



PROGRAM

**Adaptive Optics
for Extremely
Large Telescopes
AO4ELT6**

June 9-14, 2019

MEETING FLOOR PLAN



TABLE OF CONTENT

MEETING FLOOR PLAN.....	2
PROGRAM AT A GLANCE	4
WELCOME TO AO4ELT6.....	6
ORGANIZING COMMITTEES.....	7
GENERAL INFORMATION	8
ACKNOWLEDGEMENTS.....	10
LIST OF EXHIBITORS	12
SOCIAL ACTIVITIES	13
SCIENTIFIC PROGRAM.....	14
POSTER SESSIONS.....	32
INDEX OF AUTHORS	68
NOTES.....	100

SUNDAY, JUNE 9, 2019

18:00 - 20:00

Welcome Reception

Espace urbain

MONDAY, JUNE 10, 2019

Oral Sessions

Room 306AB

09:00 - 10:40 Oral Session 1 - Science with AO

10:40 - 11:10 Coffee Break

Hall 310 & Espace urbain

11:10 - 12:30 Oral Session 2 - Pathfinder instruments

12:30 - 14:00 Lunch

Rooms 308AB & 309AB

14:00 - 15:40 Oral Session 3 - Wavefront sensing

15:40 - 16:00 Coffee Break

Hall 310 & Espace urbain

16:00 - 17:40 Oral Session 4 - AO systems design and modelling

Poster Sessions

Hall 310 & Espace urbain

18:00 - 20:00 Poster Session 1

TUESDAY, JUNE 11, 2019

Oral Sessions

Room 306AB

09:00 - 10:40 Oral Session 5 - Pathfinder instruments

10:40 - 11:10 Coffee Break

Hall 310 & Espace urbain

11:10 - 12:30 Oral Session 6 - Wavefront reconstruction

12:30 - 14:00 Lunch

Rooms 308AB & 309AB

14:00 - 15:40 Oral Session 7 - Laser systems for AO

15:40 - 16:00 Coffee Break

Hall 310 & Espace urbain

16:00 - 17:40 Oral Session 8 - Wavefront sensing

Poster Sessions

Hall 310 & Espace urbain

18:00 - 20:00 Poster Session 2

WEDNESDAY, JUNE 12, 2019

Oral Sessions

Room 306AB

09:00 - 10:40	Oral Session 9 - AO systems design and modelling	
10:40 - 11:10	Coffee Break	Hall 310 & Espace urbain
11:10 - 12:30	Oral Session 10 - Science with AO	
12:30 - 14:00	Lunch	Rooms 308AB & 309AB
14:00 - 15:20	Oral Session 11 - AO disturbances characterization and modelling	

THURSDAY, JUNE 13, 2019

Oral Sessions

Room 306AB

09:00 - 10:40	Oral Session 12 - Wavefront correction	
10:40 - 11:10	Coffee Break	Hall 310 & Espace urbain
11:10 - 12:30	Oral Session 13 - Wavefront sensing	
12:30 - 14:00	Lunch	Rooms 308AB & 309AB
14:00 - 16:00	Oral Session 14 - AO systems design and modelling	

Poster Sessions

Hall 310 & Espace urbain

16:00 - 18:00	Poster Session 3	
19:00	Conference dinner	Manège Militaire de Québec

FRIDAY, JUNE 14, 2019

Oral Sessions

Room 306AB

09:00 - 10:40	Oral Session 15 - Pathfinder instruments	
10:40 - 11:10	Coffee Break	Hall 310 & Espace urbain
11:10 - 12:30	Oral Session 16 - Post-processing of adaptive data	
12:30 - 14:00	Lunch	Rooms 308AB & 309AB

SECRETARIAT

Conferium / AO4ELT6

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Email : ao4elt6@conferium.com

WELCOME TO AO4ELT6

Welcome to the 6th edition of the Adaptive Optics for Extremely Large Telescopes (AO4ELT6) conference. So far the five AO4ELTs have alternated locations between Europe and North America, the first being in Paris in 2009, then Victoria in 2011, followed by Florence in 2013, Los Angeles in 2015, and then Tenerife in 2017. We truly hope that you will enjoy this venue in Quebec City, the cradle of French culture in North America.

Let us acknowledge the kind contributions of these institutions in support of our meeting: Centre for Optics, Photonics, and Lasers (COPL), Centre for Research in Astrophysics of Quebec (CRAQ), European Southern Observatory (ESO), European Solar Telescope (EST), Giant Magellan Telescope (GMT), National Institute for Astrophysics (INAF), Institut National d'Optique (INO), Institute for Research on Exoplanets (iREx), Optonique, Thirty Meter Telescope (TMT), and Université Laval. Furthermore, we would like to thank our commercial sponsors, ABB, Andor, ALPAO, Boston Micromachines Corporation, Imagine Optics, NüVü cameras, ONERA, Toptica, and MPB for partnering with us in the organization of the event.

The three major extremely large telescope projects, ELT, TMT and GMT, are now all in important active development phases and some have already begun site construction. The science programs of these telescopes will highly depend on adaptive optics. The adaptive optics implementation scenarios are widely varied, as is the modern technology needed for their application, including adaptive secondary mirrors, large arrays of laser beacons, and real-time computing, to name a few. The goal of this meeting is to promote the exchange of new information and ideas that will mutually benefit all the AO programs, and will spur new concepts for future systems.

This booklet provides an overview of the technical program with the oral presentations in chronological order and the poster presentations grouped according to poster session. Three poster sessions will be held in the display area in groups of roughly 80 per session. For each oral title you will find day, session number, and time of presentation. Above each poster title you will find the poster session number, the evening assigned to that poster session, and the topic area.

We invite you to take some time to walk around our beautiful city and enjoy the company of your colleagues from the adaptive optics community.

Sincerely,

The AO4ELT6 Scientific Organizing Committee

ORGANIZING COMMITTEES

PRESENTING THE LATEST RESEARCH ON ADAPTIVE OPTICS FOR LARGE TELESCOPES SINCE 2009.

SCIENTIFIC ORGANIZING COMMITTEE

- **Simon Thibault**, Université Laval, Chair
- **Simone Esposito**, INAF-Arcetri, Co-chair
- **Thierry Fusco**, ONERA/LAM, Co-chair
- **Jean-Pierre Véran**, NRC-HIA, Co-chair
- **Iciar Montilla**, IAC, Co-chair
- **Clémentine Bechet**, Pontificia
- **Casiana Muñoz-Tuñón**, IAC
- **Charlotte Bond**, UH
- **Sylvain Oberti**, ESO
- **Denis Brousseau**, Université Laval
- **Enrico Pinna**, INAF-Arcetri
- **Carlos Correia**, LAM
- **Gaetano Sivo**, Gemini
- **Angela Cortes**, MPE
- **Joel Vernet**, ESO
- **Céline d'Orgeville**, ANU
- **Valentina Viotto**, INAF-Bologna
- **Nemanja Javanovic**, Caltech
- **Lianqi Wang**, TMT
- **Jose Marino**, NSO

LOCAL ORGANIZING COMMITTEE

- **Guillaume Allain**
- **Denis Brousseau**
- **Tristan Chabot**
- **Diane Déziel**
- **Jason Guénette**
- **Simon Thibault**
- **Maxime Vernier**

GENERAL INFORMATION

CONFERENCE VENUE

Québec City Convention Centre
1000, boulevard René-Lévesque Est
Québec, QC G1R 5T8 Canada

PARKING

There are many underground parking spaces close to the Centre. More specifically, Marie-Guyart complex, Place Québec, Delta Hotel and finally the Place D'Youville parking lot all linked by underground connections. These lots operate 24 hours a day, 7 days a week.

REGISTRATION DESK

All participants should register at the Registration Desk to receive relevant Conference materials. The Registration Desk is located in the Hall 310 of the Convention Centre. It will be open at the conference venue at the following times:

Sunday, June 9	14:00 to 19:00
Monday, June 10	08:00 to 19:00
Tuesday, June 11	08:30 to 19:00
Wednesday, June 12	08:30 to 15:00
Thursday, June 13	08:30 to 17:00
Friday, June 14	08:30 to 12:00

EXHIBITION HOURS

Monday, June 10	10:00 to 20:00
Tuesday, June 11	09:00 to 20:00
Wednesday, June 12	09:00 to 15:00

INTERNET ACCESS / MOBILE PHONE

Free internet facilities are available to all participants in the conference venue. During the meetings, please turn off your mobile phone or set it to mute.

Wifi: Centre des congrès

No password needed

SPEAKER READY DESK

All speakers are required to check-in at the Speaker Ready Desk (Special Desk in the Registration Area) to upload their presentation at least 3 hours prior to the start of their session, or the day before for early morning sessions. The Speaker Ready Desk will be open from June 10 to 14 and the staff will be available to answer your questions and to help you upload your presentation from your USB memory stick.

NAME BADGE

Please wear your name badge at all times. This will ensure your access to the conference rooms and the Exhibition Hall.

CERTIFICATE OF ATTENDANCE

An official certificate of attendance will be provided upon request. Come to ask for it.

MEALS AND COFFEE BREAKS

Coffee breaks are located in the exhibition halls (Hall 310 and Espace urbain). Lunches are located in the rooms 308AB and 309AB. You can find meal and coffee break times in the program at a glance.

DISCLAIMER

The Adaptive Optics for Extremely Large Telescopes secretariat and organizers cannot assume liability for personal accidents, loss of or damage to private property of participants, and accompanying persons, either during or directly arising from the Adaptive Optics for Extremely Large Telescopes Conference. Participants should make their own arrangement with respect to health and travel insurance.

SECURITY

Please do not leave bags and luggage unattended at any time, whether inside or outside session rooms.

GENDER EQUITY POLICY

The Adaptive Optics for Extremely Large Telescopes Conference strives to achieve gender balance in all aspects of the conference. The organizers will endeavor to achieve this balance through equitable female and male representation on the science organizing committee and as session chairs, as well as through invitations to high quality oral and poster presenters of both sexes in line with the gender balance in our research community.

ACKNOWLEDGEMENTS

The Adaptive Optics for Extremely Large Telescopes 2019 Organizing Committee would like to express its gratitude to and acknowledge to the following partners for their generous support:

SPONSORS



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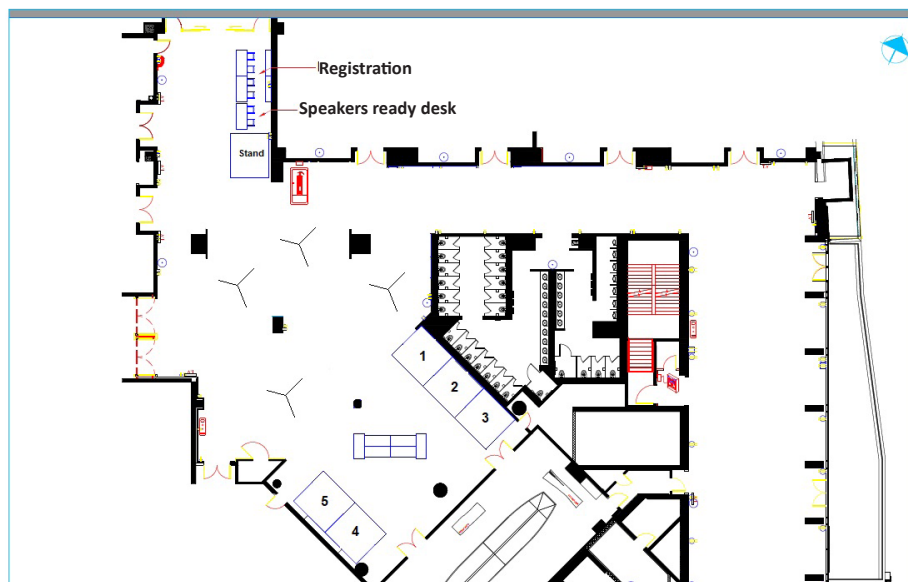
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LAVAL



LIST OF EXHIBITORS

EXHIBITOR	#
ABB	4
Andor	5
ALPAO	1
Nüvü Cameras Inc.	3
TOPTICA Projects GmbH / MPB Communication Inc.	2

EXHIBITION PLAN



SOCIAL ACTIVITIES

WELCOME RECEPTION

Sunday, June 9, 2019 - 6-8 pm

Included in your registration

Join us for the welcome reception at the Québec City convention centre. This will be an opportunity for the attendees to meet and greet in an informal setting. Appetizers and drinks will be served. The registration desk will be open prior to the welcome reception, from 2-7 pm, for those who would like to register before Monday morning.

CONFERENCE DINNER

Thursday, June 13, 2019 - 7-10 pm

Included in your registration

Join us at the Manège Militaire de Québec, a National Heritage site. Completed in 1888, the Manège is the home of the Voltigeurs de Québec, the oldest French-Canadian regiment. Extra conference dinner tickets are available, but should be booked in advance, either when filling the registration form or upon arrival at the registration desk where a limited number of tickets will be available until Tuesday, June 11, noon.



SCIENTIFIC PROGRAM

SUNDAY, JUNE 9, 2019

14:00	Registration open
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18:00 - 20:00	Welcome reception
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MONDAY, JUNE 10, 2019

ROOM 306AB

SESSION 1 - SCIENCE WITH AO

Session chair: Simon Thibault

09:00 - 09:20	Original use of MUSE's LTAO to directly image young accreting exoplanets Girard, Julien - Haffert, Sebastiaan - de Boer, Jos - Bohn, Alexander
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09:20 - 09:40	The METIS high contrast imaging modes: concept, performance, and perspectives Absil, Olivier - Kenworthy, Matthew - Carlomagno, Brunella - Delacroix, Christian - Pathak, Prashant - Cantalloube, Faustine - Feldt, Markus - Hippler, Stefan - Doelman, David - Por, Emiel - Orban de Xivry, Gilles - Agocs, Tibor - Brandl, Bernhard
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09:40 - 10:00	An Overview of the TMT Planetary Systems Imager Fitzgerald, Michael - Chun, Mark - Guyon, Olivier - Jovanovic, Nemanja - Macintosh, Bruce - Mawet, Dimitri - Mazin, Benjamin - Skemer, Andrew, and the PSI Team
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10:00 - 10:20	Thermal Imaging and Characterization of Rocky Earth-size Habitable Zone Planets in the Solar Neighborhood with TMT Marois, Christian - Blain, Célia
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10:00 - 10:40	ELT-HIRES, the high resolution spectrograph for the ELT and its unique AO-assisted IFU capability Marconi, Alessandro
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10:40 - 11:10	Coffee Break
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SESSION 2 - PATHFINDER INSTRUMENTS

Session chair: Jean-Pierre Véran

11:10 - 11:50 ***Keynote presentation* Adaptive Optics Program at TMT**
Boyer, Corinne

11:50 - 12:10 **MAVIS, Multi-Conjugate in the visible for the VLT**
Rigaut, Francois - Viotto, Valentina - Bergomi, Maria - Busoni, Lorenzo - Fusco, Thierry - Neichel, Benoit - Ellis, Simon - McDermid, Richard - Cresci, Giovanni - Brodrick, David - Arsenault, Robin - Brule, Yoann - Esposito, Simone - Ragazzoni, Roberto - Sharp, Robert - Greggio, Davide - Pedichini, Fernando - Antonucci, Simone - Correia, Carlos - Gratadour, Damien - Pinna, Enrico - Bonaglia, Marco - Agapito, Guido - Stroebele, Stefan - Haguénauer, Pierre - Plantet, Cedric - Salasnich, Bernardo - Magrin, Demetrio - Arcidiacono, Carmelo - Beltramo-Martin, Olivier - Korkiakoski, Visa

12:10 - 12:30 **Ongoing and future AO projects at Subaru**
Ono, Yoshito - Akiyama, Masayuki - Minowa, Yosuke - Mieda, Etsuko - Mitsuda, Kazuma - Sakurai, Daiki - Ogane, Hajime - Oomoto, Kaoru - Oya, Shin - Yamamuro, Tomoyasu

12:30 - 14:00 Lunch

SESSION 3 - WAVEFRONT SENSING

Session chair: Sylvain Oberti

14:00 - 14:20 **C--More : the laser guide star wavefront sensor**
Gach, Jean-Luc - Philippe, Feautrier - Stadler, Eric - Boutolleau, David - Caillat, Amandine - Pourcelot, Raphael

14:20 - 14:40 **A new wavefront sensor for Keck: Pyramid wavefront sensing in the near infrared**
Bond, Charlotte - Cetre, Sylvain - Lilley, Scott - Ragland, Sam - Jovanovic, Nemanja - Delorme, Jacques-Robert - Wizinowich, Peter - Chun, Mark - Mawet, Dimitri - Jacobson, Shane - Warmbier, Eric - Lockhart, Charles - Wetherell, Ed - Taheri, Mojtaba - Wallace, James - Guyon, Olivier - Hall, Donald

14:40 - 15:00 **Modal gain optimization of the Pyramid Wave-Front Sensor using a convolutive model: from theory to experimental validation**
 Chambouleyron, Vincent - Fauvarque, Olivier - Janin-Potiron, Pierre - Schatz, Lauren - Brûlé, Yoann - Neichel, Benoît - Correia, Carlos - Sauvage, Jean-François - Fusco, Thierry

15:00 - 15:20 **The Teledyne e2v CIS124 LVSM sensor for large telescopes-design and prototype tests**
 Jorden, Paul - Gil-Ortero, Rafael - Swift, Nick - Downing, Mark - Marchetti, Enrico

15:20 - 15:40 **Pupil plane wavefront sensing for extended & 3D sources**
 Ragazzoni, Roberto - Viotto, Valentina - Portaluri, Elisa - Bergomi, Maria - Greggio, Davide - Di Filippo, Simone - Santhakumari, Kalyan - Umbriaco, Gabriele - Dima, Marco - Magrin, Demetrio - Farinato, Jacopo - Marafatto, Luca - Arcidiacono, Carmelo - Biondi, Federico

