** An Interactive Dashboard for Adaptive Optics Telemetry in the ELT System  
Presenter: Nuno Morijao, U Porto
- 150** CONTROL ELECTRONICS OF A PYRAMID WAVEFRONT SENSOR FOR THE "NEXTGEN" TELESCOPES  
Presenter: Cedric Plantet, INAF - Osservatorio Astrofisico di Arcetri
- 151** The importance of dynamic analysis in mitigating the control-structure-interaction (CSI) in large adaptive deformable mirrors  
Presenter: Matteo Tintori, A.D.S International
- 152** Design and prototyping of the high density AdOptica deformable mirror for the European Solar Telescope Adaptive Secondary Mirror (EST ASM)  
Presenter: Matteo Tintori, A.D.S. International
- 153** Upgrading SPHERE with the second stage AO system SAXO+: RTC final design and AIT plan  
Presenter: Paul Fontanillas, CNRS
- 154** Voice-coil Tri-Actuator System for Scalable Carbon-Fiber Segmented Mirrors  
Presenter: Benjamín Gac, PUCV
- 155** Assessment of the limits of an Axicon as a modulation-free Wavefront Sensor boosted by deep learning  
Presenter: Jorge Tapia, USM
- 156** Characterization of GMT Active Support System: Dynamical and Optical Test Results  
Presenter: Trupti Ranka, GMTO
- 157** DaoLite: Durham Adaptive Optics Latency Inspection and Timing Estimator - A Framework for Adaptive Optics temporal performance prediction  
Presenter: David Barr, Durham
- 158** A Python-Based Instrument Control System for Adaptive Optics: Architecture and Applications in the CaNaPy ALASCA Experiment  
Presenter: Felipe Pedreros, ESO
- 159** MORFEO LOR, it is already under maintenance in the virtual world  
Presenter: Edoardo Redaelli , INAF
- 160** Neural Adaptive Optics for Space Applications: from Telescopes to Space Debris Missions  
Presenter: David Alaluf, ESA