PROGRAMME


esa
WATER IN THE UNIVERSE
from clouds to oceans
12-15 April 2016
ESA/ESTEC, Noordwijk, The Netherlands
The conference will cover all astrophysical aspects of water, including the water trail, from the formation of water in molecular clouds to water on planetary bodies, including in our own solar system; water as a probe of physics and chemistry; and water in nearby to water in extra-galactic and high redshift sources.
Science Organising Committee
Yuri Aikawa
Ted Bergin
Cecilia Ceccarelli
Ewine van Dishoeck
Yu Gao
Paul Hartogh
Darek Lis
Göran Pilbratt
Axel Weiss
Invited Speakers
Dominique Bockelée-Morvan
Paola Caselli
Ilse Cleeves
Alex Faure
Eduardo González-Alfonso
Michiel Hogerheijde
Sergio Ioppolo
Agata Karska
Lars Kristensen
Bertrand LeFloch
Gary Melnick
David Neufeld
Giovanna Tinetti
Geronimo Villanueva
Paul van der Werf
Local Organising Committee
Göran Pilbratt
Mylène Riemens
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COMMITTEES

Scientific Organising Committee (SOC)

Yuri Aikawa	University of Tsukuba, Japan
Ted Bergin	University of Michigan, United States of America
Cecilia Ceccarelli	University of Grenoble, France
Ewine van Dishoeck	Leiden Observatory, The Netherlands
Yu Gao	Purple Mountain Observatory, Nanjing, China
Paul Hartogh	MPS, Göttingen, Germany
Darek Lis	LERMA, Paris, France
Göran Pilbratt	ESA/ESTEC, Noordwijk, The Netherlands
Axel Weiss	MPIfR, Bonn, Germany

Local Organising Committee (LOC)

The LOC consists of:

Göran Pilbratt
Mylène Riemens
Congrex - ESA Conference Bureau

PROGRAMME

Tuesday 12 April 2016

08:00 – 09:00 Registration & Posters can be mounted for display

09:00 – 09:20 Introduction & Logistics

Session 1: Formation and Destruction of Water and its Chemistry: Theory, Laboratory Work, and Models

09:20 Water: Past, Present, and Future
Gary J. Melnick
Harvard-Smithsonian Center for Astrophysics, United States of America

10:00 Interstellar Water Ice Formation: A Laboratory Perspective
Sergio Ioppolo[1], Thanja Lamberts[2], Herma Cuppen[3], Harold Linnartz[4]
[1]The Open University, United Kingdom; [2]University of Stuttgart, Germany; [3]Radboud University Nijmegen, Netherlands; [4]Leiden University, The Netherlands

10:30 Laser Desorption Time-of-flight Mass Spectrometry Of VUV Photo-processed Ice
Daniel Paardekooper, Harold Linnartz
Sackler Laboratory for Astrophysics, Leiden Observatory, Leiden University, The Netherlands

10:50 Towards Accurate Tunneling Reaction Rates On A Surface: A Case Study Of $H + H_2O_2 \rightarrow H_2O + OH$
Thanja Lamberts, Johannes Kaestner
Institute of Theoretical Chemistry, University Stuttgart, Germany

11:10 - 12:00 Coffee/Tea & Posters

12:00 Photochemistry of Water:PAH Complexes and Ice Mixtures: the Role of Molecular Orientation in Reactivity
Jennifer Anna Noble[1], Christian Aupetit[1], Eric Michoulier[2,3], Céline Toubin[2], Aude Simon[3], Joëlle Mascetti[1]
[1]University of Bordeaux, France; [2]University of Lille, France; [3]University of Toulouse, France

12:20 Formation And Evolution Of Porous Water Ices
Stephanie Cazaux[1,2], Jean Baptiste Bossa[1], Linnartz Harold[1], Tielens Alexander[1]
[1]Leiden University, The Netherlands; [2]University of Groningen, The Netherlands

12:40 Water Formation in Interstellar Ices
Gisela B. Esplugues[1], Stephanie Cazaux[1], Rowin Meijerink[2], Marco Spaans[1], Paola Caselli[3]
[1]Kapteyn Astronomical Institute, The Netherlands; [2]Leiden Observatory, The Netherlands; [3]Max Planck Institute for

Extraterrestrial Physics, Germany

13:00 - 14:00 Lunch

14:00 Water in pre-stellar cores
Paola Caselli
Max-Planck-Institute for Extraterrestrial Physics, Germany