15:40 - 16:00 Coffee Break

SESSION 4 - AO SYSTEMS DESIGN AND MODELLING

Session chair: Valentina Viotto

16:00 - 16:20	HARMONI at the diffraction limit: From Single Conjugate to Laser Tomography Adaptive Optics Neichel, Benoit - Thatte, Niranjana - Fusco, Thierry - Correia, Carlos - Sauvage, Jean-Francois - Dohlen, Kjetil - El Hadi, Kacem - Costille, Anne - Schwartz, Noah - Bardou, Lisa - Beuzit, Jean-Luc - Blanco, Leonardo - Bon, William - Bonnefoy, Anne - Bonnefois, Aurelie - Caillat, Amadine - Calcines-Rosario, Ariadna - Carlotti, Alexis - Choquet, Elodie - Dubbeldam, Marc - Epinat, Benoit - Feautrier, Philippe - Ferrari, Marc - Gach, Jean-Luc - Groussin, Olivier - Henault, Francois - Hubert, Zoltan - Jocou, Laurent - Ke, Zibo - Lim, Caroline - Meimon, Serge - Moulin, Thibault - Morris, Tim - Peroux, Celine - Petit, Cyril - Rabou, Patrick - Renault, Edgard - Stadler, Eric - Vedrenne, Nicolas - Vigan, Arthur - Vola, Pascal - Clarke, Fraser - Schnettler, Hermine - Bryson, Ian - Tecza, Matthias - Vernet, Joel - Hammersley, Peter - Egner, Sebastian - Gonté, Frederic - Paufigue, Jerome - Le Louarn, Miska
16:20 - 16:40	NFIRAOS AO Calibration Plan Veran, Jean-Pierre - Herriot, Glen - Andersen, David - Lardiere, Olivier - Kerley, Dan
16:40 - 17:00	Adaptive optics design status of MAORY, the MCAO system of European ELT Busoni, Lorenzo - Agapito, Guido - Plantet, Cedric - Esposito, Simone - Oberti, Sylvain - Ciliegi, Paolo
17:00 - 17:20	NFIRAOS Pre-Production Optical Design Update Atwood, Jenny - Andersen, David - Herriot, Glen - Lardiere, Olivier - Veran, Jean-Pierre
17:20 - 17:40	ELT Wavefront Control strategy Bonnet, Henri - Spyromilio, Jason - Esselborn, Michael - Marchetti, Enrico - Le Louarn, Miska - Vérinaud, Christophe - Lewis, Steffan - Pfrommer, Thomas - Biancat-Marchet, Fabio

17:40 - 18:00

Single Conjugate Adaptive Optics for METIS

Bertram, Thomas - Bizenberger, Peter - Briegel, Florian - Cantalloube, Faustine - Cardenas Vazquez, Conchi - Feldt, Markus - Henning, Thomas - Hippler, Stefan - Huber, Armin - Kulas, Martin - Mohr, Lars - Rohloff, Ralf-Rainer - Scheithauer, Silvia - Steuer, Horst - van Boekel, Roy - Absil, Olivier - Kenworthy, Matthew - Stuik, Remko - Obereder, Andreas - Glauser, Adrian

18:00

POSTER SESSION

TUESDAY, JUNE 11, 2019
ROOM 306AB

SESSION 5 - PATHFINDER INSTRUMENTS

Session chair: Simone Esposito

09:00 - 09:40 ***Keynote presentation* GMT Active and Adaptive Optics Overview**
Bouchez, Antonin - Angeli, George - Ashby, David - Brossus, Glenn - Conan, Rodolphe - Groark, Frank - McLeod, Brian - Quirós-Pacheco, Fernando - Rakich, Andrew - Thompson, Peter - van Dam, Marcos

09:40 - 10:00 **Characterization and closed-loop laboratory testing of deformable mirrors for the MagAO-X project**
Van Gorkom, Kyle - Males, Jared - Guyon, Olivier - Morzinski, Katie - Miller, Kelsey

10:00 - 10:20 **First Light and Early Science with the LINC-NIRVANA MCAO system on LBT**
Herbst, Thomas - Arcidiacono, Carmelo - Bergomi, Maria - Bertram, Thomas - Briegel, Florian - Farinato, Jacopo - Klettke, Micah - Marafatto, Luca - Ragazzoni, Roberto - Santhakumari, K.K.R. - Santos, Fabio - Viotto, Valentina

10:20 - 10:40 **Bringing SOUL on sky**
Pinna, Enrico - Hinz, Philip - Rossi, Fabio - Puglisi, Alfio - Agapito, Guido - Briguglio, Runa - Vaz, Amali - Montoya, Oscar - Durney, Oliver - Bonaglia, Marco - Plantet, Cedric - Mazzoni, Tommaso - Carbonaro, Luca - Xompero, Marco - Grani, Paolo - Christou, Julian - Miller, Douglas - Taylor, Gregory - Cavallaro, Alessandro - Lefebvre, Michael - Riccardi, Armando - Esposito, Simone

10:40 - 11:10 Coffee Break

SESSION 6 - WAVEFRONT RECONSTRUCTION

Session chair: Carlos Correia

11:10 - 11:30 Overview of focal plane wavefront sensors to correct for the Low Wind Effect on SCEXAO/SUBARU

Vievard, Sebastien - Bos, Steven - Guyon, Olivier - Lozi, Julien - Norris, Barnaby - Sahoo, Ananya - N'Diaye, Mamadou - Sauvage, Jean-François - Martinache, Frantz - Jovanovic, Nemanja - Mugnier, Laurent - Cassaing, Frederic - Bonnefois, Aurélie - Wilby, Mike - Keller, Christoph - Snik, Frans

11:30 - 11:50 Building an RTC for ELT Scale AO Systems: Lessons learnt building a prototype RTC using standard computing hardware

Townson, Matthew - Basden, Alastair - Jenkins, David - Morris, Timothy - Osborn, James

11:50 - 12:10 Elephants, goldfishes and SOUL: a dissertation on forgetfulness and control systems

Agapito, Guido - Pinna, Enrico - Puglisi, Alfio - Rossi, Fabio

12:10-12:30 Herzberg Extensible Adaptive Real-time Toolkit (HEART) Software Architecture

Kerley, Dan - Smith, Malcolm - V éran, Jean-Pierre - Dunn, Jennifer - Gharavi, Niloofar

12:30 - 14:00 Lunch

SESSION 7 - LASER SYSTEMS FOR AO

Session chair: Celine d'Orgeville

14:00 - 14:20 **Raman scattering of laser guide-star photons: from forgotten nuisance to observatory asset**
Vogt, Frédéric

14:20 - 14:40 **CaNaPy: Demonstrator for LGS-AO technologies at visible wavelengths with pyramid WFS, pulsed laser and uplink beam correction**

Bonaccini Calia, Domenico - Pinna, Enrico - Osborn, James - Reeves, Andrew - Martinez Rey, Noelia - Alaluf, David - Hellemeier, Joshua - Townson, Matt - Speziali, Roberto - Rodriguez Ramos, Luis Fernando - Mata Calvo, Ramon - Perdigues Armengol, Josep Maria - Hackenberg, Wolfgang - Basden, Alastair - Centrone, Mauro - Reyes Garcia Talavera, Marcos - Barrios, Ricardo - Kellerer, Aglae - Morris, Tim - Di Paola, Andrea - Lévêque, Samuel - Puglisi, Alfio

14:40 - 15:00 **Demonstration of VECSELS as viable alternatives for 589 nm sodium beacons**

Byrd, Olivia - Wyman, Keith - Johnson, Robert

15:00 - 15:20 **Report on the results of the Photometry and Spectroscopy analysis of the uplink Laser Guide Star beam with the 10.4m Gran Telescopio CANARIAS**

Lombardi, Gianluca - Bonaccini Calia, Domenico - Centrone, Mauro - Cabrera Lavers, Antonio - de Ugarte Postigo, Antonio

15:20 - 15:40 **Laser Workshop recap**
d'Orgeville, Céline

15:40 - 16:00 Coffee Break

SESSION 8 - WAVEFRONT SENSING

Session chair: Enrico Pinna

16:00 - 16:20 **Special offer: A new WaveFront Sensor for just Pi/2 euros!**
Fauvarque, Olivier - Hutterer, Victoria - Janin-Potiron, Pierre
- Duboisset, Julien - Correia, Carlos - Sauvage, Jean-Francois
- Neichel, Benoit - Fusco, Thierry - Brûlé, Yoann - Shatokhina,
Luliia - Ramlau, Ronny

16:20 - 16:40 **Focal plane tip-tilt sensing for improved single-mode fiber coupling using a 3D printed microlens-ring**
Hottinger, Philipp - Harris, Robert - Morris, Tim - Basden, Ali -
Bharmal, Nazim Ali - Dietrich, Philipp-Immanuel - Glück, Martin
- Bechter, Andrew - Crass, Jonathan - Pott, Jörg-Uwe - Koos,
Christian - Sawodny, Oliver - Quirrenbach, Andreas

16:40 - 17:00 **Maximum Likelihood Phasing of Large Segmented Mirrors under Turbulence with a Pyramid**
Holzlöhner, Ronald - Kellerer, Aglaé - Cheffot, Anne-Laure -
Lévêque, Samuel

17:00 - 17:20 **Forward with self-adaptive optical gain modal compensation: comparative simulations with various PWFS-class sensors**
Deo, Vincent - Gendron, Éric - Rousset, Gérard - Vidal, Fabrice
- Ferreira, Florian - Sevin, Arnaud - Gratadour, Damien - Buey,
Tristan

17:20 - 17:40 **On-sky demonstration of focal-plane wavefront sensing with the vector Apodizing Phase Plate coronagraphic PSFs on SCExAO**
Bos, Steven - Doelman, David - Lozi, Julien - Guyon, Olivier -
Miller, Kelsey - Snik, Frans

17:40 - 18:00 **Real-time estimation of NCPA and exoplanet detection in the face of wavefront measurement error in extreme-AO coronagraphs**
Rodack, Alexander - Frazin, Richard - Males, Jared

18:00 **POSTER SESSION**

WEDNESDAY, JUNE 12, 2019

ROOM 306AB

SESSION 9 - AO SYSTEMS DESIGN AND MODELLING

Session chair: Thierry Fusco

09:00 - 09:20 **A story of errors and bias: the optimisation of the LGS WFS for HARMONI**

Fusco, Thierry - Neichel, Benoit - Correia, Carlos - Costille, Anne - Dohlen, Kjetil - Gach, Jean-Luc - Blanco, Leonardo - Lim, Caroline - Renault, Edgard - Bonnefoi, Anne - Caillat, Amandine - Bonnefois-Montmerle, Aurelie - Ke, Zibo - El Hadi, Kacem - Feautrier, Philippe - Rabou, Patrick - Hubert, Zoltan - Henault, Francois - Paufigue, Jerome - Clarke, Fraser - Bryson, Ian - Thatte, Niranjan

09:20 - 09:40 **Adaptive Optics system overview for the TMT PSI instrument**

Chun, Mark - Guyon, Olivier - Fitzgerald, Michael - Jovanovic, Nemanja - Skemer, Andy - Mazin, Ben - Mawet, Dimitri - Macintosh, Bruce

09:40 - 10:00 **An integrated modeling approach to adaptive optics simulations**

Conan, Rodolphe - Vogiatzis, Konstantinos - Das, Kaushik - Schwartz, David - Angeli, George

10:00 - 10:20 **Another path for getting ELT-scale pyramid WFS under control?**

Gendron, Eric - Deo, Vincent - Bertrou, Arielle - Vidal, Fabrice - Gratadour, Damien - Ferreira, Florian - Clenet, Yann - Rousset, Gerard

- 10:20 - 10:40 **Status of the SExAO instrument: recent technology upgrades and path to a system-level demonstrator for PSI**
 Lozi, Julien - Guyon, Olivier - Vievard, Sebastien - Sahoo, Ananya - Jovanovic, Nemanja - Norris, Barnaby - Mazin, Ben - Walter, Alex - Tuthill, Peter - Kudo, Tomoyuki - Kawahara, Hajime - Kotani, Takayuki - Ireland, Michael - Cvetojevic, Nick - Huby, Elsa - Lacour, Sylvestre - Groff, Tyler - Chilcote, Jeffrey - Kasdin, Jeremy - Martinache, Frantz - Laugier, Romain - Knight, Justin - Bos, Steven - Snik, Frans - Doelman, David - Bendek, Eduardo - Belikov, Ruslan - Currie, Thayne - Minowa, Yosuke - Clergeon, Christophe - Takato, Naruhisa - Tamura, Motohide - Takami, Hideki - Hayashi, Masato

10:40 - 11:10 Coffee Break

SESSION 10 - SCIENCE WITH AO

Session chair: Jean-Pierre Véran

- 11:10 - 11:50 ***Keynote presentation* Progress along the EST MCAO roadmap**
 Montoya Martinez, Luzma - Asensio, Andres - Berkefeld, Thomas - Collados Vera, Manuel - de Cos Juez, Francisco Javier - Morris, Timothy - Stangalini, Marco - von der Lühe and the EST, Oskar

- 11:50 - 12:10 **Laser assisted MCAO observations of embedded massive star clusters now and in the future**
 Andersen, Morten - Sivo, Gaetano - Zinnecker, Hans - Lawrence, Grace - Nayak, Omnarayani - Hirschauer, Alec - Meixner, Margaret - Neichel, Benoit

- 12:10-12:30 **MICADO sci-ops: shaping its adaptive optics systems**
 Davies, Richard

12:30 - 14:00 Lunch

SESSION 11 - AO DISTURBANCES CHARACTERIZATION AND MODELLING

Session chair: Iciar Montilla

-
- | | |
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| 14:00 - 14:20 | Local turbulence: Causes and effects
Lai, Olivier - Chun, Mark - Withington, Kanoa - Laugier, Romain |
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| 14:20 - 14:40 | New achievements in optical turbulence forecast systems in operational mode
Masciadri, Elena - Turchi, Alessio - Martelloni, Gianluca |
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| 14:40 - 15:00 | METIS high-contrast performance: the wind driven halo
Cantalloube, Faustine - Bertram, Thomas - Absil, Olivier - Neureuther, Philip - Por, Emiel - Pathak, Prashant - Orban de Xivry, Gilles - Kenworthy, Matthew - Brandner, Wolfgang - Feldt, Markus - Kulas, Martin - Scheithauer, Silvia - Steuer, Hörst - van Boekel, Roy |
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| 15:00 - 15:20 | ELT performance report 2018A: expected AO performance with real turbulence profiles
Farley, Ollie - Osborn, James - Morris, Tim - Fusco, Thierry - Neichel, Benoit - Correia, Carlos - Wilson, Richard |
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| 15:20 - 15:40 | Nowcasting the turbulence in Paranal
Milli, Julien - Martayan, Christophe - Hainaut, Olivier - Brilliant, Stephane - Navarrete, Julio - Chacon, Arlette - Mieske, Steffen |
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THURSDAY, JUNE 13, 2019

ROOM 306AB

SESSION 12 - WAVEFRONT CORRECTION

Session chair: Simone Esposito

09:00 - 09:20 **Accelerometer-based tip-tilt vibration suppression at the LBT**
Glueck, Martin - Pott, Jörg-Uwe - Zhang, Xianyu - Bec, Matthieu
- Brusa, Guido - Hill, John - Conrad, Al - Veillet, Christian -
Andrighettoni, Mario - Biasi, Roberto - Sawodny, Oliver

09:20 - 09:40 **Deformable Mirrors development in Europe - Results of the first phase of the ESO R&D program**
Stroebele, Stefan - Charton, Julien - Dietzel, Oliver - Mahiou, Pierre - Reinlein, Claudia - Vernet, Elise

09:40 - 10:00 **MEMS Deformable Mirrors for High Contrast Imaging in Current and Future Telescope**
Bierden, Paul - Cornelissen, Steven - Ryan, Peter - Lam, Charlie - Bifano, Thomas

10:00 - 10:20 **New deformable Mirrors available for the ELT and future developments**
Mahiou, Pierre - Laslandes, Marie - Charton, Julien

10:20 - 10:40 **Two large deformable mirrors for TMT**
Sinquin, Jean-Christophe - Aribi, Tarek - Bastard, Arnaud - Beaufort, Emmanuel - Casier, Olivier - Grèzes-Besset, Catherine - Groëninck, Denis - Guinet, Jean-Michel - Krol, Hélène - Landureau, Christophe - Leroux, Sébastien - Michel, Laura - Moreau, Aurélien - Morin, Pierre - Pagès, Hubert - Palomo, Richard - Roux, Bruno - Vaillant, Stéphane - Wehrlé, Ronan

10:40 - 11:10 Coffee Break

SESSION 13 - WAVEFRONT SENSING

Session chair: Charlotte Bond

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|---------------|---|
| 11:10 - 11:50 | *Keynote presentation* The ESO Extremely Large Telescope
Cirasuolo, Michele |
| 11:50 - 12:10 | LGS tomography and spot truncation: tips and tricks
Oberti, Sylvain - Verinaud, Christophe - Le Louarn, Miska - Madec, Pierre-Yves - Agapito, Guido - Plantet, Cedric - Busoni, Lorenzo - Esposito, Simone - Blanco, Leonardo - Fusco, Thierry - Neichel, Benoit |
| 12:10-12:30 | INGOT WFS for LGSs: first results from simulations
Portaluri, Elisa - Viotto, Valentina - Ragazzoni, Roberto - Arcidiacono, Carmelo - Bergomi, Maria - Greggio, Davide - Filippo, Simone - Marafatto, Luca - Dima, Marco - Biondi, Federico - Farinato, Jacopo - Magrin, Demetrio |
| 12:30 - 14:00 | Lunch |

SESSION 14 - AO SYSTEMS DESIGN AND MODELLING

Session chair: Gaetano Sivo

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|---------------|---|
| 14:00 - 14:20 | GNAO: an MCAO system for Gemini North towards Conceptual Design
Sivo, Gaetano - Marin, Eduardo - Goodsell, Stephen - Provost, Natalie - Montes, Vanessa - Catala, Laure - Lombardi, Gianluca - Blakeslee, John - Chirre, Emmanuel - Cavedoni, Chas - Moreno, Cristian - Chinn, Brian - Hirst, Paul - Christou, Julian - Chun, Mark - Correia, Carlos - Esposito, Simone - Fusco, Thierry - Lamb, Masen - Neichel, Benoit - Rigaut, Francois - Steinbring, Eric - Veran, Jean-Pierre - Andersen, Morten - Diaz, Ruben - Carrasco, Rodrigo - Schwamb, Meg - Scharwaechter, Julia - Dupuy, Trent - Lemoine-Busserolle, Marie - Nunez, Arturo - Blank, Andrea - Kleinman, Scot - Blough, Catherine - Lotz, Jennifer |
| 14:20 - 14:40 | Implementation of a high performance solver for the tomographic reconstructor
Doucet, Nicolas - Damien, Gratadour - Ltaief, Hatem - Gendron, Eric - Keyes, David |

14:40 - 15:00	Analysis the MICADO-MAORY SCAO performance Vidal, Fabrice - Ferreira, Florian - Deo, Vincent - Sevin, Arnaud - Gendron, Eric - Clénet, Yann - Gratadour, Damien - Rousset, Gerard - Davies, Ric
15:00 - 15:20	The SCAO module for HARMONI, towards final design Sauvage, Jean-Francois - Schwartz, Noah - Carlos, Correia - Petit, Cyril - Fusco, Thierry - Neichel, Benoit - Dohlen, Kjetil - El Hadi, Kacem - Vola, Pascal - Renault, Edgard - le Merrer, Joel - Paufigue, Jerome - Clarke, Fraser - Thatte, Niranjan - Morris, Tim - Carlotti, Alexis - Bryson, Ian - Schnetler, Hermine
15:20 - 15:40	Integrated Modelling of NFIRAOS: Characterizing performance in the presence of vibration Fitzsimmons, Joeleff - Andersen, David - Atwood, Jenny - Herriot, Glen - Kerley, Dan - Veran, Jean-Pierre - Roberts, Scott
15:40 - 16:00	Modeling the Giant Magellan Telescope dome seeing using fluid dynamics simulations Conan, Rodolphe - van Dam, Marcos - Vogiatzis, Konstantinos - Das, Kaushik - Bouchez, Antonin
16:00	POSTER SESSION
19:00	CONFERENCE DINNER

FRIDAY, JUNE 14, 2019
ROOM 306AB

SESSION 15 - PATHFINDER INSTRUMENTS

Session chair: Joël Vernet

09:00 - 09:20 **The multi-object adaptive optics system for the GIRMOS spectrograph on Gemini-South**
Chapman, Scott - Jackson, Kate - Veran, Jean-Pierre - Lardiere, Olivier - Sivanandam, Suresh - Correia, Carlos - Anderson, David - Sivo, Gaetano - Lamb, Masen

09:20 - 09:40 **The Keck Planet Imager and Characterizer: enabling advanced exoplanet characterization techniques for future extremely large telescopes**
Delorme, Jacques-Robert - Jovanovic, Nemanja - Mawet, Dimitri - Bond, Charlotte - Cetre, Sylvain - Echeverri, Daniel - Wallace, James Kent - Bartos, Randy - Lilley, Scott - Ragland, Sam - Wizinowich, Peter - Chun, Mark - Wang, Ji - Wang, Jason - Fitzgerald, Michael - Pezzato, Jackie - Martin, Emily - Wetherell, Ed - Wang, Eric - Jacobson, Shane - Warmbier, Eric - Lockhart, Charles - Hall, Don

09:40 - 10:00 **Adaptive Optics for Starshot Beam Launch**
Angel, Roger - Hyatt, Justin - Eads, Ryker - Didato, Nick

10:00 - 10:20 **From MagAO-X to GMagAO-X: extreme-AO performance demonstration and science case for the GMT**
Males, Jared - Close, Laird - Guyon, Olivier

10:20 - 10:40 **On-sky performance of the GMT dispersed fringe phasing sensor prototype**
Kopon, Derek - McLeod, Brian - Bouchez, Antonin - Catropa, Daniel - van Dam, Marcos - Kinsky, Jan - McCracken, Kenneth - McMuldroch, Stuart - Podgorski, William - D'Arco, Joseph

10:40 - 11:10 Coffee Break

SESSION 16 - POST-PROCESSING OF AO DATA

Session chair: Denis Brousseau

11:10 - 11:30 **PSF reconstruction for integral field spectrograph OSIRIS at Keck**
Ciurlo, Anna - Do, Tuan - Witzel, Gunther - Lu, Jessica - team, AIROPA

11:30 - 11:50 **PSF reconstruction for MUSE Wide Field Mode. Final on-sky performance and routine operations.**
Fusco, Thierry - Bacon, Roland - Conseil, Simon - Kamann, Sebastian - Neichel, Benoit - Correia, Carlos - Martin, Olivier - Vernet, Joel - Kolb, Johann - Madec, Pierre-Yves

11:50 - 12:10 **Correcting optical distortion of NFIRAOS and IRIS by self-calibration method**
Mukae, Shiro - Suzuki, Ryuji - Hayano, Yutaka - Ellerbroeck, Brent - Herriot, Glen

12:10-12:30 **Sensitivity of astrometric and photometric parameter estimation to spatial variations of the point spread function**
Beltramo-Martin, Olivier - Witzel, Gunther - Correia, Carlos - Ciurlo, Anna - Turri, Paolo - Lu, Jessica

12:30 - 14:00 Lunch

POSTER SESSIONS

POSTER SESSION 1

MONDAY, JUNE 10, 2019

18:00 - 20:00

AO SYSTEMS DESIGN AND MODELLING

POSTER-SYS-019	Error Budget for the Keck Adaptive Optics Systems Ragland, Sam - Wizinowich, Peter - Mawet, Dimitri - van Dam, Marcos - Jolissaint, Laurent
POSTER-SYS-020	Predicting the Performance of the Extreme-AO Instrument VLT/SPHERE via Machine Learning Courtney-Barrar, Benjamin - Milli, Julien - Mouillet, David - Wahhaj, Zahed
POSTER-SYS-021	Stabilizing Plate Scale versus Point Source Sensitivity for MCAO Herriot, Glen - Suzuki, Ryuji - Véran, Jean-Pierre - Wang, Lianqi - Trancho, Gelys - Rogers, John - Andersen, David
POSTER-SYS-022	Performances of the phasing sensors for the M4 adaptive unit Briguglio, Runa - Pariani, Giorgio - Xompero, Marco - Riccardi, Armando - Tintori, Matteo
POSTER-SYS-023	The Single Laser Adaptive Optics system for the METIS Stuik, Remko - Arcier, Benjamin - Brandl, Bernhard - The METIS Consortium
POSTER-SYS-024	Relocate Gemini Multi-Conjugate Adaptive Optics System from Chile to Hawaii: A feasibility study Chirre, Emmanuel - Moreno, Cristian - Sivo, Gaetano - Marin, Eduardo - Lombardi, Gianluca - Van Dam, Marcos - Vergara, Vicente - Montes, Vanessa - Van der Hoeven, Michiel - Hirst, Paul - Adamson, Andy - Kleinman, Scot

POSTER-SYS-025	Sodium layer density anisotropies as a reference for tip-tilt measurement in laser guide stars Rodriguez Ramos, Luis Fernando - Martinez Rey, Noelia - Alonso Sanchez, Angel - Castro Almazan, Julio - García Lorenzo, Begoña
POSTER-SYS-027	AO Performance modelling and error budget development for GIRMOS Jackson, Kate - Chapman, Scott - Correia, Carlos - Véran, Jean-Pierre - Andersen, David - Lardiére, Olivier - Sivo, Gaetano - Sivanandam, Suresh - Lamb, Masen
POSTER-SYS-028	Co-phasing a Large Array of Segmented Lasers via Interferometry and Coherent Beam Combination Methods Mitchell, Eric - Hart, Michael
POSTER-SYS-029	On the feasibility of using a laser guide star adaptive optics system in the daytime Dungee, Ryan - Chun, Mark - Hayano, Yutaka - Ragland, Sam - Wizinowich, Peter
POSTER-SYS-030	A common RTC architecture for Gemini Observatory AO systems Hirst, Paul - Sivo, Gaetano - Marin, Eduardo - Goodsell, Stephen - Provost, Natalie - Montes, Vanessa - Catala, Laure - Lombardi, Gianluca
POSTER-SYS-031	ULTIMATE-Subaru: GLAO conceptual design and project status Minowa, Yosuke - Rigaut, Francois - Akiyama, Masayuki - Ono, Yoshito - Clergeon, Christophe - d'Orgeville, Celine - Korkiakoski, Visa - Herralde, Nicholas - Gausachs, Gaston - Davies, Jordan - Wang, Shiang-Yu - Chou, Chi-Yi
POSTER-SYS-032	MICADO-MAORY SCAO RTC system prototyping: assessing the real-time capability of GPU Ferreira, Florian - Sevin, Arnaud - Bernard, Julien - Gratadour, Damien

POSTER-SYS-033

Ingot wavefront sensor: simulation of the pupil images

Viotto, Valentina - Portaluri, Elisa - Arcidiacono, Carmelo - Bergomi, Maria - Di Filippo, Simone - Dima, Marco - Greggio, Davide - Farinato, Jacopo - Magrin, Demetrio - Marafatto, Luca - Ragazzoni, Roberto

POSTER-SYS-034

MICADO MAORY SCAO: preliminary design, development plan and calibration strategies

Clénet, Yann - Buey, Tristan - Gendron, Eric - Hubert, Zoltan - Vidal, Fabrice - Cohen, Mathieu - Chapron, Frédéric - Sevin, Arnaud - Fédou, Pierre - Barbary, Gaële - Borgo, Bruno - Huet, Jean-Michel - Blin, Alexandre - Dupuis, Olivier - Gaudemard, Julien - Ben Nejma, Saber - Gratadour, Damien - Déo, Vincent - Ferreira, Florian - Thijs, Simone - Lapeyrère, Vincent - Raffard, Jordan - Chemla, Fanny - Le Ruyet, Bertrand - Younès, Youssef - Rousset, Gérard - Zins, Gérard - Diolaiti, Emiliano - Ciliegi, Paolo - Garrel, Vincent - Rabien, Sebastian - Schubert, Josef - Hartl, Michael - Hörmann, Veronika - Davies, Richard

POSTER-SYS-035

Vibration modeling using LBTO telemetry data

Escarate, Pedro - Cororel, Maria - Agüero, Juan Carlos - Carvajal, Rodrigo - Christou, Julian - Hill, John - Rahmer, Gustavo - Miller, Douglas - Taylor, Greg

POSTER-SYS-036

The COSMIC real-time control platform

Gratadour, Damien - Rigaut, Francois - Biasi, Roberto - Jameson, Anfreu - Sevin, Arnaud - Ferreira, Florian - Perret, Denis - Guyon, Olivier - Patauner, Christian - Pescoller, Dietrich - Andrighettoni, Mario - Smith, Matthew - Glazebrook, Karl - Deller, Adam

POSTER-SYS-037

Architecture and design of the HARMONI AO Real-Time Control System

Younger, Edward - Basden, Alastair - Correia, Carlos - Costille, Anne - Dimoudi, Sofia - Dohlen, Kjetil - Fusco, Thierry - Jenkins, David - Larrieu, Marie - Morris, Tim - Neichel, Benoit - Pecontal, Arlette - Petit, Cyril - Sauvage, Jean-Francois - Schnetler, Hermine - Vedrenne, Nicolas

POSTER-SYS-038	Design and performances of HARMONI LTAO NGS module Bardou, Lisa - Morris, Tim - Calcines-Rosario, Ariadna - Dubbeldam, Marc - Clark, Paul - Dohlen, Kjetil - Neichel, Benoit - Fusco, Thierry - Vola, Pascal - Piqueras-Lopez, Javier - Estrada, Alberto - Clarke, Fraser
POSTER-SYS-039	High Performance Processor design for the HARMONI AO RTCS Supervisor system Dimoudi, Sofia - Morris, Timothy - Younger, Edward - Correia, Carlos - Petit, Cyril - Basden, Alastair - Jenkins, David - Neichel, Benoit - Fusco, Thierry - Vedrenne, Nicolas - Sauvage, Jean-Francois - Schnetler, Hermine - Bryson, Ian - Clarke, Fraser - Thatte, Niranjan - Suárez Valles, Marcos
POSTER-SYS-040	Sky coverage assessment for MAORY Plantet, Cedric - Agapito, Guido - Busoni, Lorenzo - Bonaglia, Marco - Esposito, Simone - Ciliegi, Paolo
POSTER-SYS-041	MAORY: optical configuration and expected optical performances Magrin, Demetrio - Ciliegi, Paolo - Busoni, Lorenzo
POSTER-SYS-042	Post-coronagraphic contrast evaluation: comparison between a PSD-based approach and complete end-to-end simulation Orban de Xivry, Gilles - Absil, Olivier - Delacroix, Christian - Carlomagno, Brunella
POSTER-SYS-043	OOMAO: Object-Oriented Matlab Adaptive Optics Simulator Correia, Carlos - Conan, Rodolphe - Bond, Charlotte - Ono, Yoshito - Beltramo-Martin, Olivier - Heritier, Cedric Taïssir - Brulé, Yoann - Janin-Potiron, Pierre - Schwartz, Noah - Sauvage, Jean-François
POSTER-SYS-070	Acquisition with NFIRAOS and IRIS on TMT Andersen, David - Atwood, Jenny - Dunn, Jennifer - Hardy, Tim - Herriot, Glen - Veran, Jean-Pierre - Chisholm, Eric - Trancho, Gelys - Wang, Lianqi - Greffe, Timothee - Smit, Roger - Hayano, Yutaka - Suzuki, Ryuji - Larkin, James - Wright, Shelley

PATHFINDER INSTRUMENTS

POSTER-PATH-079	Keck All Sky Precision Adaptive Optics Chin, Jason - Wizinowich, Peter - Casey, Kelleen - Cetre, Sylvain - Lilley, Scott - Ragland, Sam - Wetherell, Ed - Lu, Jessica
POSTER-PATH-080	Gemini Infrared Multi-Object Spectrograph Overview: A Pathfinder for an Early-Light TMT Instrument Sivanandam, Suresh - Chapman, Scott - Simard, Luc - Hickson, Paul - Venn, Kim - Thibault, Simon - Sawicki, Marcin - Muzzin, Adam - Erickson, Darren - Lamb, Masen - Andersen, David - Brousseau, Denis - Chen, Shaojie - Correia, Carlos - Lardiere, Olivier - Lemoine-Busserolle, Marie - Peck, Alison - Sivo, Gaetano - Veran, Jean-Pierre
POSTER-PATH-081	The MMT Adaptive optics exoPlanet characterization System (MAPS) Hinz, Philip
POSTER-PATH-083	The Planetary Systems Instrument: Overview of the Instrument Architecture and Opto-Mechanical Design of the Red Arm, aka SCALES Stelter, Deno - Skemer, Andrew - Kupke, Renate - Mazin, Ben - Chun, Mark - Guyon, Olivier - Jovanovic, Nemanja - Macintosh, Bruce - Mawet, Dimitri - Team, PSI
POSTER-PATH-084	The Fast Atmospheric Self-Coherent Camera Technique: Laboratory Results and Future Directions Gerard, Benjamin - Marois, Christian - Galicher, Raphaël - Veran, Jean-Pierre - Baudoz, Pierre
POSTER-PATH-085	Testing a new adaptive secondary mirror at the University of Hawaii 2.2-meter telescope Chun, Mark - Baranec, Christoph - Lu, Jessica - Lai, Olivier - Kuiper, Stefan - Fritz, Erik - Maniscalco, Matt - Nijenhuis, Jan

POSTER-PATH-086

XAO-assisted coronagraphy with SHARK-NIR: from simulations to laboratory tests

Carolo, Elena - Umbriaco, Gabriele - Vassallo, Daniele - Farinato, Jacopo - Agapito, Guido - Bergomi, Maria - Biondi, Federico - Carlotti, Alexis - Chinellato, Simonetta - De Pascale, Marco - D'Orazi, Valentina - Esposito, Simone - Greggio, Davide - Magrin, Demetrio - Marafatto, Luca - Mesa, Dino - Pinna, Enrico - Puglisi, Alfio - Stangalini, Marco - Viotto, Valentina

POSTER-PATH-087

SHARK-NIR moving toward the end of the construction phase

Farinato, Jacopo - Bergomi, Maria - Bianco, Andrea - Biondi, Federico - Carolo, Elena - Carlotti, Alexis - Chinellato, Simonetta - De Pascale, Marco - dima, marco - D'Orazi, Valentina - Greggio, Davide - Hinz, Philip - Lessio, Luigi - Marafatto, Luca - Mesa, Dino - Mohr, Lars - Montoya, Manny - Umbriaco, Gabriele - Vassallo, Daniele - Viotto, Valentina - Zanutta, Alessio - Antonucci, Simone - Arcidiacono, Carmelo - Bacciotti, Francesca - Baffa, Carlo - Baruffolo, Andrea - Bongiorno, Angela - Close, Laird - Di Filippo, Simone - Esposito, Simone - Farisato, Giancarlo - Guyon, Olivier - Magrin, Demetrio - Pedichini, Fernando - Pinna, Enrico - Portaluri, Elisa - Puglisi, Alfio - Santhakumari, Kalyan Kumar Radhakrishn - Ragazzoni, Roberto - Rossi, Fabio - Stangalini, Marco

POSTER-PATH-088

SHARK-VIS: the high-contrast imager in the visible for LBT

Pedichini, Fernando - Antonucci, Simone - Li Causi, Gianluca - Mattioli, Massimiliano - Piazzesi, Roberto - Stangalini, Marco - Testa, Vincenzo - Farinato, Jacopo - Pinna, Enrico - Bergomi, Maria

POSTER-PATH-090

The Keck Fiber Injection Unit: A new avenue to spectrally characterize exoplanets

Delorme, Jacques-Robert - Jovanovic, Nemanja - Echeverri, Daniel - Mawet, Dimitri - Bond, Charlotte - Cetre, Sylvain - Wallace, James - Bartos, Randall - Lilley, Scott - Ragland, Sam - wizinowich, Peter - Wetherell, Ed - Chun, Mark - Wang, Ji - Wang, Jason - Pezzato, Jacklyn - Martin, Emily - Morris, Evan

POSTER-PATH-092

Visible adaptive optics challenges for the new THEMIS solar facility

Langlois, Maud - Moretto, Gil - Tallon, Michel - Thiébaud, Eric - Gelly, Bernard

POSTER-PATH-093

Lessons learned from the Optomechanical Design of TMT NFIRAOS Subsystems at INO

Martin, Olivier - Leclerc, Mélanie - Desnoyers, Nichola - Grenier, Martin - Lamontage, Frédéric - Cottin, Pierre - Boucher, Marc-André - Lardiére, Olivier - Andersen, David - Atwood, Jenny - W.G. Byrnes, Peter - Herriot, Glenn - Fitzsimmons, Joeleff - Véran, Jean-Pierre

SCIENCE WITH AO

POSTER-SCI-118

Astrometry of resolved stellar populations with MICADO@ELT

Massari, Davide - Fiorentino, Giuliana - Pott, Jörg-Uwe - Arcidiacono, Carmelo - Rodeghiero, Gabriele - Fabricius, Maximilian - Davies, Richard - Tolstoy, Eline

POSTER-SCI-119

GRAAL+HAWK-I photometric and astrometric performance

Hibon, Pascale - Opitom, Cyrielle - Kolb, Johann - Paufigue, Jerome - Kuntschner, Harald - Dobrzycka, Danuta - Petr-Gotzens, Monika - Valenti, Elena - Duhoux, Philippe - Madec, Pierre-Yves

POSTER-SCI-120

Performance and Constraints of the Deformable Secondary Mirror in AO modes under wind conditions

Hibon, Pascale - Duhoux, Philippe - Vernet, Elise - Andrighettoni, Mario - Madec, Pierre-Yves - Nurzia, Vittorio