14:30 Herschel Observations of Water in Carbon-rich Evolved Stars
Robin Lombaert[1,2], Leen Decin[2,3], Pierre Royer[2], Alex de Koter[3,2], Nick Cox[4], Eduardo González-Alfonso[5], David Neufeld[6], Joris De Ridder[2], Marcelino Agúndez[7], Joris Blommaert[8], Theo Khouri[1], Martin Groenewegen[9], Franz Kerschbaum[10], José Cernicharo[7], Bart Vandenbussche[2], Christoffel Waelkens[2]
[1]Chalmers University of Technology, Gothenburg, Sweden; [2]KU Leuven, Belgium; [3]University of Amsterdam, The Netherlands; [4]Institut de Recherche en Astrophysique et Planétologie, Toulouse, France; [5]Universidad de Alcalá de Henares, Madrid, Spain; [6]Johns Hopkins University, Baltimore, USA; [7]Instituto de Ciencia de Materiales de Madrid, Spain; [8]Vrije Universiteit Brussel, Belgium; [9]Royal Observatory, Brussels, Belgium; [10]University of Vienna, Austria

Session 2: Water Excitation and its Relation to other ISM Tracers

14:50 Collisional Excitation of Water: Theory and Experiment in Harmony
Alexandre Faure
CNRS, Institut de Planétologie et d'Astrophysique de Grenoble (IPAG), France

15:20 Water in Diffuse Interstellar Clouds
David Neufeld
Johns Hopkins University, United States of America

15:50 - 16:30 Coffee/Tea & Posters

16:30 Water fountains from protostars - the signposts of UV-illuminated shocked gas
Agata Karska
Faculty of Physics, Adam Mickiewicz University, Poznan, Poland

17:00 Water Emission In Supernova Remnants Observed With Herschel
Jeonghee Rho, John Hewitt, Adwin Boogert, Michael Kaufman, Anotine Gusdorf
SETI Institute and NASA Ames Research Center, United States of America;

17:20 Welcome drink & Posters

18:15 Buses to Noordwijk Hotels

Wednesday 13 April 2016

08:30 - 08:50 Arrival/Posters

08:50 - 09:00 LOC Announcements

Session 3: Water in Star Formation

09:00 Water emission in Outflow Shocks
Bertrand A. Lefloch
CNRS/IPAG, France

09:30 The Effects of FUV Radiation on C-Shocks: Implications for Water and Other O-bearing Species
Michael J Kaufman
San Jose State University, United States of America

09:50 Water Reveals the Similarities and Differences Between Low- and High-Mass Star Formation
Joseph Christopher Mottram[1], Ewine F. van Dishoeck[2,3], Irene San Jose-Garcia[2], Lars E. Kristensen[4], Agata Karska[5]
[1]MPIA, Heidelberg, Germany; [2]Leiden Observatory, Leiden, The Netherlands; [3]MPE, Garching, Germany; [4]CfA, Boston, USA; [5]Astronomical Observatory Institute, Poznan, Germany

10:10 Herschel and ALMA Observation to a Prestellar Core-Outflow interaction in L1689N
D.C. Lis[1,2], H.A. Wootten[3], M. Gerin[1], E. Roueff[1], F.F.S van der Tak[4,5], C. Vastel[6], C.M. Walmsley[7,8]
[1]LERMA, France; [2]Caltech, USA; [3]NRAO, USA; [4]SRON, Netherlands; [5]U. Groningen, Netherlands; [6]IRAP, France; [7]INAF, Italy; [8]DIAS, Ireland

10:30 - 11:10 Coffee/Tea & Posters

11:10 Water in Embedded Low-mass Protostars
Lars E Kristensen
Harvard-Smithsonian Center for Astrophysics, United States of America

11:40 Water Chemistry Across The Star Formation Stages
Ewine Van Dishoeck, Wish Team
Leiden Observatory, The Netherlands

12:00 Kinematics Of Protostellar Warm Water
Magnus V. Persson[1], Audrey Coutens[2], Jes K. Jørgensen[3], Ewine F. van Dishoeck[1,4], Charlotte Vastel[5], Vianney Taquet[1], Sandrine Bottinelli[5], Emmanuel Caux[5], Daniel Harsono[6], Julie M. Lykke[3]
[1]Leiden Observatory, Leiden, Netherlands; [2]University College London, United Kingdom; [3]NBI, StarPlan, University of Copenhagen, Copenhagen, Denmark;[4]MPE, Garching, Germany; [5]IRAP, Toulouse,