POSTER-SCI-121	Upgrade of the Laser Traffic Control Software for future collision predictions Duhoux, Philippe - Hibon, Pascale - Santos, Paula - Brillant, Stephane - Haeussler, Boris
POSTER-SCI-122	Characterization of QSO host galaxies and environments with AO imaging in the ELT era Paiano, Simona - Arcidiacono, Carmelo - Falomo, Renato - Portaluri, Elisa - Uslenghi, Michela
POSTER-SCI-123	The MAORY Science Operation activities Arcidiacono, Carmelo - Gullieuszik, Marco - Portaluri, Elisa - Cantiello, Michele - Paiano, Simona - Ciliegi, Paolo
POSTER-SCI-124	MODHIS: a multi-object diffraction-limited high-resolution infrared spectrograph for TMT Mawet, Dimitri - Fitzgerald, Michael - Konopacky, Quinn - Jovanovic, Nemanja
POSTER-SCI-125	Exoplanet detection with the SCAO mode of MAORY-MICADO: preliminary results from end-to-end simulations Vassallo, Daniele - Carolo, Elena - D'orazi, Valentina - Mesa, Dino - Arcidiacono, Carmelo
POSTER-SCI-126	Using the unusable: Twilight monitoring on the US-ELT Conrad, Albert - Veillet, Christian - de Pater, Imke - de Kleer, Katherine
POSTER-SCI-127	MICADO Lyot coronagraph performance study Huby, Elsa - Baudoz, Pierre - Vidal, Fabrice - Clénet, Yann - Gendron, Eric - Buey, Tristan - Schubert, Josef - Davies, Richard
POSTER-SCI-128	Enhanced Resolution Imager and Spectrograph, comparing the improvements in science with respect to NACO and SINFONI Cortes, Angela - Davies, Ric - Feuchtgruber, Helmut

- POSTER-SCI-129 **High-Contrast Imaging with METIS: how deep can we go?**
Delacroix, Christian - Carlomagno, Brunella - Pathak, Prashant - Cantalloube, Faustine - Orban de Xivry, Gilles - Absil, Olivier
- POSTER-SCI-130 **Enhanced Seeing Mode at the LBT: A Method to Significantly Improve Angular Resolution over a 4'x4' Field of View**
Rothberg, Barry - Christou, Julian - Miller, Douglas - Taylor, Gregory - Thompson, Dave - Veillet, Christian
- POSTER-SCI-131 **Characterizing Extrasolar Planetary Systems in Polarized Light with TMT-PSI**
Millar-Blanchaer, Max - TEAM, PLANETARY SYSTEMS IMAGER
- POSTER-SCI-133 **Capabilities of a fibered imager on an extremely large telescope**
Vievard, Sebastien - Cvetojevic, Nick - Hubby, Elsa - Lacour, Sylvestre - Perrin, Guy - Guyon, Olivier - Lozi, Julien - Marchis, Franck - Jovanovic, Nemanja - Schworer, Guillaume - Gauchet, Lucien - Duchene, Gaspard - Kotani, Takayuki - Lai, Olivier
- POSTER-SCI-134 **Finding Another Earth In The Alpha Centauri System With TIKI: Simulation**
Blain, Célia - Marois, Christian
- POSTER-SCI-135 **Deep observations with an ELT in the Global Multi Conjugated Adaptive Optics perspective**
Portaluri, Elisa - Viotto, Valentina - Ragazzoni, Roberto - Arcidiacono, Carmelo - Bergomi, Maria - Dima, Marco - Greggio, Davide - Farinato, Jacopo - Magrin, Demetrio
- POSTER-SCI-136 **The ELT/HARMONI Science Simulations HSIM**
Pereira Santaella, Miguel - Routledge, Laurence
- POSTER-SCI-137 **NIRPS: a stepping stone for AO-fed high-resolution spectroscopy on ELTs**
Artigau, Etienne - Blind, Nicolas - Doyon, René - Bouchy, François - Wildi, François

WAVEFRONT SENSING

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- POSTER-WAV-SEN-185 **Development of the Three Sided Pyramid Wavefront Sensor**
Schatz, Lauren - Neichel, Benoit - Correia, Carlos - Males, Jared - Fusco, Thierry - Hart, Michael - Chambouleyron, Vincent - Janin-Potiron, Pierre
- POSTER-WAV-SEN-186 **LIFT for MAVIS: how many modes to evaluate?**
Brûlé, Yoann - Plantet, Cédric - Fauvarque, Olivier - Correia, Carlos - Rigaut, François - Neichel, Benoit - Fusco, Thierry
- POSTER-WAV-SEN-187 **How does the position of the telescope spider affect closed-loop adaptive optics performance with a pyramid wavefront sensor?**
Engler, Byron - Weddell, Steve - Le Louarn, Miska - Clare, Richard
- POSTER-WAV-SEN-188 **Theory and Design of a Hybrid Wave-front Sensor for Adaptive Optics**
Guthery, Charlotte - Hart, Michael

- POSTER-WAV-SEN-189 **In depth analysis of Fourier-based wavefront sensors with the adaptive optics testbed LOOPS**
Janin-Potiron, Pierre - Chambouleyron, Vincent - Schatz, Lauren - Fauvarque, Olivier - El Hadi, Kacem - Sauvage, Jean-François - Correia, Carlos - Fusco, Thierry - Neichel, Benoit
- POSTER-WAV-SEN-190 **Designing, Building, and Testing of a Hybrid Wavefront Sensor for Adaptive Optics**
Hamilton, Ryan - Rice, Joseph - Guthery, Charlotte - Hart, Michael
- POSTER-WAV-SEN-191 **Theoretical Analysis of a Polychromatic Rayleigh Laser Guide Star**
Reinhart, Lennon - Hart, Michael
- POSTER-WAV-SEN-192 **Analysis of the Island Effect for MICADO MAORY SCAO mode**
Bertrou-Cantou, Arielle - Rousset, Gérard - Gendron, Eric - Vidal, Fabrice - Deo, Vincent - Ferreira, Florian
- POSTER-WAV-SEN-193 **New developments of near infrared eAPD technology for wavefront sensing at ground based telescopes, on-sky performance verification with GRAVITY and the potential of eAPDs for improving the sensitivity of large format science arrays and for deployment in space**
Finger, Gert - Baker, Ian - Eisenhauer, Frank - Ives, Derek - Casali, Mark - Engelhardt, Max - Mandla, Christopher - Weller, Harald
- POSTER-WAV-SEN-194 **Demonstration on the co-phasing of optical multi-aperture telescope with dispersed Hartmann sensor**
Li, Yang - Wei, Kai - Wang, Sheng-Qian - Rao, Chang-Hui
- POSTER-WAV-SEN-195 **Performance of a commercial camera with the SAPHIRA near-infrared APD array: evaluation of performance and identification of a source of noise**
James - Johnson, Robert - Byrd, M. Olivia - Gibson, William - Brown

- POSTER-WAV-SEN-196 **The non-modulation pyramid wavefront sensor used in the closed-loop adaptive optics system**
Wang, Shengqian - Wei, Kai - Zheng, Wenjia - Rao, Chang-Hui
- POSTER-WAV-SEN-197 **Infrared tip-tilt sensing: on-sky experience, lessons learned and unsolved problems**
van Dam, Marcos - Oberti, Sylvain - Lyke, Jim - Kolb, Johann - Cetre, Sylvain - Neichel, Benoit
- POSTER-WAV-SEN-198 **SAPHIR (Sensor Achromatic Pyramid High-Resolution): a new concept of reflective pyramidal wavefront sensor free from chromatic aberrations**
Chemla, Fanny - Huet, Jean-Michel - Buey, Tristan - Gaudemard, Julien - Gendron, Eric - Cohen, Mathieu - Déo, Vincent - Vidal, Fabrice
- POSTER-WAV-SEN-199 **A Zernike wavefront sensor to calibrate NCPA for the high-contrast mode of HARMONI**
Carlotti, Alexis - Jocou, Laurent - henault, francois - Dohlen, Kjetil - Sauvage, Jean-François - Moulin, Thibault - Rabou, Patrick - Magnard, Yves
- POSTER-WAV-SEN-200 **Specifications, Procurement and Testing of the TMT-NFIRAOS double-pyramid prisms**
Lardi re, Olivier - V ran, Jean-Pierre - Densmore, Adam - Andersen, David - Atwood, Jenny - Reshetov, Vlad - Fitzsimmons, Joeleff - Ganton, Colin
- POSTER-WAV-SEN-201 **Electro-Optical calibration of pupil plane modulators for pyramid WFS**
Rossi, Fabio - Briguglio, Runa - Pinna, Enrico - Puglisi, Alfio
- POSTER-WAV-SEN-202 **Final design of the NFIRAOS Visible Natural guide star Wavefront sensor (VNW) for the Thirty Meter Telescope**
Cournoyer, Alain - Paradis, Simon - Larouche, Martin - Desnoyers, Nichola - Lamontagne, Fr d ric - Proulx, Christian - Ollat, Charles-Adrien - Lardi re, Olivier - V ran, Jean-Pierre - Herriot, Glen - Crane, Jeffrey - Densmore, Adam - Th riaault, Guillaume - Grandmont, Fr d ric

- POSTER-WAV-SEN-203 **A low-cost, very high-order Shack-Hartmann sensor for testing TMT deformable mirrors**
Taheri Nieh, Mojtaba - Véran, Jean-Pierre - Andersen, David - Lardière, Olivier
- POSTER-WAV-SEN-233 **Introducing HOPP: Heterodyne Optical Phase Probe for High Contrast Imaging**
Davis, Kristina K
- POSTER-WAV-SEN-234 **Focal plane wavefront sensing and control with a vAPP coronagraph on MagAO-X using holographic modal wavefront sensing and linear dark field control**
Miller, Kelsey - Males, Jared - Guyon, Olivier - M. Close, Laird - Doelman, David - Snik, Frans - Por, Emiel - J.Wilby, Michael - Keller, Christoth - Bohlman, Chris - Van Gorkom, Kyle - Rodack, Alexander - Knight, Justin - Lumbres, Jennifer - Bos, Steven - Jovanovic, Nemanja

POSTER SESSION 2
TUESDAY, JUNE 11, 2019
18:00 - 20:00

AO DISTURBANCES CHARACTERIZATION AND MODELLING

- | | |
|-----------------|--|
| POSTER-DIST-002 | PEPITO: atmospheric Profiling from short-Exposure focal Plane Images in seeing-limited mode
Beltramo-Martin, Olivier - Bharmal, Nazim Alastair - Correia, Carlos |
| POSTER-DIST-003 | Enhanced atmospheric water content forecast to support infrared scientific programs at VLT and E-ELT
Turchi, Alessio - Masciadri, Elena - Martelloni, Gianluca |
| POSTER-DIST-005 | Site characterisation at Mount Stromlo with a single-detector stereo-SCIDAR: status update
Korkiakoski, Visa - Lingham, Marcus - Grosse, Doris - Thorn, Elliott - Copeland, Michael - Bennet, Francis - Osborn, James - Rigaut, Francois - Travouillon, Tony - d'Orgeville, Celine |
| POSTER-DIST-006 | How to deal with Mis-Registrations on ELT with Pyramid WFS?
Heritier, Cedric - Oberti, Sylvain - Fusco, Thierry - Neichel, Benoit - Esposito, Simone - Kasper, Markus - Madec, Pierre-Yves - Vérinaud, Christophe - Paufique, Jérôme - Le Louarn, Miska - Correia, Carlos - Sauvage, Jean-François - Kolb, Johann - Béchet, Clémentine |
| POSTER-DIST-007 | Optical turbulence forecasting and comparisons with daytime and nighttime measurements
Giordano, Christophe - Rafalimanana, Alohotsy - Ziad, Aziz - Aristidi, Eric - Chabé, Julien - Fanteï-Caujolle, Yan - Renaud, Catherine |

- POSTER-DIST-008 **Image Quality Error Budgets for the Giant Magellan Telescope**
Sitariski, Breann - Bouchez, Antonin - Conan, Rod - van Dam, Marcos - Quiros-Pacheco, Fernando - Angeli, George - McLeod, Brian
- POSTER-DIST-009 **Performance Estimates for the Giant Magellan Telescope via Statistical Analysis**
Sitariski, Breann - Vogiatzis, Konstantinos - Conan, Rod - Angeli, George - Goodrich, Robert
- POSTER-DIST-010 **Optimising AO systems using turbulence forecasts**
Osborn, James - Farley, Ollie - Correia, Carlos - Fusco, Thierry - Neichel, Benoit - Morris, Tim - Wilson, Richard
- POSTER-DIST-011 **CATS : a new autonomous station for atmospheric turbulence characterization**
Ziad, Aziz - Chabé, Julien - Fanteï-Caujolle, Yan - Aristidi, Eric - Renaud, Catherine - Giordano, Christophe
- POSTER-DIST-012 **Astronomical site monitoring: current status and ideas for the future**
Le Louarn, Miska - Sarazin, Marc - Madec, Pierre-Yves - Martayan, Christophe
- POSTER-DIST-013 **Vibration correction for the Adaptive Optics Systems at the ESO VLT/VLTI**
Haguenauer, Pierre - Pettazzi, Lorenzo - Suárez Valles, Marcos - Shchekaturov, Pavel - Jeram, Bogdan
- POSTER-DIST-014 **New on-sky results from FASS monitor and its applicability to dome seeing estimation**
Guesalaga, Andres - Ayancan, Boris - Gonzalez, Hector - Perera, Saavidra, Sarazin, Marc - Nacarrete, Julio - Osborn, James - Butterley Timothy - Wilson, Richard - Neichel, Benoit - El Hadi, Hacem
- POSTER-DIST-015 **The evolution of the seeing quality at Cerro Pachon: a fair comparison between the GMOS image quality and the DIMM seeing**
Lombardi, Gianluca - Dennihy, Erik - Rutten, Rene - Hayward, Thomas - Fuentes, Javier

POSTER-DIST-016

Asymmetry in Adaptive Optics PSFs

Madurowicz, Alex - Macintosh, Bruce - Ruffio, Jean-Baptiste - Poyneer, Lisa - Bailey, Vanessa - Pueyo, Laurent - Perrin, Marshall - Chilcote, Jeffery - Nielsen, Eric

POSTER-DIST-017

Real time turbulence profiling using Bayesian inference

Lehtonen, Jonatan - Helin, Tapio

POSTER-DIST-018

Non-Common Path Aberrations correction for the GTC Adaptive Optics system: calibration and compensation of static aberrations

Montilla, Iciar - Basden, Alastair - Nuñez Cagigal, Miguel - de la Rosa, Jose Marco - Puga, Marta - Tubio Araujo, Oscar - Reyes Garcia-Talavera, Marcos

POSTER-DIST-019

Monitoring daytime and nighttime optical turbulence profiles with the PML instrument

Aristidi, Eric - Ziad, Aziz - Fantei-Caujolle, Yan - Chabé, Julien - Giordano, Christophe - Renaud, Catherine - Lantéri, Henri

LASER SYSTEMS FOR AO

POSTER-LAS-069

Sodium Recoil at Starfire Optical Range

Wyman, Keith - Ireland, David - Eickhoff, Mark - Kann, Lee - Hilburn, Eddie - Masten, Gordon - Byrd, Olivia - Lison, Frank - Bonaccini Calia, Domenico - Johnson, Robert

POSTER-LAS-070

Progress of photon return tests with two different kind of sodium lasers

Jin, Kai - Wei, Kai - Li, Min - Huang, Jian - Deng, Keran - Dong, Ruoxi - Bian, Qi - Zuo, Junwei - Bo, Yong - Yang, Xuezhong - Fan, Tingwei - Dong, Jinyan - Zhang, Lei - Feng, Yan - Zhang, Yudong

POSTER-LAS-071

An alternative to wide-field LGS tomography: using PPPP to improve meta-pupil sampling

Yang, Huizhe - Bharmal, Nazim - Myers, Richard - Morris, Tim

POSTER-LAS-072

Enhanced Laser Traffic Control System Operation Mode

Otarola, Angel - Dumas, Christophe - Gaug, Markus - Benn, Chris - Muñoz-Tuñon, Casiana - Castro-Almazán, Julio - Cabrera-Lavers, Antonio

POSTER-LAS-073

Dual Laser Guide Star Facility Integration and Commissioning at Mount Stromlo Observatory

d'Orgeville, Celine - Travouillon, Tony - Webb, James - Gers, Luke - Galla, Antony - Thorn, Elliott - Rees, Emily Rose - Kennedy, Gerard - Martinez Rey, Noelia - Fetzer, Gregory - Rako, Steve - Blundell, Mark - Gao, Yue - Smith, Craig

POSTER-LAS-074

Uplink Wavefront Corrector System: On-sky performance validation

Martinez, Noelia - Rodriguez Ramos, Luis Fernando - Sodnik, Zoran

POSTER-LAS-075

Reviving ALTAIR LGS mode with the Toptica laser upgrade

Catala, Laure - Donahue, Jeff - Schneider, Thomas - Sivo, Gaetano - Marin, Eduardo - Ebberts, Angelic - Cunningham, Christy - Ball, Jesse - Hirst, Paul - Bassett, John - Anderson, David - Smith, Adam - Ferrara, Jocelyn - Stephens, Andrew - Dupuy, Trent

POSTER-LAS-076

Laser Guide Star Facility for LTAO and GLAO at Subaru Telescope

Mieda, Etsuko - Minowa, Yosuke - d'Orgeville, Celine - Tanaka, Yoko - Herrald, Nicholas - Doi, Yoshiyuki - Ramos, Lucio - Wung, Matthew - Clergeon, Christophe - Ono, Yoshito - Hattori, Takashi - Hayano, Yutaka - Akiyama, Masayuki - Yoshida, Hiroshige

POSTER-LAS-077

CW lidar technique for the ELT

Hellemeier, Joschua - Bonaccini Calia, Domenico - Hickson, Paul - Pfrommer, Thomas

Preliminary Design of the Laser Guide Star Facility for the Gran Telescopio Canarias

Reyes Garcia-Talavera, Marcos - Sánchez-Capuchino, Jorge - Simoes, Roberto - Montilla, Iciar - Hernández, Elvio - Puga, Marta - Tenegi, Fabio - Tubio, Oscar - Penate, Jose - Rosich, Josefina - Marco, Jose - Nuñez Cagigal, Miguel - Patron, Jesus - Lopez, Roberto - Rodriguez-Ramos, Luis Fernando - Sanchez Bejar, Victor

PATHFINDER INSTRUMENTS

POSTER-PATH-094

GeMS 2.0: are we there yet?

Marin, Eduardo - Sivo, Gaetano - Lombardi, Gianluca - Garrel, Vincent - Neichel, Benoit - van Dam, Marcos - Rigaut, Francios - Moreno, Cristian - Chirre, Emmanuel - Montes, Vanessa - Perez, Gabriel - Ebberts, Angelic - Collins, Paul - Vergara, Vicente - Toro, Eduardo - Diaz, Pablo - Chinn, Brian - Birchard, Mariah - Figueroa, Carlos - Donahue, Jeff - Provost, Natalie - Gigoux, Pedro - Price, Ian - Herrald, Nick - Bennet, Francis - Carrasco, Rodrigo - Lazo, Manuel - Rutten, Rene - d'Orgeville, Celine - Hirst, Paul

POSTER-PATH-095

The AOF in operation

Kolb, Johann

POSTER-PATH-096

Experiments to recover the uplink and downlink atmospherically induced tip-tilt from the laser guide star

Bonaccini Calia, Domenico - Mata Calvo, Ramon - Osborn, James - Centrone, Mauro - Alaluf, David - Hellemeier, Joshua - Reeves, Andrew - Townson, Matthew - Perdignes Armengol, Josep Maria - Hackenberg, Wolfgang - Barrios, Ricardo - Morris, Tim

POSTER-PATH-097

Optical Design of GIRMOS, an Adaptive Optics-fed Integral-Field Spectrograph for the Gemini Telescope

Chabot, Tristan - Brousseau, Denis - Thibault, Simon - Sivanandam, Suresh - Chen, Shaojie

- POSTER-PATH-098 **CANARY: An on-sky instrument development test bench open to the community**
Morris, Tim - Gendron, Eric - Rousset, Gerard - Bonaccini Calia, Domenico - Bardou, Lisa - Centrone, Mauro - Osborn, James
- POSTER-PATH-099 **New NIR spectro-polarimetric modes for the SCExAO instrument**
Lozi, Julien - Guyon, Olivier - Jovanovic, Nemanja - Norris, Barnaby - Groff, Tyler - Chilcote, Jeffrey - Kasdin, Jeremy - Kudo, Tomoyuki - Tamura, Motohide - Zhang, Jin - Bos, Steven - Snik, Frans - Doelman, David - Mazin, Ben - Walter, Alex - Vievard, Sebastien - Sahoo, Ananya - Martinache, Frantz
- POSTER-PATH-100 **ULTIMATE-START: LTAO Experiment at Subaru**
Ono, Yoshito - Akiyama, Masayuki - Minowa, Yosuke - Mieda, Etsuko - Mitsuda, Kazuma - Sakurai, Daiki - Ogane, Hajime - Oomoto, Kaoru - Oya, Shin - Yamamuro, Tomoyasu
- POSTER-PATH-101 **Wide-field ground-layer performance with `imaka at the University of Hawaii 2.2-meter telescope**
Chun, Mark - Lu, Jessica - Lai, Olivier - Abdurrahman, Fatima - Service, Max - Fohring, Dora - Baranec, Christoph - Dungee, Ryan
- POSTER-PATH-102 **Clear 2019 ' more observations of the sun with MCAO...**
Schmidt, Dirk - Gorceix, Nicolas - Goode, Phil - Marino, Jose - Rimmele, Thomas
- POSTER-PATH-103 **Modeling the lenslet array spectra of TMT-IRIS integral field spectrograph**
Surya, Arun - Kupke, Renate - Rundquist, Nils-Erik - Larkin, James - Wright, Shelley - Chisholm, Eric
- POSTER-PATH-105 **AO-assisted fiber-fed spectroscopy on ELTs: the alternative path proposed by NIRPS at La Silla**
Blind, Nicolas - Artigau, Etienne

- POSTER-PATH-106 **Progress update on the MOSAIC, the ELT multi-object spectrograph**
Le Mignat, David - Jagourel, Pascal - Morris, Timothy
- POSTER-PATH-107 **Results from Microwave Kinetic Inductance Detectors for Exoplanet Direct Imaging**
Walter, Alex B
- POSTER-PATH-108 **Assembly, Partial Integration and Tests Philosophy at INO of several components for the Science Path, Calibration, NGS and LGS sub-systems of NFIRAOS, the TMT AO Facility**
Martin, Olivier
- POSTER-PATH-109 **K-mirror prototype for MICADO SCAO module**
Thijs, Simone

WAVEFRONT RECONSTRUCTION

- POSTER-WAV-REC-155 **Feasibility of standard and novel solvers in atmospheric tomography for the ELT**
Stadler, Bernadett - Ramlau, Ronny - Biasi, Roberto
- POSTER-WAV-REC-156 **The Keck near-infrared pyramid wavefront sensor: wavefront controller design and performance**
Cetre, Sylvain - Bond, Charlotte - Wizinowich, Peter - Mawet, Dimitri - Chun, Mark - Guyon, Olivier - Wetherell, Ed - Ragland, Sam - Lilley, Scott - Jovanovic, Nemanja - Delorme, Jacques - Wallace, Kent - Lockhart, Charles - Wambier, Eric - Echeverri, Daniel - Goebel, Sean
- POSTER-WAV-REC-157 **Adaptive Optics with a pyramid wavefront sensor in the visible versus near-infrared**
Shatokhina, Luliia - Hutterer, Victoria - Obereder, Andreas - Ramlau, Ronny

- POSTER-WAV-REC-158 **A New SCAO Control Concept Based on Mechanical Mirror Modes for METIS**
Neureuther, Philip Lucas - Bertram, Thomas - Sawodny, Oliver
- POSTER-WAV-REC-159 **Active minimization of non-common path aberrations using a self-coherent camera for imaging exoplanetary systems**
Singh, Garima - Galicher, Raphael - Baudoz, Pierre - Potier, Axel - Dupis, Olivier - Ortiz, Manuel
- POSTER-WAV-REC-160 **Atmospheric tomography with pyramid wavefront sensors**
Raffetseder, Stefan - Obereder, Andreas - Ramlau, Ronny - Shatokhina, Iuliia
- POSTER-WAV-REC-162 **Model-based wavefront reconstruction tested on the LOOPS bench**
Hutterer, Victoria - Fauvarque, Olivier - Janin-Potiron, Pierre - Shatokhina, Iuliia - Chambouleyron, Vincent - Correia, Carlos - Obereder, Andreas - Raffetseder, Stefan - Fusco, Thierry - Neichel, Benoit
- POSTER-WAV-REC-163 **Adaptive Optics Hard and Soft Real-Time Computing Developments at ESO**
Suárez Valles, Marcos - Kornweibel, Nick - Marchetti, Enrico - Kamp, Poul-Henning - Pedersen, Niels Hald - Donaldson, Robert - Jeram, Bogdan - Barr, David - Rosenquist, Calle
- POSTER-WAV-REC-164 **A Phasing testbed for the Giant Magellan Telescope**
Travouillon, Tony - Lingham, Marcus - Bouchez, Antonin - Gausachs, Gaston - Munro, Josephine
- POSTER-WAV-REC-165 **Matrix-free real-time wave-front reconstruction with pyramid sensors**
Correia, Carlos - Fauvarque, Olivier - Hutterer, Victoria - Shatokhina, Iuliia - Bond, Charlotte
- POSTER-WAV-REC-166 **The impact of different wavefront predictors on SPHERE AO performance**
van Kooten, Maaike - Doelman, Niek - Kenworthy, Matthew - Kasper, Markus

- POSTER-WAV-REC-167 **Zonal Multi-Layer Predictive Control for Multi-Conjugate Adaptive Optics**
Cranney, Jesse - Rigaut, Francois - De Dona, Jose - Korkiakoski, Visa
- POSTER-WAV-REC-168 **Multi-Conjugate Adaptive Optics Real Time Considerations for Predictive Control**
Cranney, Jesse - De Dona, Jose - Rigaut, Francois - Korkiakoski, Visa
- POSTER-WAV-REC-169 **METIS AO RTC Prototype**
Kulas, Martin - Steuer, Horst - Bertram, Thomas - Briegel, Florian - Neureuther, Philip
- POSTER-WAV-REC-170 **Wavefront Sensor Response for Mirror Phasing under Turbulence**
Kellerer, Aglae - Holzloehner, Ronald - Cheffot, Anne Laure - Lévêque, Samuel
- POSTER-WAV-REC-172 **Acefast': CPU based RTC solution for AO systems control**
Martin, Bruno - Schimpf, Armin - Charton, Julien
- POSTER-WAV-REC-173 **A prototype architecture for ELT-scale MCAO and LTAO based on many core CPU technologies**
Jenkins, David - Basden, Alastair - Myers, Richard
- POSTER-WAV-REC-174 **Performance of the optimal grouping method for atmospheric layer compression**
Auzinger, Günter
- POSTER-WAV-REC-175 **Reducing bandwidth error by predicting wavefronts using long short-term memory network**
Liu, Xuewen - Morris, Tim - Saunter, Chris - De Cos Juez, Francisco Javier - Gonzalez-Gutierrez, Carlos
- POSTER-WAV-REC-176 **Inverse problems and deep learning in predictive control for adaptive optics**
Nousiainen, Jalo - Helin, Tapio

- POSTER-WAV-REC-178 **The upgrades of the NIRC2 Science Instrument for High Contrast Imaging**
Ragland, Sam - Mawet, Dimitri - Alvarez, Carlos - Bond, Charlotte Z. - Cetre, Sylvain - Delorme, Jacques-Robert - Lilley, Scott - Jovanovic, Nemanja - Ruane, Garreth - Absil, Olivier - Chun, Mark - Matthews, Keith - Guyon, Olivier - Karlsson, Michael - Millar-Blanchaer, Maxwell - Taheri, Mojtaba - Wallace, J. Kent - Wetherell, Ed - Wizinowich, Peter
- POSTER-WAV-REC-179 **Imaging habitable planets in optical/NIR with large ground-based telescopes: WFS/C challenges, opportunities and R&D activities**
Guyon, Olivier - Chun, Mark - Fitzgerald, Michael - Jovanovic, Nemanja - Mazin, Benjamin - Mawet, Dimitri - Macintosh, Bruce - Skemer, Andy - Lozi, Julien - Males, Jared - Close, Laird - Sevin, Arnaud - Gratadour, Damien
- POSTER-WAV-REC-180 **Subaru AO188 New Real Time System**
Clergeon, Christophe - Minowa, Yosuke - Olivier, Guyon - Ono, Yoshito - Etsuko, Mieda - Nour, Skaf - Yutaka, Hayano - Takashi, Hattori - Philip, Tait
- POSTER-WAV-REC-181 **Demonstrating predictive wavefront control at Keck II**
Jensen-Clem, Rebecca - McEwen, Eden - Ansdell, Megan - Mawet, Dimitri - Cetre, Sylvain - Ragland, Sam - Wizinowich, Peter - Graham, James
- POSTER-WAV-REC-182 **Adaptive gain control for adaptive optics closed loop**
Flanagan, Michael - Montera, Dennis - Brown, James - Steinbock, Michael
- POSTER-WAV-REC-183 **Wavefront phase reconstruction with artificial neural networks for Solar observations**
García Riesgo, Francisco - González Gutiérrez, Carlos - Suárez Gómez, Sergio Luis - Fernández, Covadonga - Asensio Ramos, Andrés - Montoya Martínez, Luz María - Basden, Alastair - Townson, Matthew - Morris, Timothy - Collados Vera, Manuel - de Cos Juez, Francisco Javier

- POSTER-WAV-REC-184 **The Minuscul Extreme Large Telescope (MELT) for Wavefront Control, Phasing, and Telescope Control validation - Design and First Results**
 Pfrommer, Thomas - Lewis, Steffan - L  v  que, Samuel - Bonnet, Henri - Cheffot, Anne-Laure - Frank, Christoph - Kornweibel, Nick - Kosmalski, Johan - La Penna, Paolo - Spyromilio, Jason

POSTER SESSION 3
THURSDAY, JUNE 13, 2019
16:00 - 18:00

AO SYSTEMS DESIGN AND MODELLING

- POSTER-SYS-044 **Atmospheric profiling by generalized SLODAR methods**
 Lehtonen, Jonatan - Correia, Carlos - Fusco, Thierry - Helin, Tapio - Neichel, Benoit
- POSTER-SYS-045 **Preliminary Model for Radiometric Design and Analysis of the Breakthrough Starshot Initiative** Rice, Joseph - Hamilton, Ryan - Bowers, Kade - Hart, Michael
- POSTER-SYS-046 **Voice-coil array development for a deformable mirror**
 Luder, Ryan - Hart, Michael - Pavlica, Krysta - Fehlberg, Olivia
- POSTER-SYS-047 **MAORY the Adaptive Optics module for ELT: design overview**
 Cilieggi, Paolo
- POSTER-SYS-048 **MICADO Spectroscopic SCAO metrology system**
 Garrel, Vincent - Davies, Richard - Schubert, Josef - Hartl, Michael - H  rmann, Veronika - Rabien, Sebastian - Sturm, Eckhard - Barl, Lothar - Fabricius, Maximilian - Gemperlein, Hans - Geis, Norbert - Mandla, Christopher - Rosensteiner, Matthias - Ziegleder, Julian

- POSTER-SYS-050 **Adaptive-optics performance limits with pyramids**
Correia, Carlos - Fauvarque, Olivier - Bond, Charlotte
- Chambouleyron, Vincent - Janin-Potiron, Pierre -
Sauvage, Jean-François - Fusco, Thierry
- POSTER-SYS-051 **The Current Optical and Mechanical Design for the
GMT High-Contrast Exoplanet Instrument GMagAO-X**
Close, Laird - Males, Jared - Guyon, Olivier - Bouchez,
Antonin
- POSTER-SYS-052 **Optical design trade-off study for the AO module of
MAVIS**
Greggio, Davide - Di Filippo, Simone - Magrin, Demetrio
- Schwab, Christian - Viotto, Valentina - Busoni, Lorenzo
- Esposito, Simone - Ragazzoni, Roberto - Fusco, Thierry
- Benoit, Neichel - Pinna, Enrico - Rigaut, François - Ellis,
Simon - Arcidiacono, Carmelo - Bergomi, Maria - Biondi,
Federico - Chinellato, Simonetta - Farinato, Jacopo -
Marafatto, Luca - Portaluri, Elisa - Santhakumari, Kalyan
- Vassallo, Daniele
- POSTER-SYS-054 **Analyzing the Viability of Satellite Laser Guide Stars
for Breakthrough Starshot**
Noyes, Matthew - Hart, Michael
- POSTER-SYS-055 **High Contrast Imaging preliminary performance
simulations for the Giant Magellan Telescope**
Quiros-Pacheco, Fernando - Males, Jared - Bouchez,
Antonin - Conan, Rodolphe
- POSTER-SYS-056 **IRIS OIWFS Opto-Mechanical Design Update**
Atwood, Jenny - Hoff, Brian - Andersen, David - Crane,
Jeffrey - Dunn, Jennifer
- POSTER-SYS-057 **Performance of Multi-Conjugate Adaptive Optics
System in Solar Telescope DKIST**
Marino, Jose - Schmidt, Dirk

POSTER-SYS-058	Vibration measurement in astronomical observatories toward robust AO and instrument designs Byrnes, Peter - Thompson, Hugh
POSTER-SYS-059	Status of the AO systems at the LBT - Paving the Way for ELTs Christou, Julian - Brusa, Guido - Cavallaro, Alessandro - Lefebvre, Michael - Miller, Douglas - Rahmer, Gustavo - Taylor, Gregory - Veillet, Christian - Zhang, Xianyu - Esposito, Simone - Pinna, Enrico - Hinz, Phillip - Vaz, Amali - Herbst, Thomas - Rabien, Sebastian
POSTER-SYS-060	Extremely Bright Guide Stars for ExAO using an Orbital Constellation Thompson, William - Marois, Christian
POSTER-SYS-061	The Final Design of NFIRAOS Andersen, David - Herriot, Glen - Atwood, Jenny - Byrnes, Peter - Crane, Jeff - Densmore, Adam - Dunn, Jennifer - Fitzsimmons, Joeleff - Hardy, Tim - Jackson, Kate - Kerley, Dan - Lardiere, Olivier - Ricard, Coda - Smith, Malcolm - Stocks, Jonathan - Veran, Jean-Pierre - Boyer, Corinne - Gilles, Luc - Trancho, Gelys - Wang, Lianqi
POSTER-SYS-062	Satellite Laser Guide Stars for Large Aperture Segmented Ground Telescopes Clark, James - Douglas, Ewan - Males, Jared - Xin, Yeyuan - Morgan, Rachel - Allan, Gregory - Lumbres, Jennifer - Cahoy, Kerri
POSTER-SYS-063	Precision Photometric Calibration with Satellite Speckles Sahoo, Ananya - Guyon, Olivier - Lozi, Julien - Vievard, Sebastien - Chilcote, Jeffrey - Groff, Tyler - Minowa, Yosuke
POSTER-SYS-064	To interfere or not to interfere: a question LBTO will have to answer soon! Veillet, Christian - Christou, Julian

- POSTER-SYS-065 **The concept of the MCAO/GLAO upgrade of DKIST**
Schmidt, Dirk - Rimmelé, Thomas - Marino, Jose - Johnson, Luke - Hegwer, Steve - Gorceix, Nicolas
- POSTER-SYS-066 **OPTICON: AO networking**
Osborn, James - Beuzit, Jean-Luc - Corriea, Carlos - Garcia, Paulo - Gendron, Eric - Kulscar, Caoline - Morris, Tim - Raynaud, Henri-Francois - Rousset, Gerard
- POSTER-SYS-067 **The real time MCAO Solar demonstrator for the EST**
Montoya Martinez, Luz Maria - Zhang, Langqiang - Mangharam Chulani, Haresh - Rodríguez Delgado, Horacio - Vaz, Txinto - Mato, Angel - Collados Vera, Manuel
- POSTER-SYS-068 **Linear Parameter Varying control for Adaptive Optics**
Cranney, Jesse - De Dona, Jose - Rigaut, Francois - Korkiakoski, Visa
- POSTER-SYS-069 **Preliminary Design of the MAORY Calibration and Test Unit (CTU)**
Di Antonio, Ivan - Di Rico, Gianluca - Dolci, Mauro - Valentini, Angelo - Di Cianno, Amico - Ciliegi, Paolo

POST-PROCESSING OF AO DATA

-
- POSTER-POST-PR-109 **Point Spread Function Reconstruction based on Deep Learning**
Jia, Peng - Cai, Bojun - Huang, Yi
- POSTER-POST-PR-110 **Development of PSF reconstruction for first light instruments on the ELT**
Wagner, Roland - Ramlau, Ronny - Shatokhina, Iuliia - Hutterer, Victoria - Niebsch, Jenny
- POSTER-POST-PR-112 **The MICADO/MAORY PSF reconstruction service**
Rosensteiner, Matthias - Wagner, Roland - Davies, Ric - Garrel, Vincent - Verdoes Kleijn, Gijs - Vulcani, Benedetta - Zeilinger, Werner