France; [6]Heidelberg University, Heidelberg, Germany

12:20 The HDO/H_2O and D_2O/HDO ratios in solar-type protostars

Audrey Coutens[1], Magnus V. Persson[2], Jes K. Jørgensen[3], Ewine F. van Dishoeck[3,4], Charlotte Vastel[5], Vianney Taquet[2], Sandrine Bottinelli[5], Emmanuel Caux[5], Daniel Harsono[6], Julie M. Lykke[3]

[1]University College London, United Kingdom; [2]Leiden Observatory, Leiden, Netherlands; [3]NBI, StarPlan, University of Copenhagen, Copenhagen, Denmark;[4]MPE, Garching, Germany; [5]IRAP, Toulouse, France; [6]Heidelberg University, Heidelberg, Germany

12:40 On The Origin Of Molecular Oxygen In The Comet 67P/Churyumov-Gerasimenko

Vianney Taquet, Kenji Furuya, Catherine Walsh, Ewine van Dishoeck

Leiden Observatory, Leiden University, The Netherlands

13:00 - 14:00 Lunch

14:00 A three-dimensional model of the distribution and deuteration of water in SgrB2(M)

Claudia Comito[1], Peter Schilke[1], Anika Schmiedeke[1], Ted Bergin[2], Darek Lis[3], Alvaro Sanchez-Monge[1]

[1]Universität zu Köln, Germany, Germany; [2]Department of Astronomy, University of Michigan, USA; [3]Observatoire de Paris, France

14:20 Exploring the Physical Conditions and Structure of Massive Protostars through Spectroscopic Observations of Water in the Infrared

Nick Indriolo[1], David A. Neufeld[2], Curtis N. DeWitt[3], Matt J. Richter[3], Adwin C. A. Boogert[4], William Vacca[4]

[1]University of Michigan, United States of America; [2]Johns Hopkins University; [3]University of California, Davis; [4]USRA, SOFIA, NASA Ames Research Center

14:40 The Herschel-HIFI view of massive protostellar objects

Fabrice Herpin[1], Luis Chavarria[2], Floris van der Tak[3], Thierry Jacq[1], Jonathan Braine[1], Friedrich Wyrowski[4], Yunhee Choi[3], Ewine van Dishoeck[5]

[1]LAB, France; [2]CONICYT-Universidad de Chile; [3]SRON-Groningen, The Netherlands; [4]MPIfR-Bonn, Germany; [5]Leiden Observatory, Leiden University, The Netherlands

15:00 The chemistry and spatial distribution of H_2O in the Orion PDR as seen by Herschel/HIFI

Yunhee Choi[1,2,3], Edwin Bergin[4], Floris van der Tak[2,1]

[1]Kapteyn Astronomical Institute, University of Groningen, The Netherlands; [2]SRON Netherlands Institute for Space Research, The Netherlands; [3]School of Space Research, Kyung Hee University,

Korea, Republic of (South Korea); [4]Department of Astronomy, University of Michigan, USA

15:20 Hot water disk around Orion Source I

Tomoya Hirota[1,2], Mikyoung Kim[3], Kazuhito Motogi[1], Mareki Honma[1,2]
[1]National Astronomical Observatory of Japan, Japan; [2]SOKENDA I(The Graduate University for Advanced Studies), Japan; [3]Korea Astronomy and Space Science Institute

15:40 Water Released In A Protostellar Accretion Burst

Per Bjerkeli, Jes Jørgensen
Centre for Star and Planet Formation, Niels Bohr Institute & Natural History Museum of Denmark,
University of Copenhagen, Denmark

16:00 - 16:30 Coffee/Tea & Posters

Session 4 Part I: Session 4: Water in Disks and Planet Formation

16:30 Finding Cold Water Vapor in Planet-forming Disks

Michiel Hogerheijde
Leiden University, The Netherlands

17:00 Constraints on the Ion-Driven Chemistry of Water in Protoplanetary Disks

Lauren Ilsedore Cleeves[1], Edwin Bergin[2], Conel Alexander[3], Karin Oberg[1], Fujun Du[2], Dawn Graninger[1], Tim Harries[4]
[1]Harvard-Smithsonian Center for Astrophysics, United States of America; [2]University of Michigan, United States of America; [3]Carnegie DTM, United States of America; [4]University of Exeter, United Kingdom