- POSTER-POST-PR-113 **Overview of PSF modelling techniques for adaptive-optics assisted ELT instruments**
Beltramo-Martin , Olivier - Wagner, Roland - Fusco, Thierry - Correia, Carlos - Neichel, Benoit - Ramlau, Ronny
- POSTER-POST-PR-114 **PRIME: Psf Reconstruction and Identification for Multiple sources characterization Enhancement**
Beltramo-Martin, Olivier - Correia, Carlos - Ragland, Sam - Jolissaint, Laurent - Neichel, Benoit - Fusco, Thierry - Wizinowich, Peter
- POSTER-POST-PR-115 **Multi conjugate adaptive optics point spread function reconstruction**
Gilles, Luc - Wang, Lianqi - Boyer, Corinne
- POSTER-POST-PR-116 **Speckle-free diffraction-limited high-contrast imaging in the visible: on-sky results with the SHARK-VIS forerunner at LBT**
Li Causi, Gianluca - Pedichini, Fernando - Stangalini, Marco - Antonucci, Simone - Mattioli, Massimiliano - Testa, Vincenzo - Piazzesi, Roberto
- POSTER-POST-PR-117 **AIROPA: a profile fitting program for PSF-reconstruction on sky**
Turri, Paolo - Lu, Jessica - Witzel, Gunther - Do, Tuan - Ciurlo, Anna

WAVEFRONT CORRECTION

- POSTER-WAV-COR-138 **Adaptive Secondary Mirror development for the UH-88 telescope**
Kuiper, Stefan - Fritz, Erik - Maniscalco, Matthew - Nijenhuis, Jan - Priem, Hans - Chun, Mark - Baranec , Christoph - Lu, Jessica
- POSTER-WAV-COR-139 **New deformable mirrors from elastomer/nanoparticle composites**
Lussier, Renaud

- POSTER-WAV-COR-140 **Active minimization of non-common path aberrations for exoplanet imaging: demonstration of the self-coherent camera at Palomar Observatory**
Galicher, Raphaël - Baudoz, Pierre - Delorme, Jacques-Robert - Mawet, Dimitri
- POSTER-WAV-COR-141 **Tests and characterizations of the ALPAO 64x64 deformable mirror, the MICADO-MAORY SCAO AIT facility**
Vidal, Fabrice - Raffard, Jordan - Thijs, Simone - Lapeyrere, Vincent - Gendron, Eric - Buey, Tristan - Clénet, Yann - Gratadour, Damien - Jagourel, Pascal - Sevin, Arnaud - Ferreira, Florian - Mahiou, Pierre
- POSTER-WAV-COR-142 **LINC-NIRVANA Commissioning at the Large Binocular Telescope - Lessons Learned**
Radhakrishnan Santhakuma, Kalyan Kumar - Arcidiacono, Carmelo - Bergomi, Maria - Bertram, Thomas - Briegel, Florian - Farinato, Jacopo - Herbst, Thomas M - Hill, John - Klettke, Micah - Marafatto, Luca - Ragazzoni, Roberto - Santos, Fabio P. - Viotto, Valentina
- POSTER-WAV-COR-143 **Tomography for SCAO with predictive control**
Niebsch, Jenny - Pöttinger, Markus - Obereder, Andreas - Ramlau, Ronny
- POSTER-WAV-COR-144 **The way to XAO: a system to correct NCP and TT aberrations tested in lab for SHARK-NIR**
Biondi, Federico - Marafatto, Luca - Vassallo, Daniele - Bergomi, Maria - Greggio, Davide - De Pascale, Marco - Umbriaco, Gabriele - Farinato, Jacopo - Carolo, Elena - Viotto, Valentina - Andrighettoni, Mario - Biasi, Roberto - Radhakrishnan Santhakuma, Kalyan Kumar - Arcidiacono, Carmelo - Magrin, Demetrio - Portaluri, Elisa - Chinellato, Simonetta - Ragazzoni, Roberto - Dima, Marco
- POSTER-WAV-COR-145 **Exploiting the pyramid WFS gain using a deformable lens as an NCPA corrector**
Bergomi, Maria - Quintavalla, Martino - Magrin, Demetrio - Bonora, Stefano - Ragazzoni, Roberto - Arcidiacono, Carmelo - Pinna, Enrico

- POSTER-WAV-COR-146 **MOEMS-based future systems for ELTs**
Zamkotsian, Frederic - Lanzoni, Patrick - Barette, Rudy - Helmbrecht, Michael - Feinberg, Michael - Lani, Sebastien - Timotijevic, Branislav - Petremand, Yves
- POSTER-WAV-COR-147 **Building the ESO ELT M4 adaptive Unit**
Vernet, Elise - Biasi, Roberto - Gallieni, Daniele - Tintori, Matteo - Briguglio, Runa - Andrighettoni, Mario - Angerer, Gerald - Manetti, Mauro - Pescoller, Dietrich - Anaclerio, Enzo - Barachetti, Omar - Crimella, Lorenzo - Fumi, Pierluigi - Kravets, Pavel - Kompero, Marco - Pariani, Giorgio - Riccardi, Armando - Cayrel, Marc - Kellerer, Aglae - Pettazzi, Lorenzo - Zuluaga, Pablo
- POSTER-WAV-COR-148 **Open loop optical performances of a 277 voice-coil actuators deformable mirror**
Briguglio, Runa - Selmi, Chiara - Busoni, Lorenzo - Agapito, Guido - bonaglia, marco - grani, paolo
- POSTER-WAV-COR-149 **Automatic Beam Stabilization for SHARK-VIS**
Mattioli, Massimiliano - Pedichini, Fernando - Stangalini, Marco - Li Causi, Gianluca - Antoniucci, Simone - Piazzesi, Roberto - Testa, Vincenzo
- POSTER-WAV-COR-151 **Focal plane wavefront sensors as a solution for multi-aperture telescope cophasing**
Vievard, Sebastien - Langinja, Iva - Cassaing, Frederic - Mugnier, Laurent - Bonnefois, Aurélie - Egron, Sylvain - Soummer, Rémi - Sauvage, Jean-François - Guyon, Olivier - Lozi, Julien
- POSTER-WAV-COR-152 **A Shack-Hartmann based setup to study deformable mirrors dynamics at very high framerates**
Pathak, Prashant - Kasper, Markus - STRÖBELE, Stefan - Cerpa, Nelly
- POSTER-WAV-COR-153 **TMT Adaptive Secondary Mirror feasibility study**
Biasi, Roberto - Manetti, Mauro - Angerer, Gerald - Tintori, Matteo - Gallieni, Daniele - Boyer, Corinne - Wang, Lianqui - Trubey, Melissa - Trancho, Gelys - Rogers, John

- POSTER-WAV-COR-154 **Characterization and control of an ALPAO deformable mirror to reach stable operability**
 Haguenauer, Pierre - Guieu, Sylvain - Egner, Sebastian
 - Woillez, Julien - Lebouquin, Jean-Baptiste - Verinaud, Christophe - Shchekaturov, Pavel - Dembet, Roderick
 - Darre, Pascaline - Gonté, Frédéric - Jocu, Laurent
 - Moulin, Thibault - Delboulbé, Alain - Berger, Jean-Philippe

WAVEFRONT SENSING

- POSTER-WAV-SEN-204 **A digital prism based wavefront sensor test bench**
 Engler, Byron - Weddell, Steve - Clare, Richard
- POSTER-WAV-SEN-206 **HARMONI SCAO Prototyping**
 El Hadi, Kacem - Le Merrer, Joel - Vola, Pascal - Sauvage, Jean-François - Renault, Edgard - Dohlen, Kjetil - Neichel, Benoit - Fusco, Thierry - Clarke, Fraser - Schnetler, Hermine - Bryson, Ian - Tecza, Matthias - Thatte, Niranjana
- POSTER-WAV-SEN-207 **Alternative solution for the detector module of the HARMONI LGSS: design, components, assembly and test plan**
 Caillat, Amandine - Costille, Anne - Dohlen, Kjetil - Rabou, Patrick - Gach, Jean-Luc - Bonnefoi, Anne - Boutolleau, David - Correia, Carlos - Correia, Jean-Jacques - El Hadi, Kacem - Feautrier, Philippe - Fusco, Thierry - Henault, François - Hubert, Zoltan - Ke, Zibo - Moulin, Thibault - Neichel, Benoit - Renault, Edgard - Stadler, Eric - Vola, Pascal
- POSTER-WAV-SEN-208 **Design of the HARMONI Pyramid WFS module**
 Schwartz, Noah - Sauvage, Jean-François - Correia, Carlos - Neichel, Benoit - Fusco, Thierry - Dohlen, Kjetil - El Hadi, Kacem - Petit, Cyril - Renault, Edgard - Choquet, Elodie - Chambouleyron, Vincent - Paufigue, Jerome - Clarke, Fraser - Thatte, Niranjana - Bryson, Ian

- POSTER-WAV-SEN-209 **The C-RED fast infrared camera family for wavefront sensing**
Feautrier, Philippe - Gach, Jean-Luc - Lemarchand, Stéphane - Clop, Fabien - Carmignani, Thomas - Wanwanscappel, Yann - Stadler, Eric - Boutolleau, David
- POSTER-WAV-SEN-210 **Update AO Camera Developments at ESO**
Downing, Mark - Amico, Paola - Brinkmann, Martin - Casali, Mark - Conzelmann, Ralf - Engelhardt, Max - Geimer, Christoph - Marchetti, Enrico - Mehrgan, Leander - Moins, Christophe - Molina-Conde, Ignacio - Mueller, Eric - Quentin, Jutta - Seidel, Matthias - Stegmeier, Joerg - Todorovic, Mirko - Reyes, Javier
- POSTER-WAV-SEN-211 **Refining CANARY's elongated LGS wavefront sensing error breakdown**
Bardou, Lisa - Gendron, Éric - Rousset, Gérard - Basden, Alastair - Bonaccini Calia, Domenico - Buey, Tristan - Centrone, Mauro - Chemla, Fanny - Gach, Jean-Luc - Geng, Deli - Gratadour, Damien - Hubert, Zoltán - Laidlaw, Douglas - Morris, Tim - Meyers, Richard - Osborn, James - Reeves, Andrew - Townson, Matthew
- POSTER-WAV-SEN-212 **Full-Frame vs. Slopes-Maps: impact on the Pyramid WFS's sensitivity and linearity**
Fauvarque, Olivier - Schatz, Laren - Janin-Potiron, Pierre - Chambouleyron, Vincent - Hutterer, Victoria - Brûlé, Yoann - Correia, Carlos - Sauvage, Jean-Francois - Neichel, Benoit - Fusco, Thierry
- POSTER-WAV-SEN-213 **On-sky validation of ZELDA, a Zernike wavefront sensor for the calibration of quasi-static aberrations in VLT/SPHERE**
Vigan, Arthur - N'Diaye, Mamadou - Dohlen, Kjetil - Milli, Julien - Wahhaj, Zahed - Sauvage, Jean-François - Mouillet, David - Beuzit, Jean-Luc - Zins, Gérard

- POSTER-WAV-SEN-214 **Fine alignment of the pyramid WFS for SOUL**
Pinna, Enrico - Briguglio, Runa - Agapito, Guido - Rossi, Fabio - Puglisi, Alfio - Montoya, Oscar - Durney, Oliver - Bonaglia, Marco
- POSTER-WAV-SEN-215 **High precision, high speed WFS techniques in Extreme adaptive optics for high'contrast applications**
Langlois, Maud - Loupias, Magali
- POSTER-WAV-SEN-216 **Focal plane wavefront measurement with convolutional neural network for high-contrast imaging**
Orban de Xivry, Gilles - Vanberg, Pierre-Olivier - Absil, Olivier - Louppe, Gilles
- POSTER-WAV-SEN-217 **Use of plenoptic WFS to measure concurrent sodium density profiles of LGS**
Zhang, Zhentao - Bharmal, Nazim - Morris, Tim - Liang, Yonghui
- POSTER-WAV-SEN-218 **Exoplanet direct imaging in ground-based conditions on THD2 bench**
Potier, Axel - Baudoz, Pierre - Galicher, Raphaël - Singh, Garima
- POSTER-WAV-SEN-219 **Flattened' Pyramid Wavefront Sensor Demonstration with a regular double-pyramid**
Lardi re, Olivier - Krawciw, Alexander - V ran, Jean-Pierre - Andersen, David
- POSTER-WAV-SEN-220 **The pulse height distribution in the SAPHIRA avalanche photodiode array**
McLeod, Brian
- POSTER-WAV-SEN-221 **Software solutions for high performance AO in the SOUL project**
Rossi, Fabio - Puglisi, Alfio - Pinna, Enrico - Grani, Paolo
- POSTER-WAV-SEN-222 **A Fast Linear Reconstructor for the Nonlinear Curvature Wavefront Sensor (nlCWFS)**
Codona, Johanan - Mateen, Mala - Hart, Michael

- POSTER-WAV-SEN-223 **Ingot wavefront sensor: from the optical design to a preliminary laboratory test**
Di Filippo, Simone - Greggio, Davide - Bergomi, Maria - Kumar Radhakrishnan Sant, Kalyan - Portaluri, Elisa - Viotto, Valentina - Arcidiacono, Carmelo - Magrin, Demetrio - Marafatto, Luca - Dima, Marco - Farinato, Jacopo - Ragazzoni, Roberto
- POSTER-WAV-SEN-224 **BESTFRENDs: An experimental bench aimed to improve AO systems by exploring novel techniques of segmented telescope phasing error estimation and atmospheric wavefront prediction and reconstruction**
Lamb, Masen - Swanson, Robin - Sivanandam, Suresh - Zavyalova, Polina - Correia, Carlos - Kutulakos, Kyros
- POSTER-WAV-SEN-225 **Design and demonstration of a reflective Pyramid wavefront sensor**
Sanchez, Dominic - Bond, Charlotte Z. - Chun, Mark
- POSTER-WAV-SEN-226 **ALTAIR Beam Splitter upgrade and Non-Common-Path Abberations**
Catala, Laure - Ball, Jesse - White, John
- POSTER-WAV-SEN-228 **Optical alignment of the LGS and NGS WFS of ERIS: procedures and first results**
Bonaglia, Marco - Briguglio, Runa - Grani, Paolo - Esposito, Simone - Riccardi, Armando - Xompero, Marco
- POSTER-WAV-SEN-229 **Verification and Acceptance Test Results of the ERIS Adaptive Optics Module Mechatronics**
Grani, Paolo - Xompero, Marco - Bonaglia, Marco - Briguglio, Runa - Biliotti, Valdemaro - Agapito, Guido - Riccardi, Armando - Esposito, Simone
- POSTER-WAV-SEN-230 **The wavefront sensing making-of for THEMIS solar telescope**
Tallon, Michel - Thiébaud, Eric - Langlois, Maud - Gelly, Bernard - Douet, Richard - Béchet, Clémentine - Denis, Loïc - Moretto, Gil

POSTER-WAV-SEN-231 **Modal wavefront sensor concept using photonic crystals and nanostructures**
Guenette, Jason - Thibault, Simon

POSTER-WAV-SEN-232 **Tailoring COFFEE to phase segmented aperture high-contrast imaging systems**
Mugnier, Laurent - Sauvage, Jean-François - Laginja, I.
- Leboulleux, L. - Soummer, R. - Fusco, Thierry - Pueyo, L. - Le Duigou, J.-M.

INDEX OF AUTHORS

A

Abdurrahman, Fatima	50
Absil, Olivier	14, 18, 25, 35, 40, 54, 64
Adamson, Andy	32
Adkins, Sean	15
Agapito, Guido	15, 17, 19, 20, 27, 35, 37, 61, 64, 65
Agocs, Tibor	14
Agüero, Juan Carlos	34
Akiyama, Masayuki	33, 48, 50
Alaluf, David	21, 49
Allan, Gregory	57
Alonso Sanchez, Angel	32
Alvarez, Carlos	54
Amico, Paola	63
Anaclerio, Enzo	61
Andersen, David	15, 17, 17, 24, 27, 28, 29, 32, 33, 35, 36, 38, 43, 44, 48, 56, 57, 64
Andrighettoni, Mario	26, 34, 38, 60, 61
Angel, Roger	29
Angeli, George	19, 23, 46, 46
Angerer, Gerald	61
Ansdell, Megan	54
Antoniucci, Simone	15, 37, 37, 59, 61
Arcidiacono, Carmelo	15, 16, 19, 27, 34, 37, 38, 39, 39, 39, 40, 56, 60, 60, 60, 65
Arcier, Benjamin	32
Aribi, Tarek	26
Aristidi, Eric	45, 46, 47
Arsenault, Robin	15
Artigau, Etienne	40, 50
Asensio, Andrés	24, 54

Ashby, David	19
Atwood, Jenny	17, 28, 35, 38, 43, 56, 57
Auzinger, Günter	53
Ayancan, Boris	46
B	
Bacciotti, Francesca	37
Bacon, Roland	30
Baffa, Carlo	37
Bailey, Vanessa	47
Baker, Ian	42
Ball, Jesse	48, 65
Barachetti, Omar	61
Baranec, Christoph	36, 50, 59
Barbary, Gaële	34
Bardou, Lisa	17, 35, 50, 63
Barette, Rudy	61
Barl, Lothar	55
Barr, David	52
Barrios, Ricardo	21, 49
Bartos, Randall	29
Bartos, Randy	29
Baruffolo, Andrea	37
Basden, Alastair	20, 21, 22, 34, 35, 47, 53, 54, 63
Bassett, John	48
Bastard, Arnaud	26
Baudoz, Pierre	36, 39, 52, 60, 64
Beaufort, Emmanuel	26
Bec, Matthieu	26
Béchet, Clémentine	45, 65
Bechter, Andrew	22
Belikov, Ruslan	24
Beltramo-Martin, Olivier	15, 30, 35, 45, 59
Ben Nejma, Saber	34

Bendek, Eduardo	24
Benn, Chris	48
Bennet, Francis	45, 49
Benoit, Neichel	56
Berger, Jean-Philippe	62
Bergomi, Maria	15, 16, 19, 27, 34, 37, 37, 37, 40, 56, 60, 60, 65
Berkefeld, Thomas	24
Bernard, Julien	33
Bertram, Thomas	18, 19, 25, 52, 53, 60
Bertrou-Cantou, Arielle	23, 42
Beuzit, Jean-Luc	17, 58, 63
Bharmal, Nazim	22, 45, 48, 64
Bian, Qi	47
Biancat-Marchet, Fabio	17
Bianco, Andrea	37
Biasi, Roberto	26, 34, 51, 60, 61, 61
Bierden, Paul	26
Bifano, Thomas	26
Biliotti, Valdemaro	65
Biondi, Federico	16, 27, 37, 37, 56, 60
Birchard, Mariah	49
Bizenberger, Peter	18
Blain, Célia	14
Blain, Célia	14, 40
Blakeslee, John	27
Blanco, Leonardo	17, 23, 27
Blank, Andrea	27
Blin, Alexandre	34
Blind, Nicolas	40, 50
Blough, Catherine	27
Blundell, Mark	48
Bo, Yong	47