17:30 The Water Trail In Planet Forming Systems

Inga Kamp[1], Stefano Antonellini[1], Wing-Fai Thi[2], Peter Woitke[3]
[1]RUG, Netherlands, The; [2]MPE Garching, Germany; [3]University of St Andrews, UK

17:50 Reservoirs Of Water In Planet Forming Disks: A Multi-Wavelength View

Davide Fedele
INAF - Arcetri, Italy

18:15 Buses to Noordwijk hotels

Thursday 14 April 2016

08:30 - 08:50 Arrival/Posters

08:50 - 09:00 LOC announcements

Session 4 Part II: Session 4: Water in Disks and Planet Formation

09:00 Far-IR Observations Of Water In Young Stellar Objects
Pablo Rivière Marichalar
ESA, Spain

09:20 Photochemical Heating by Water in the Terrestrial Planet-Forming Regions of Disks
Máté Ádámkovics[1], Joan Najita[2], Al Glassgold[1]
[1]University of California Berkeley, United States of America; [2]National Optical Astronomy Observatory, United States of America

09:40 Transportation of ice and Silicate in the Protosolar Disk
Hiroko Nagahara, Kazuhito Ozawa
The University of Tokyo, Japan

10:00 Herschel observations of water in AGB and post-AGB stars
Pedro Garcia-Lario[1], Jesus Ramos[2], Carmen Sanchez-Contreras[2]
[1]European Space Agency (ESA/ESAC), Madrid, Spain; [2]Centro de Astrobiologia, Madrid, Spain

10:20 – 10:50 Coffee/Tea & Posters

Session 5 Part I: Session 5: Water in the Solar System and Exo-solar Systems

11:00 Water in exoplanets
Giovanna Tinetti
University College London, United Kingdom

11:30 Water Detected in the Terrestrial Zone of Exoplanetary Systems
Jay Farihi
University College London, United Kingdom

11:50 Water in Comets: New Insights from the Rosetta Mission
Dominique Bockelee-Morvan
LESIA, Observatoire de Paris, France

12:20 Analysis of water line observations from MIRO for temperature and velocity profiles on 67P/CG
Ladislav Rezac[1], Christopher Jarchow[1], Paul Hartogh[1], Mark Hofstadter[2], Samuel Gulkis[2], Paul von Allmen[2], Nicolas Biver[3], Dominique Bockelée-Morvan[3], Jacques Crovisier[3], Ip Wing[4], Seungwon Lee[2]
[1]Max-Planck-Institut für Sonnensystemforschung, Germany; [2]Jet Propulsion Laboratory, USA, [3]LESIA-Observatoire de Paris, CNRS,

UPMC, Université Paris-Diderot, France; [4]National Central University, Taiwan

12:40 First spectrally complete survey of cometary water emission at near IR wavelengths (0.9-2.5 µm): C/2014 Q2 Lovejoy with TNG/GIANO spectrograph.

Sara Faggi[1], Geronimo L. Villanueva[2], Michael J. Mumma[2], John R. Brucato[1], Gian Paolo Tozzi[1], Ernesto Oliva[1]
[1]INAF Osservatorio astrofisico di Arcetri, Italy; [2]NASA Goddard Space Flight Centre, USA

13:00 - 14:00 Lunch

14:00 Great Escape from Mars: Planet Lost an Ocean's Worth of Water

Geronimo Luis Villanueva[1], Michael John Mumma[1], Robert E Novak[2], Hans Ulrich Kaufl[3], Paul Hartogh[4], Therese Encrenaz[5], Alan Tokunaga[6], Alain Khayat[6], Michael D Smith[1]
[1]NASA Goddard Space Flight Center, USA; [2]Iona College, USA; [3]European Southern Observatory, Germany; [4]Max Planck Institute for Solar System Research, Germany; [5]Observatoire de Paris-Meudon, France; [6]University of Hawaii-Manoa, USA

14:30 Water In The Icy Moons Around Giant Planets

Athena Coustenis[1], Olivier Grasset[2]
[1]Paris Observatory, France; [2]Univ. Nantes, France

14:50 Tracing the oxygen-related gas composition of Titan´s atmosphere with Herschel

Miriam Rengel[1,2], Raphael Moreno[3], Regis Courtin[3], Emmanuel Lellouch[3], Hideo Sagawa[4], Bruce Swinyard[5], Paul Hartogh[1], Luisa Lara[6], Helmut Feuchtgruber[7], Christopher Jarchow[1], Trevor Fulton[8], José Cernicharo[9], Dominique Bockelée- Morvan[3], Nicolas Biver[3], Marek Banaszkiewicz[10], Armando González[1,6]
[1]Max-Planck-Institut für Sonnensystemforschung, Germany; [2]European Space Astronomy Centre (ESAC), ESA, Spain;[3]LESIA–Observatoire de Paris, CNRS, Université Paris 6, Université Paris-Diderot, France; [4]Kyoto Sangyo University, Japan; [5]University College London, Department of Physics and Astronomy, UK; [6]Instituto de Astrofísica de Andalucía (CSIC), Spain; [7]Max-Planck-Institut für extraterrestrische Physik, Germany; [8]University of Lethbridge, Institute for Space Imaging Science, Department of Physics and Astronomy, Canada; [9]Departamento de Astrofísica, Centro de Astrobiología, CSIC-INTA, Spain; [10]Space Research Centre of Polish Academy of Sciences, Poland

15:10 - 16:00 Coffee/Tea and Posters

16:00 Buses to conference Dinner and to the Noordwijk Hotels

Friday 15 April 2016

08:30 - 08:50 Arrival/Posters

08:50 - 09:00 LOC announcements

Session 5 Part II: Session 5: Water in the Solar System and Exo-solar Systems

09:00 Laboratory Studies of Clathrate Hydrates with Relevance to Icy Solar System Bodies

Emmal Safi[1,2], Nye Evans[1], Stephen Thompson[2], Sarah Day[2], Joana Oliveira[1], Jacco van Loon[1], Claire Murray[2], Julia Parker[2]
[1]Keele University, United Kingdom; [2]Diamond Light Source, United Kingdom

09:20 Jupiter's Deepest and Freshest Clouds

Michael H. Wong[1], Gordon L. Bjoraker[2], Imke de Pater[1], Máté Ádámkovics[1], Sushil K. Atreya[3], Paul N. Romani[2]
[1]UC Berkeley, USA; [2]NASA Goddard Space Flight Center, USA; [3]University of Michigan, USA

09:40 The Juno Investigation of Water in Jupiter

Scott J Bolton[1], Tobias Owen[2], Mike Janssen[3]
[1]Southwest Research Institute, United States of America; [2]University of Hawaii; [3]Jet Propulsion Laboratory; sbolton@swri.edu

Detection Of Water In The Jupiter System With A Submillimetre Wave Instrument

Paul Hartogh[1], SWI-Team .[2]
[1]MPS, Germany; [2]DIV

10:00 Detection Of Water In The Jupiter System With A Submillimetre Wave Instrument

Paul Hartogh[1], SWI-Team .[2]
[1]MPS, Germany; [2]DIV

10:20 - 11:10 Coffee/Tea and Posters down

Session 6: Extra-galactic and High-redshift Water

11:10 Water Vapor Absorption And Emission From Extragalactic Sources

Eduardo González-Alfonso
UAH, Spain

11:40 Observations of Water and Methanol Ices in the Large Magellanic Cloud

Takashi Shimonishi[1], Emmanuel Dartois[2], Takashi Onaka[3], Francois Boulanger[2]
[1]Tohoku University, Japan; [2]Institut d'Astrophysique Spatiale, France; [3]The University of Tokyo, Japan

12:00 HIFI Spectroscopy of H_2O submm Lines in Nuclei of Actively Star Forming Galaxies

Lijie Liu[1,2], Axel Weiss[2]
[1]Purple Mountain Observatory, China; [2]Max Planck Institute of Radio Astronomy, Germany

12:20 H_2O and Star Formation in Galaxies: An Herschel SPIRE/FTS Perspective

Daizhong Liu, Yu Gao
Purple Mountain Observatory

12:40 The ionization rates of galactic nuclei and disks from Herschel/HIFI observations of water and its associated ions

Floris van der Tak[1], Axel Weiss[2], Lijie Liu[2], Rolf Guesten[2]
[1]SRON (Groningen, NL); [2]MPIfR (Bonn, D)

13:00 - 14:00 Lunch

14:00 Water In Infrared-luminous Galaxies At Low And High Redshift

Paul Van Der Werf[1], Saskia Van Den Broek[1], Alain Omont[2], Chentao Yang[2], Rob Ivison[3], Ian Smail[4], Mark Swinbank[4]
[1]Leiden Observatory, The Netherlands; [2]Institut d'Astrophysique de Paris, France; [3]European Southern Observatory, Garching, Germany, Institute for Astronomy, University of Edinburgh, Scotland; [4]Institute for Computational Cosmology, Durham University, Durham, United Kingdom