Bohlman, Chris	44
Bohn, Alexander	14
Bon, William	17
Bonaccini Calia, Domenico	21, 21, 47, 48, 49, 50, 63
Bonaglia, Marco	15, 19, 35, 61, 64, 65
Bond, Charlotte	15, 29, 29, 35, 51, 52, 54, 56, 65
Bongiorno, Angela	37
Bonnefoi, Anne	17, 23, 62
Bonnefois, Aurelie	23, 17, 20, 61
Bonnet, Henri	17, 55
Bonora, Stefano	60
Borgo, Bruno	34
Bos, Steven	20, 22, 24, 44, 50
Boucher, Marc-André	38
Bouchez, Antonin	19, 28, 29, 46, 52, 56, 56
Bouchy, François	40
Boutolleau, David	15, 62, 63
Bowers, Kade	55
Boyer, Corinne	15, 57, 59, 61
Brandl, Bernhard	14, 32
Brandner, Wolfgang	25
Briegel, Florian	18, 19, 53, 60
Briguglio, Runa	19, 32, 43, 61, 64, 65, 65
Brillant, Stephane	25, 39
Brinkmann, Martin	63
Brodrick, David	15
Brossus, Glenn	19
Brousseau, Denis	36, 49
Brown, James	42, 54
Brulé, Yoann	15, 35, 16, 22, 41, 63
Brusa, Guido	26, 57
Bryson, Ian	17, 23, 28, 35, 62, 62
Buey, Tristan	22, 34, 39, 43, 60, 63

Busoni, Lorenzo	15, 17, 27, 35, 35, 56, 61
Butterley, Timothy	46
Byrd, Olivia	21, 42, 47
Byrnes, Peter	57, 57
C	
Cabrera-Lavers, Antonio	48
Cahoy, Kerri	57
Cai, Bojun	58
Caillat, Amandine	15, 17, 23, 62
Calcines-Rosario, Ariadna	17, 35
Cantalloube, Faustine	14, 18, 25, 40
Cantiello, Michele	39
Carbonaro, Luca	19
Cardenas Vazquez, Conchi	18
Carlomagno, Brunella	14, 35, 40
Carlotti, Alexis	17, 28, 37, 43
Carmignani, Thomas	63
Carolo, Elena	37, 39, 60
Carrasco, Rodrigo	27, 49
Carvajal, Rodrigo	34
Casali, Mark	42, 63
Casey, Kelleen	36
Casier, Olivier	26
Cassaing, Frederic	20, 61
Castro Almazan, Julio	32, 48
Catala, Laure	27, 33, 48, 65
Catropa, Daniel	29
Cavallaro, Alessandro	19, 57
Cavedoni, Chas	27
Cayrel, Marc	61
Centrone, Mauro	21, 49, 50, 63
Cerpa, Nelly	61
Cetre, Sylvain	15, 29, 29, 36, 43, 51, 54, 54

Chabé, Julien	45, 46, 47
Chabot, Tristan	49
Chacon, Arlette	25
Chambouleyron, Vincent	16, 41, 41, 52, 56, 62, 63
Chapman, Scott	29, 33, 36
Chapron, Frédéric	34
Charton, Julien	26, 26, 53
Cheffot, Anne-Laure	22, 53, 55
Chemla, Fanny	34, 43, 63
Chen, Shaojie	36, 49
Chilcote, Jeffrey	24, 47, 50, 57
Chin, Jason	36
Chinellato, Simonetta	37, 37, 56, 60
Chinn, Brian	27, 49
Chirre, Emmanuel	27, 32, 49
Chisholm, Eric	35, 50
Choquet, Elodie	17, 62
Chou, Chi-Yi	33
Christou, Julian	19, 27, 34, 40, 57, 57
Chun, Mark	14, 15, 23, 25, 27, 29, 29, 33, 36, 36, 50, 51, 54, 54, 59, 65
Ciliegi, Paolo	17, 34, 35, 39, 55, 58
Ciurlo, Anna	30, 30, 59
Clare, Richard	41, 62
Clark, James	57
Clark, Paul	35
Clarke, Fraser	17, 23, 28, 35, 35, 62, 62
Clénet, Yann	23, 28, 34, 39, 60
Clergeon, Christophe	15, 24, 33, 48, 54
Clop, Fabien	63
Close, Laird	29, 37, 54, 56
Codona, Johanan	64
Cohen, Mathieu	34, 43

Collados Vera, Manuel	24, 54, 58
Collins, Paul	49
Conan, Rodolohe	19, 23, 28, 35, 46, 46, 56
Conrad, Albert	26, 39
Conseil, Simon	30
Conzelmann, Ralf	63
Copeland, Michael	45
Cornelissen, Steven	26
Cororel, Maria	34
Correia, Carlos	15, 16, 17, 22, 23, 25, 27, 29, 30, 30, 33, 34, 35, 35, 36, 41, 41, 41, 45, 45, 46, 52, 52, 55, 56, 58, 59, 59, 62, 63, 65
Correia, Jean-Jacques	62
Cortes, Angela	39
Costille, Anne	17, 23, 34, 62
Cottin, Pierre	38
Cournoyer, Alain	43
Courtney-Barrer, Benjamin	32
Crane, Jeffrey	43, 56, 57
Cranney, Jesse	53, 53, 58
Crass, Jonathan	22
Cresci, Giovanni	15
Crimella, Lorenzo	61
Cunningham, Christy	48
Currie, Thayne	24
Cvetojevic, Nick	24, 40
D	
D'Arco , Joseph	29
D'Orazi, Valentina	37, 37, 39
d'Orgeville, Celine	33, 45, 48, 48, 49
Damien, Gratadour	27
Darre, Pascaline	62
Das, Kaushik	23, 28

Davies, Jordan	33
Davies, Richard	24, 28, 34, 38, 39, 39, 55, 58
Davis, Kristina	44
de Boer, Jos	14
De Cos Juez, Francisco Javier	24, 53, 54
De Dona, Jose	53, 58
de Kleer, Katherine	39
de la Rosa, Jose Marco	47
De Pascale, Marco	37, 37, 60
de Pater, Imke	39
de Ugarte Postigo, Antonio	21
Delacroix, Christian	14, 35, 40
Delboulbé, Alain	62
Deller, Adam	34
Delorme, Jacques-Robert	15, 29, 29, 51, 54, 60
Dembet, Roderick	62
Deng, Keran	47
Denis, Loïc	65
Dennihiy, Erik	46
Densmore, Adam	43, 43, 57
Déo, Vincent	22, 23, 28, 34, 42, 43
Desnoyers, Nichola	38, 43
Di Antonio, Ivan	58
Di Ciannoa, Amico	58
Di Filippo, Simone	16, 34, 37, 56, 65
Di Paola, Andrea	21
Di Ricoa, Gianluca	58
Diaz, Pablo	49
Diaz, Ruben	27
Didato, Nick	29
Dietrich, Philipp-Immanuel	22
Dietzel, Oliver	26
Dima, Marco	16, 27, 34, 37, 40, 60, 65

Dimoudi, Sofia	34, 35
Diolaiti, Emiliano	34
Do, Tuan	30, 59
Dobrzycka, Danuta	38
Doelman, David	14, 22, 24, 44, 50
Doelman, Niek	52
Dohlen, Kjetil	17, 23, 28, 34, 35, 43, 62, 62, 62, 63
Doi, Yoshiyuki	48
Dolci, Mauro	58
Donahue, Jeff	48, 49
Donaldson, Robert	52
Dong, Jinyan	47
Dong, Ruoxi	47
Doucet, Nicolas	27
Douet, Richard	65
Douglas, Ewan	57
Downing, Mark	16, 63
Doyon, René	40
Dubbeldam, Marc	17, 35
Duboisset, Julien	22
Duchene, Gaspard	40
Duhoux, Philippe	38, 38, 39
Dumas, Christophe	48
Dungee, Ryan	33, 50
Dunn, Jennifer	15, 20, 35, 56, 57
Dupuis, Olivier	34, 52
Dupuy, Trent	27, 48
Durney, Oliver	19, 64
E	
Eads, Ryker	29
Ebbers, Angelic	48, 49
Echeverri, Daniel	29, 51

Egner, Sebastian	17, 62
Egron, Sylvain	61
Eickhoff, Mark	47
Eisenhauer, Frank	42
El Hadi, Kacem	17, 23, 28, 41, 46, 62
Ellerbroeck, Brent	30
Ellis, Simon	15, 56
Engelhardt, Max	42, 63
Engler, Byron	41, 62
Epinat, Benoit	17
Erickson, Darren	36
Escarate, Pedro	34
Esposito, Simone	15, 17, 19, 27, 27, 35, 37, 45, 56, 57, 65, 65
Esselborn, Michael	17
Estrada, Alberto	35
Etsuko, Mieda	54
F	
Fabricius, Maximilian	38, 55
Falomo, Renato	39
Fan, Tingwei	47
Fantei-Caujolle, Yan	45, 46, 47
Farinato, Jacopo	16, 19, 27, 34, 40, 56, 60, 60, 65
Farisato, Giancarlo	37
Farley, Ollie	25, 46
Fauvarque, Olivier	16, 22, 41, 41, 52, 52, 56, 63
Feautrier, Philippe	17, 23, 62, 63
Fédou, Pierre	34
Fehlberg, Olivia	55
Feinberg, Michael	61
Feldt, Markus	14, 18, 25
Feng, Yan	47
Fernández, Covadonga	54

Ferrara, Jocelyn	48
Ferrari, Marc	17
Ferreira, Florian	22, 23, 28, 33, 34, 34, 42, 60
Fetzer, Gregory	48
Feuchtgruber, Helmut	39
Figueroa, Carlos	49
Filippo, Simone	27
Finger, Gert	42
Fiorentino, Giuliana	38
Fitzgerald, Michael	14, 23, 29, 39, 54
Fitzsimmons, Joeleff	28, 38, 43, 57
Flanagan, Michael	54
Fohring, Dora	50
Frank, Christoph	55
Frazin, Richard	22
Fritz, Erik	36, 59
Fuentes, Javier	46
Fumi, Pierluigi	61
Fusco, Thierry	15, 16, 17, 22, 23, 25, 27, 28, 30, 34, 35, 41, 45, 46, 52, 55, 56, 56, 59, 59, 62, 62, 63, 66

G

Gach, Jean-Luc	15, 17, 23, 62, 63
Galicher, Raphael	52, 36, 60, 64
Galla, Antony	48
Gallieni, Daniele	61
Ganton, Colin	43
Gao, Yue	48
Garcia, Paulo	58
García Lorenzo, Begoña	32
García Riesgo, Francisco	54
Garrel, Vincent	34, 49, 55, 58
Gauchet, Lucien	40

Gaudemard, Julien	34, 43
Gaug, Markus	48
Gausachs, Gaston	33, 52
Geimer, Christoph	63
Geis, Norbert	55
Gelly, Bernard	38, 65
Gemperlein, Hans	55
Gendron, Eric	22, 23, 27, 28, 34, 39, 42, 43, 50, 58, 60, 63
Geng, Deli	63
Gerard, Benjamin	36
Gers, Luke	48
Gharavi, Niloofar	20
Gibson, William	42
Gigoux, Pedro	49
Gil-Ortero, Rafael	16
Gilles, Luc	15, 57, 59
Giordano, Christophe	45, 46, 47
Girard, Julien	14
Glauser, Adrian	18
Glazebrook, Karl	34
Glueck, Martin	22, 26
Goebel, Sean	51
Gonté, Frederic	17, 62
Gonzalez, Hector	46
Gonzalez-Gutierrez, Carlos	53, 54
Goode, Phil	50
Goodrich, Robert	46
Goodsell, Stephen	27, 33
Gorceix, Nicolas	50, 58
Graham, James	54
Grandmont, Frédéric	43

Grani, Paolo	19, 61, 64, 65
Gratadour, Damien	15, 22, 23, 28, 33, 34, 34, 54, 60, 63
Grefe, Timothee	35
Greggio, Davide	15, 16, 27, 34, 37, 37, 40, 56, 60, 65
Grenier, Martin	38
Grèzes-Besset, Catherine	26
Groark, Frank	19
Groëninck, Denis	26
Groff, Tyler	24, 50, 57
Grosse, Doris	45
Groussin, Olivier	17
Guenette, Jason	66
Guesalaga, Andres	46
Guieu, Sylvain	62
Guinet, Jean-Michel	26
Gullieuszik, Marco	39
Guthery, Charlotte	41, 42
Guyon, Olivier	14, 15, 15, 19, 20, 22, 23, 24, 29, 34, 36, 37, 40, 44, 50, 51, 54, 56, 57, 61

H

Hackenberg, Wolfgang	21, 49
Haeussler, Boris	39
Haffert, Sebastiaan	14
Haguenauer, Pierre	15, 46, 62
Hainaut, Olivier	25
Hall, Donald	15, 29
Hamilton, Ryan	42, 55
Hammersley, Peter	17
Hardy, Tim	35, 57
Harris, Robert	22

Hart, Michael	33, 34, 41, 41, 42, 42, 54, 55, 55, 56, 64
Hattori, Takashi	48
Hayano, Yutaka	30, 33, 35, 48
Hayashi, Masato	24
Hayward, Thomas	46
Hegwer, Steve	58
Helin, Tapio	47, 53, 55
Hellemeier, Joshua	21, 48, 49
Helmbrecht, Michael	61
Henault, Francois	17, 23, 43, 62
Henning, Thomas	18
Herbst, Thomas	19, 57, 60
Heritier, Cedric	35, 45
Hernández, Elvio	49
Herrald, Nicholas	33, 48, 49
Herriot, Glen	15, 17, 17, 28, 30, 32, 35, 38, 43, 57
Hibon, Pascale	38, 39
Hickson, Paul	36, 48
Hilburn, Eddie	47
Hill, John	26, 34, 60
Hinz, Philip	19, 36, 37, 57
Hippler, Stefan	14, 18
Hirschauer, Alec	24
Hirst, Paul	27, 32, 33, 48, 49
Hoff, Brian	56
Holzlohner, Ronald	22, 53
Hörmann, Veronika	34, 55
Hottinger, Philipp	22
Huang, Jian	47
Huang, Yi	58
Huber, Armin	18
Hubert, Zoltan	17, 23, 34, 62, 63

Huby, Elsa	24, 39, 40
Huet, Jean-Michel	34, 43
Hutterer, Victoria	22, 51, 52, 52, 58, 63
Hyatt, Justin	29
I	
Ireland, David	47
Ireland, Michael	24
Ives, Derek	42
J	
J.Wilby, Michael	44
Jackson, Kate	29, 33, 57
Jacobson, Shane	15, 29
Jagourel, Pascal	51, 60
Jameson, Anfrew	34
Janin-Potiron, Pierre	16, 22, 35, 41, 41, 52, 56, 63
Jenkins, David	20, 34, 35, 53
Jensen-Clem, Rebecca	54
Jeram, Bogdan	46, 52
Jia, Peng	58
Jiang, Changchun	15
Jin, Kai	47
Jocou, Laurent	17, 43, 62
Johnson, Luke	58
Johnson, Robert	21, 42, 47
Jolissaint, Laurent	32, 59
Jorden, Paul	16
Jovanovic, Nemanja	14, 15, 20, 23, 24, 29, 29, 36, 39, 40, 44, 50, 51, 54
K	
Kamann, Sebastian	30
Kamp, Poul-Henning	52
Kann, Lee	47
Kansky, Jan	29

Karlsson, Michael	54
Kasdin, Jeremy	24, 50
Kasper, Markus	45, 52, 61
Kawahara, Hajime	24
Ke, Zibo	17, 23, 62
Keller, Christoth	20, 44
Kellerer, Aglae	21, 53, 61, 22
Kennedy, Gerard	48
Kenworthy, Matthew	14, 18, 25, 52
Kerley, Dan	17, 20, 28, 57
Keyes, David	27
Kleinman, Scot	27, 32
Klettke, Micah	19, 60
Knight, Justin	24, 44
Kolb, Johann	30, 38, 43, 45, 49
Konopacky, Quinn	39
Koos, Christian	22
Kopon, Derek	29
Korkiakoski, Visa	15, 33, 45, 53, 53, 58
Kornweibel, Nick	52, 55
Kosmalski, Johan	55
Kotani, Takayuki	24, 40
Kravets, Pavel	61
Krawciw, Alexander	64
Krol, Hélène	26
Kudo, Tomoyuki	24, 50
Kuiper, Stefan	36, 59
Kulas, Martin	18, 25, 53
Kulscar, Caoline	58
Kumar Radhakrishnan Sant, Kalyan	65
Kuntschner, Harald	38
Kupke, Renate	36, 50
Kutulakos, Kyros	65

L

La Penna, Paolo	55
Lacour, Sylvestre	24, 40
Laginja, I.	66
Lai, Olivier	25, 36, 40, 50
Laidlaw, Douglas	63
Lam, Charlie	26
Lamb, Masen	27, 29, 33, 36, 65
Lamontagne, Frédéric	38, 43
Landureau, Christophe	26
Langinja, Iva	61
Langlois, Maud	38, 64, 65
Lani, Sebastien	61
Lantéri, Henri	47
Lanzoni, Patrick	61
Lapeyrere, Vincent	60, 34
Lardièrre, Olivier	17, 17, 29, 33, 36, 38, 43, 43, 44, 57, 64
Larkin, James	35, 50
Larouche, Martin	43
Larrieu, Marie	34
Laslandes, Marie	26
Laugier, Romain	24, 25
Lawrence, Grace	24
Lazo, Manuel	49
Le Duigou, J.-M.	66
Le Louarn, Miska	17, 27, 41, 45, 46
Le Merrer, Joel	28, 62
Le Mignat, David	51
Le Ruyet, Bertrand	34
Leboulleux, L.	66
Lebouquin, Jean-Baptiste	62
Leclerc, Mélanie	38

Lefebvre, Michael	19, 57
Lehtonen, Jonatan	47, 55
Le Louarn, Miska	17
Lemarchand, Stéphane	63
Lemoine-Busserolle, Marie	27, 36
Leroux, Sébastien	26
Lessio, Luigi	37
Lévêque, Samuel	21, 22, 53, 55
Lewis, Steffan	17, 55
Li, Min	47
Li, Yang	42
Li Causi, Gianluca	37, 59, 61
Liang, Yonghui	64
Lilley, Scott	15, 29, 29, 36, 51, 54
Lim, Caroline	17, 23
Lingham, Marcus	45, 52
Lison, Frank	47
Liu, Xuewen	53
Lockhart, Charles	15, 29, 51
Lombardi, Gianluca	21, 27, 32, 33, 46, 49
Lopez, Roberto	49
Lotz, Jennifer	27
Loupas, Magali	64
Loupe, Gilles	64
Lozi, Julien	15, 20, 22, 24, 40, 50, 54, 57, 61
LTaief, Hatem	27
Lu, Jessica	30, 30, 36, 36, 50, 59, 59
Luder, Ryan	55
Lumbres, Jennifer	44, 57
Lussier, Renaud	59
Lyke, Jim	43