14:30 Water and Related Molecules in the Massive Molecular Outflow in Mrk 231

Jacqueline Fischer[1], Eduardo González-Alfonso[2], Eckhard Sturm[3], Alessandra Contursi[3], Sylvain Veilleux[4], Albrecht Poglitsch[3], Javier Gracia Carpio[3], Steve Halley-Dunsheath[5], Dieter Lutz[3], Henrik Spoon[6], Aprajita Verma[7], Emil Polisensky[1], Kenneth Stewart[1], Reinhard Genzel[3]
[1]Naval Research Laboratory, United States of America; [2]Universidad de Alcalá, Spain; [3]Max-Planck-Institute for Extraterrestrial Physics; [4]University of Maryland, United States of America; [5]California Institute of Technology, United States of America; [6]Cornell University, United States of America; [7]University of Oxford, United Kingdom

14:50 H_2O emission in ultra-luminous infrared galaxies at high-z

Chentao Yang[1,2,3], Alain Omont[2], Alexandre Beelen[1], Eduardo González-Alfonso[4], Roberto Neri[5], Yu Gao[3], Paul van der Werf[6], Axel Weiss[7], Raphael Gavazzi[2], Rob Ivison[8,9]
[1]Institut d'Astrophysique Spatiale, Bât. 121, Université Paris-Sud, France; [2]CNRS, UMR 7095, Institut d'Astrophysique de Paris, France; [3]Purple Mountain Observatory/Key Lab of Radio Astronomy, Chinese Academy of Sciences, China; [4]Universidad de Alcalá, Departamento de Fisica y Matemáticas, Spain; [5]Institut de Radioastronomie Millimétrique (IRAM), France; [6]Leiden Observatory, Leiden University, The Netherlands; [7]Max Planck Institut für

Radioastronomie, Germany; [8]Institute for Astronomy, University of Edinburgh, Royal Observatory, UK; [9]European Southern Observatory, Germany

15:10 Water Megamasers in Galaxies

Violette Impellizzeri, Jim Braatz, Cheng-Yu Kuo, Mark Reid, Fred Lo, Christian Henkel, Jim Condon
NRAO/ALMA, Chile

15:30 Water Formation in the Early Universe

Shmuel Bialy[1], Amiel Sternberg[1], Abraham Loeb[2]
[1]Tel Aviv University, Israel; [2]Harvard University, USA

15:50 Final remarks

16:00 End & Farewell – last posters down

Poster Session

P.01 Detectability of Ganymede's ocean via its induced magnetic field.

Mehdi Yoann Ben Slama, Ingo Mueller-Wodarg
Imperial College, United Kingdom

P.02 NH_3,N_2H^+ and H_2O in the Disk around TW Hya

Vachail N. Salinas[1], Michiel R. Hogerheijde[1], Edwin A. Bergin[2], L. Ilsedore Cleeves[2], Christian Brinch[3], Geoffrey A. Blake[4], Dariusz C. Lis[5], Gary J. Melnick[6], David Neufeld[7], Olja Panic[8], John C. Pearson[9], Lars Kristensen[6], Umut A. Yildiz[1,9], Ewine F. van Dishoeck[1,10]
[1]Leiden Observatory, Leiden University, The Netherlands.; [2]Department of Astronomy, University of Michigan, USA.; [3]Centre for Star and Planet ....Formation (Starplan) and Niels Bohr Institute, University of Copenhagen, Denmark.; [4]Division of Geological and Planetary Sciences, California Institute of TechnologyUSA.; [5]LERMA, Observatoire de Paris, France.; [6]Harvard-Smithsonian Center for Astrophysics, USA.; [7]Department of Physics and Astronomy, Johns Hopkins University, USA.; [8]Institute of Astronomy, UK.; [9]Jet Propulsion Laboratory, California Institute of Technology, USA.; [10]Max-Planck-Institut f¨ur Extraterrestrische Physik, Germany

P.03 Possibility of Detecting the H_2O Snowline in Protoplanetary Disks Using Spectroscopic Observations

Shota Notsu[1], Hideko Nomura[2], Daiki Ishimoto[1,2], Catherine Walsh[3], Mitsuhiko Honda[4], Tomoya Hirota[5], Tom Millar[6]
[1]Department of Astronomy, Graduate School of Science, Kyoto University, Japan; [2]Department of Earth and Planetary Science, Tokyo Institute of Technology, Japan; [3]Leiden Observatory, Leiden University, The Netherlands; [4]Department of Physics, Kurume University School of Medicine, Japan; [5]National Astronomical Observatory of Japan, Japan; [6]Astrophysics Research Centre, School of Mathematics and Physics, Queen's University Belfast, UK

P.04 Water Emission and Absorption in IRDC Core Envelopes

Russell Shipman[1,2], Luis Chavarria[3], John Dolan[2]
[1]SRON, Netherlands, The; [2]Kapteyn Astronomical Institute; [3]CONICYT-Universidad de Chile

P.05 Water's Adversaries: Hydride Ions, HCO^+ and Irradiation in Star Forming Regions

Arnold O. Benz[1], Simon Bruderer[2], Ewine F. van Dishoeck[3]
[1]Institute for Astronomy, ETH Zurich, Switzerland; [2]Max Planck Institut fur extraterrestrische Physik, Germany; [3]Leiden Observatory, Leiden University, Leiden, The Netherlands

P.06 Water vapour emission in nearby infrared galaxies as probed by Herschel

Chentao Yang[1,2,3], Yu Gao[1], Alain Omont[2], Daizhong Liu[1], Kate .G Isaak[4], Paul van der Werf[5]
[1]Purple Mountain Observatory/Key Lab of Radio Astronomy, Chinese Academy of Sciences, China; [2]CNRS, UMR France; [3]Institut d'Astrophysique Spatiale, France; [4]ESA Astrophysics Missions

Division, The Netherlands; [5]Leiden Observatory, Leiden University, The Netherlands

P.07 JUICE: A European Mission To Jupiter And Its Icy Moons

Olivier Witasse
ESA, The Netherlands

P.08 Water observations towards the hot molecular core associated with the ultracompact H II region G34.26+0.15

Friedrich Wyrowski[1], Fabrice Herpin[2,3], Silvia Leurini[1], Floris van der Tak[4]
[1]Max Planck Institute for Radioastronomy, Germany; [2]Université de Bordeaux, France; [3]CNRS, LAB, France; [4]SRON Netherlands Institute for Space Research, The Netherlands

P.09 Feasibility Evaluation of Spectro-Polarimetric Detection of Water Vapor in an Atmosphere of Exoplanets

Jun Takahashi[1], Taro Matsuo[2], Yoichi Itoh[1]
[1]University of Hyogo, Japan; [2]Osaka University, Japan

P.10 Herschel Observations of Water in Zw 049.057 and Arp 299A

Niklas Falstad[1], Eduardo González-Alfonso[2], Susanne Aalto[1]
[1]Chalmers University of Technology, Sweden; [2]Universidad de Alcalá de Henares, Spain

P.11 Laboratory Studies of Epsomite at Temperatures Relevant to Planetary Surfaces

Stephen Thompson[1], Emmal Safi[1,2], Nye Evans[2]
[1]Diamond Light Source, United Kingdom; [2]Keele University, United Kingdom

P.12 From Nearby Low-mass Protostars to High-redshift Starbursts: Using Herschel Water Observations to Trace the IMF

Lars E Kristensen[1], Edwin A Bergin[2]
[1]Harvard-Smithsonian Center for Astrophysics, United States of America; [2]Department of Astronomy, University of Michigan, United States of America

P.13 Water as a Tracer and Diagnostic of the Diffuse Interstellar Medium

Paule G. Sonnentrucker[1], David A. Neufeld[2], Mark Wolfire[3], Maryvonne Gerin[4], Benjamin Godard[5]
[1]STScI/ESA, United States of America; [2]Johns Hopkins University, United States of America; [3]Univeristy of Maryland, United States of America; [4]LERMA/LRA, France; [5]Observatoire de Paris/LERMA, France

P.14 Warm Water In Protostellar Disks

Magnus V. Persson[1], Audrey Coutens[2], Jes K. Jørgensen[3], Daniel Harsono[4], Ruud Visser[5], Ewine F. van Dishoeck[1,6], Joseph Mottram[7], Nadia Murillo[6], John J. Tobin[1]

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James Whiteway, George Nikolakakos

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Laurent Wiesenfeld[1], Yohann Scribano[2], Alexandre Faure[1]