M

M. Close, Laird	44
Macintosh, Bruce	36
Madec, Pierre-Yves	27, 30, 38, 38, 45, 46
Madurowicz, Alex	47
Magnard, Yves	43
Magrin, Demetrio	15, 16, 27, 34, 35, 37, 37, 40, 56, 60, 60, 65
Mahiou, Pierre	26, 60
Males, Jared	19, 22. 29, 41, 44. 54, 56, 57
Mandla, Christopher	42, 55
Manetti, Mauro	61, 61
Mangharam Chulani, Haresh	58
Maniscalco, Matthew	36, 59
Marafatto, Luca	16, 19, 27, 34, 37, 37, 56, 60, 60, 65
Marchetti, Enrico	16, 17, 52, 63
Marchis , Franck	40
Marco, Jose	49
Marconi, Alessandro	14
Marin, Eduardo	27, 32, 33, 48, 49
Marino, Jose	50, 56, 58
Marois, Christian	14, 36, 40, 57
Martayan, Christophe	25, 46
Martelloni, Gianluca	25, 45
Martin, Bruno	53
Martin, Emily	29, 29
Martin, Olivier	38,
Martinache, Frantz	20, 24, 50
Martinez, Noelia	48
Martinez Rey, Noelia	21, 32, 48
Masciadri, Elena	25, 45
Massari, Davide	38

Masten, Gordon	47
Mata Calvo, Ramon	21, 49
Mateen, Mala	64
Mato , Angel	58
Matthews , Keith	54
Mattioli, Massimiliano	37, 59, 61
Mawet, Dimitri	14, 15, 23, 29, 29, 32, 36, 39, 51, 54, 54, 54, 60
Mazin, Benjamin	14, 23, 24, 36, 50, 54
Mazzoni, Tommaso	19
McCracken, Kenneth	29
McDermid, Richard	15
McEwen, Eden	54
McLeod, Brian	19, 29, 46, 64
McMuldroch, Stuart	29
Mehrgan, Leander	63
Meimon, Serge	17
Meixner, Margaret	24
Mesa, Dino	37, 37, 39
METIS Consortium, The	32
Meyers, Richard	63
Michel, Laura	26
Mieda, Etsuko	15, 48, 50
Mieske, Steffen	25
Millar-Blanchaer, Maxwell	40, 54
Miller, Douglas	19, 34, 40, 57
Miller, Kelsey	19, 22, 44
Milli, Julien	25, 32, 63
Minowa, Yosuke	15, 24, 33, 48, 50, 54, 57
Mitchell, Eric	33
Mitsuda, Kazuma	50
Mohr, Lars	18, 37
Moins, Christophe	63

Molina-Conde, Ignacio	63
Montera, Dennis	54
Montes, Vanessa	27, 32, 33, 49
Montilla, Iciar	47, 49
Montoya, Manny	37
Montoya, Oscar	19, 64
Montoya Martinez, Luz Maria	58, 24, 54
Moreau, Aurélien	26
Moreno, Cristian	27, 32, 49
Moretto, Gil	38, 65
Morgan, Rachel	57
Morin, Pierre	26
Morris, Evan	29
Morris, Tim	17, 21, 22, 25, 28, 34, 35, 46, 48, 49, 50, 53, 58, 63, 64
Morris, Timothy	20, 24, 35, 51, 54
Morzinski, Katie	19
Mouillet, David	32, 63
Moulin, Thibault	17, 43, 62
Mueller, Eric	63
Mugnier, Laurent	20, 61, 66
Mukae, Shiro	30
Muñoz-Tuñón, Casiana	48
Munro, Josephine	52
Muzzin, Adam	36
Myers, Richard	48, 53
N	
N'Diaye, Mamadou	20, 63
Navarrette, Julio	25, 46
Nayak, Omnarayani	24
Neichel, Benoit	15, 17, 22, 23, 24, 25, 27, 27, 28, 30, 34, 35, 35, 41, 41, 41, 43, 45, 46, 46, 49, 52, 55, 59, 59, 62, 62, 62, 63, 16

Neureuther, Philip	25, 52, 53
Niebsch, Jenny	58, 60
Nielsen, Eric	47
Nijenhuis, Jan	36, 59
Norris, Barnaby	20, 24, 50
Nour, Skaf	54
Nousiainen, Jalo	53
Noyes, Matthew	56
Nunez, Arturo	27
Núñez Cagigal, Miguel	47,49
Nurzia, Vittorio	38
O	
Obereder, Andreas	18, 51, 52, 52, 60
Oberti, Sylvain	17, 27, 43, 45
Ogane, Hajime	50
Olivier, Guyon	54
Ollat, Charles-Adrien	43
Ono, Yoshito	15, 33, 35, 48, 50, 54
Oomoto, Kaoru	50
Opitom, Cyrielle	38
Orban de Xivry, Gilles	14, 25, 35, 40, 64
Ortiz, Manuel	52
Osborn, James	20, 21, 25, 45, 46, 46, 49, 50, 58, 63
Otarola, Angel	48
Oya, Shin	50
P	
Pagès, Hubert	26
Paiano, Simona	39, 39
Palomo, Richard	26
Paradis, Simon	43
Pariani, Giorgio	32, 61
Patauner, Christian	34

Pathak, Prashant	14, 25, 40
Pathak, Prashant	61
Patron, Jesus	49
Paufique, Jerome	17, 23, 28, 38, 62, 45
Pavlica, Krysta	55
Peck, Alison	36
Pecontal, Arlette	34
Pedersen, Niels Hald	52
Pedichini, Fernando	15, 37, 37, 59, 61
Penate, Jose	49
Perdigues Armengol, Josep Maria	21, 49
Pereira Santaella, Miguel	40
Perera, Saavidra	46
Perez, Gabriel	49
Peroux, Celine	17
Perret, Denis	34
Perrin, Guy	40
Perrin, Marshall	47
Pescoller, Dietrich	34, 61
Petit, Cyril	17, 28, 34, 35, 62
Petr-Gotzens, Monika	38
Petremand, Yves	61
Pettazzi, Lorenzo	46, 61
Pezzato, Jackie	29
Pezzato, Jacklyn	29
Pfrommer, Thomas	17, 48, 55
Philip, Tait	54
Philippe, Feautrier	15
Piazzesi, Roberto	37, 59, 61
Pinna, Enrico	15, 19, 20, 21, 37, 37, 43, 56, 57, 60, 64, 64
Piqueras-Lopez, Javier	35
Plantet, Cedric	15, 17, 19, 27, 35, 41

Podgorski , William	29
Por, Emiel	14, 25, 44
Portaluri, Elisa	16, 27, 34, 37, 39, 39, 40, 56, 60, 65
Potier, Axel	52, 64
Pott, Jörg-Uwe	22, 26, 38
Pöttinger, Markus	60
Pourcelot, Raphael	15
Poyneer, Lisa	47
Price, Ian	49
Priem, Hans	59
Proulx, Christian	43
Provost, Natalie	27, 33, 49
Pueyo, Laurent	47, 66
Puga, Marta	47, 49
Puglisi, Alfio	19, 20, 21, 37, 43, 64, 64

Q

Quentin, Jutta	63
Quintavalla, Martino	60
Quiros-Pacheco, Fernando	46, 56, 19
Quirrenbach, Andreas	22

R

Rabien, Sebastian	34, 55, 57
Rabou, Patrick	17, 23, 43, 62
Radhakrishnan Santhakuma, Kalyan Kumar	16, 19, 37, 56,,60
Rafalimanana, Alohotsy	45
Raffard, Jordan	34, 60
Raffetseder, Stefan	52, 52
Ragazzoni, Roberto	15, 16, 19, 27, 34, 37, 40, 56, 60, 60, 60, 65
Ragland, Sam	15, 29, 29, 32, 33, 36, 51, 54, 54, 59
Rahmer, Gustavo	34, 57

Rakich, Andrew	19
Rako, Steve	48
Ramlau, Ronny	22, 51, 51, 52, 58, 59, 60
Ramos, Lucio	48
Rao, Chang-Hui	42, 43
Raynaud, Henri-Francois	58
Rees, Emily Rose	48
Reeves, Andrew	21, 49, 63
Reinhart, Lennon	42
Reinlein, Claudia	26
Renaud, Catherine	45, 46, 47
Renault, Edgard	17, 23, 26, 28, 62, 62, 62
Reshetov, Vlad	43
Reyes, Javier	63
Reyes Garcia-Talavera, Marcos	21, 47, 49
Ricard, Coba	57
Riccardi, Armando	19, 32, 61, 65, 65
Rice, Joseph	42, 55
Rigaut, Francois	15, 27, 33, 34, 45, 49, 53, 53, 58, 41, 56
Rimmele, Thomas	50, 58
Roberts, Scott	28
Rodack, Alexander	22, 44
Rodeghiero, Gabriele	38
Rodríguez Delgado, Horacio	58
Rodríguez Ramos, Luis Fernando	21, 32, 48, 49
Rogers, John	32, 61
Rohloff, Ralf-Rainer	18
Rosenquist, Calle	52
Rosensteiner, Matthias	55, 58
Rosich, Josefina	49
Rossi, Fabio	19, 20, 37, 43, 64, 64
Rothberg, Barry	40

Rousset, Gérard	22, 23, 28, 34, 42, 50, 58, 63
Routledge, Laurence	40
Roux, Bruno	26
Ruane, Garreth	54
Ruffio, Jean-Baptiste	47
Rundquist, Nils-Erik	50
Rutten, Rene	46, 49
Ryan, Peter	26
S	
Sahoo, Ananya	20, 24, 50, 57
Sakurai, Daiki	50
Salasnich, Bernardo	15
Sanchez, Dominic	65
Sanchez Bejar, Victor	49
Sánchez-Capuchino, Jorge	49
Santos, Fabio	19, 60
Santos, Paula	39
Sarazin, Marc	46, 46
Saunter, Chris	53
Sauvage, Jean-Francois	16, 17, 20, 22, 28, 34, 35, 41, 43, 45, 56, 61, 62, 63, 66, 16, 20
Sawicki, Marcin	36
Sawodny, Oliver	22, 26, 52
Scharwaechter, Julia	27
Schatz, Lauren	16, 41, 63
Scheithauer, Silvia	18, 25
Schimpf, Armin	53
Schmidt, Dirk	50, 56, 58
Schneider, Thomas	48
Schnetler, Hermine	17, 28, 34, 35, 62
Schubert, Josef	34, 39, 55
Schwab, Christian	56
Schwamb, Meg	27

Schwartz, David	23
Schwartz, Noah	17, 28, 35, 62
Schworer, Guillaume	40
Seidel, Matthias	63
Selmi, Chiara	61
Service, Max	50
Sevin, Arnaud	22, 28, 33, 34, 34, 54, 60
Sharp, Robert	15
Shatokhina, Iuliia	22, 51, 52, 58
Shchekaturov, Pavel	46, 62
Simard, Luc	36
Simoës, Roberto	49
Singh, Garima	52, 64
Sinquin, Jean-Christophe	26
Sitarski, Breann	46, 46
Sivanandam, Suresh	29, 33, 36, 49, 65
Sivo, Gaetano	22, 27, 29, 32, 33, 33, 36, 48, 49
Skemer, Andrew	14, 23, 36, 54
Smit, Roger	35
Smith, Adam	48
Smith, Craig	48
Smith, Malcolm	20, 34, 57
Snik, Frans	20, 22, 24, 44, 50
Sodnik, Zoran	48
Soummer, Rémi	61, 66
Speziali, Roberto	21
Spyromilio, Jason	17, 55
Stadler, Bernadett	51
Stadler, Eric	15, 17, 62, 62
Stangalini, Marco	24, 37, 37, 37, 59, 61
Stegmeier, Joerg	63
Steinbock, Michael	54
Steinbring, Eric	27

Stelter, Deno	36
Stephens, Andrew	48
Steuer, Horst	18, 53, 25
Stocks, Jonathan	57
Stroebele, Stefan	15, 26, 61
Stuik, Remko	18, 32
Sturm, Eckhard	55
Suárez Gómez, Sergio Luis	54
Suárez Valles, Marcos	35, 46, 52
Surya, Arun	50
Suzuki, Ryuji	30, 32, 35
Swanson, Robin	65
Swift, Nick	16
T	
Taheri, Mojtaba	15, 44, 54
Takami, Hideki	24
Takashi, Hattori	54
Tallon, Michel	38, 65
Tamura, Motohide	24, 50
Tanaka, Yoko	48
Taylor, Gregory	19, 34, 40, 57
Tecza, Matthias	17, 62
Tenegi, Fabio	49
Testa, Vincenzo	37, 59, 61
Thatte, Niranjan	17, 23, 28, 35, 62, 62
Thériault, Guillaume	43
Thibault, Simon	36, 49, 66
Thiébaud, Eric	38, 65
Thijs, Simone	34, 51, 60
Thompson, Dave	40
Thompson, Hugh	57
Thompson, Peter	19
Thompson, William	57

Thorn, Elliott	45, 48
Timotijevic, Branislav	61
Tintori, Matteo	32, 61
Todorovic, Mirko	63
Tolstoy, Eline	38
Toro, Eduardo	49
Townson, Matthew	20, 21, 49, 54, 63
Trancho, Gelys	15, 32, 35, 57, 61
Travouillon, Tony	45, 48, 52
Trubey, Melissa	61
Tubio, Oscar	47, 49
Turchi, Alessio	25, 45
Turri, Paolo	30, 59
Tuthill, Peter	24
U	
Umbriaco, Gabriele	16, 37, 60
Uslenghi, Michela	39
V	
Vaillant, Stéphane	26
Valenti, Elena	38
Valentini, Angelo	58
van Boekel, Roy	18, 25
van Dam, Marcos	19, 28, 29, 32, 32, 43, 46, 49
Van der Hoeven, Michiel	32
Van Gorkom, Kyle	19, 44
van Kooten, Maaïke	52
Vanberg, Pierre-Olivier	64
Vassallo, Daniele	37, 37, 39, 56, 60
Vaz, Amali	19, 57
Vaz, Txinto	58
Vedrenne, Nicolas	17, 34, 35
Veillet, Christian	26, 39, 40, 57, 57
Venn, Kim	36

Veran, Jean-Pierre	17, 17, 27, 28, 29, 35, 36, 36, 38, 57, 15, 20, 32, 33, 43, 43, 44, 64
Verdoes Kleijn, Gijs	58
Vergara, Vicente	32, 49
Verinaud, Christophe	27, 62, 17, 45
Vernet, Elise	26, 38, 61
Vernet, Joel	17, 30
Vidal, Fabrice	22, 23, 28, 34, 39, 42, 43, 60
Vievard, Sebastien	20, 24, 40, 50, 57, 61
Vigan, Arthur	17, 63
Viotto, Valentina	40
Vogiatzis, Konstantinos	23, 28, 46
Vogt, Frédéric	21
Vola, Pascal	17, 28, 35, 62, 62
von der Lühe and the EST, Oskar	24
Vulcani, Benedetta	58

W

W.G. Byrnes, Peter	38
Wagner, Roland	58, 58, 59
Wahhaj, Zahed	32, 63
Wallace, James	15, 29, 51, 54
Walter, Alex	24, 50, 51
Wang, Eric	29
Wang, Jason	29, 29
Wang, Ji	29
Wang, Lianqi	15, 32, 35, 57, 59, 61
Wang, Shengqian	43
Wang, Shiang-Yu	33
Wang , Sheng-Qian	42
Wanwanscappel, Yann	63
Warmbier, Eric	15, 29, 51
Webb, James	48

Weddell, Steve	41, 62
Wehrlé, Ronan	26
Wei, Kai	15, 42, 43, 47
Weller, Harald	42
Wetherell, Ed	15, 29, 36, 51, 54
White, John	65
Wilby, Mike	20
Wildi, François	40
Wilson, Richard	25, 46, 46
Withington, Kanoa	25
Witzel, Gunther	30, 30, 59
Wizinowich, Peter	15, 29, 29, 32, 33, 36, 51, 54, 54, 59
Wuillez, Julien	62
Wright, Shelley	35, 50
Wung, Matthew	48
Wyman, Keith	21, 47
X	
Xin, Yeyuan	57
Xompero, Marco	19, 32, 61, 65
Y	
Yamamuro, Tomoyasu	50
Yang, Huizhe	48
Yang, Xuezhong	47
Yoshida, Hiroshige	48
Younès, Youssef	34
Younger, Edward	34, 35
Yutaka, Hayano	54
Z	
Zamkotsian, Frederic	61
Zanutta, Alessio	37
Zavyalova, Polina	65
Zeilinger, Werner	58

Zhang, Jin	50
Zhang, Langqiang	58
Zhang, Lei	47
Zhang, Xianyu	26, 57
Zhang, Yudong	47
Zhang, Zhentao	64
Zheng, Wenjia	43
Ziad, Aziz	45, 46, 47
Ziegleder, Julian	55
Zinnecker, Hans	24
Zins, Gérard	34, 63
Zuluaga, Pablo	61
Zuo, Junwei	47

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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[illegible]

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[illegible]

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PROGRAM AT A GLANCE

Sunday, June 9	Monday, June 10	Tuesday, June 11	Wednesday, June 12	Thursday, June 13	Friday, June 14
	Registration	Registration	Registration	Registration	Registration
	SESSION 1 <i>Room 306AB</i>	SESSION 5 <i>Room 306AB</i>	SESSION 9 <i>Room 306AB</i>	SESSION 12 <i>Room 306AB</i>	SESSION 15 <i>Room 306AB</i>
	Coffee break - <i>Hall 310 & Espace urbain</i>				
	SESSION 2 <i>Room 306AB</i>	SESSION 6 <i>Room 306AB</i>	SESSION 10 <i>Room 306AB</i>	SESSION 13 <i>Room 306AB</i>	SESSION 16 <i>Room 306AB</i>
	Lunch - <i>Rooms 309AB & 309AB</i>				
	SESSION 3 <i>Room 306AB</i>	SESSION 7 <i>Room 306AB</i>	SESSION 11 <i>Room 306AB</i>	SESSION 14 <i>Room 306AB</i>	End of AO4ELT6
Registration	Coffee break - <i>Hall 310 & Espace urbain</i>	FREE TIME			POSTER SESSION <i>Hall 310 & Espace urbain</i> then get to the conference dinner on foot
	SESSION 4 <i>Room 306AB</i>				Conference dinner <i>Manège Militaire de Québec</i>
	POSTER SESSION <i>Hall 310 & Espace urbain</i>				
Welcome reception <i>Espace urbain</i>					