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David Quénard[1,2], Vianney Taquet[3], Charlotte Vastel[1,2], Paola Caselli[4], Cecilia Ceccarelli[5,6]

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P.18 Water Productions Rates Of Long- And Short-Period Comets Observed By Herschel/SPIRE

Thomas George Wilson[1], Bruce Swinyard[1,2], Jonathan Rawlings[1]

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Gordon Lee Bjoraker[1], Imke de Pater[2], Michael H. Wong[2], Mate Adamkovics[2], Tilak Hewagama[3]

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Per Bjerkeli, Jes Jørgensen

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Monika Jadwiga Matuszak[1], Fabrice Herpin[2], Agata Karska[1], Luis Chavarria[3]
[1]Adam Mickiewicz University, Poland; [2]University of Bordeaux, France; [3]Universidad de Chile, Chile

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Paul Hartogh[1], Yaroslaw A. Ilyushin[2]
[1]MPS, Germany; [2]Physical Faculty, Moscow State University, Institute of Radio-Engineering and Electronics & The All-Russian Research Institute for Optical and Physical Measurements (VNIIOFI)

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Rudolf Dvorak[1], Birgit Loibnegger[1], Christoph Burger[1], Thomas Maindl[1], Christoph Schaefer[2]
[1]University of Vienna, Austria; [2]University of Tuebingen, Germany

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Kinsuk Acharyya
PLANEX, Physical Research Laboratory, India

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Paul Felix Goldsmith
JPL, United States of America

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Shmuel Bialy, Amiel Sternberg
Tel Aviv University, Israel

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Adrien Fredon, Herma M. Cuppen
Radboud University Nijmegen, The Netherlands

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Mireia Segado, Albert Rimola
Departament de Química, Universitat Autònoma de Barcelona, Spain

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B. Nisini[1], R. Liseau[2], M. Tafalla[3], P. Bjerkeli[4], G. Santangelo[1], S. Antoniucci[1], M. Benedettini[5], S. Cabrit[6], C. Codella[7], T. Giannini[1], G.J. Herczeg[8], A. Lorenzani[7], D. Neufeld[9], E.F. van Dishoeck[10,11]
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Paraman Subramaniam
Sekinchan Dispensary, Malaysia

P.32 Jupiter's and Saturn's ice moons: geophysical aspects and opportunities of geophysical survey of the planetary geoelectrical markers and oreols of the subsurface liquid ocean on the surface ice moons

Yuri Rufimovich Ozorovich, Alain Fournei-Sicre
IKI RAS, Russian Federation

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Jihane Moultaka[1], Andreas Eckart[2]
[1]Observatoire Midi-Pyrénées, France; [2]University of Cologne, Germany

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Saskia van den Broek, Paul van der Werf
Universiteit Leiden, The Netherlands

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David William Marshall, Paul Hartogh, Ladislav Rezac
Max-Planck-Institut fur Sonnensystemforschung, Germany

GENERAL INFORMATION

Bus transfers

Hotel	Pick up point
Hotel Admiraal Heeren van Noortwijck	Quarles van Uffordstraat 103
Hotels van Oranje Beach Hotel	Kon. Wilhelminaboulevard 20-31
Golden Tulip Beach Hotel	Kon. Wilhelmnaboulevard 8
Huis ter Duin Radisson Blu Palace Hotel Astoria Alexander Hotel Hotel Lekker	in front of the Alexander hotel, Oude Zeeweg 63

Pick up points for Specific Hotels, please check below:

Date	Time	From	To
12/04/2016	07:45	Noordwijk Hotels	ESTEC Main building
12/04/2016	18:15	ESTEC Main building	Noordwijk Hotels
13/04/2016	08:15	Noordwijk Hotels	ESTEC Main building
13/04/2016	18:15	ESTEC Main building	Noordwijk Hotels
14/04/2016	08:15	Noordwijk Hotels	ESTEC Main building
14/04/2016	16:00	ESTEC Main building	Noordwijk Hotels / alt Dinner venue
15/04/2016	08:15	Noordwijk Hotels	ESTEC Main building

Taxi / Getting to the airport

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If you wish to reserve the Airport Shuttle, please bear in mind to reserve a seat one day in advance. Purchase a ticket at the ESTEC reception located in the A building (cash payment only). The costs for a one-way voucher are €13.50

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- 14:30 hrs
- 15:30 hrs
- 16:30 hrs
- 18:00 hrs

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