

**INTERNATIONAL TECHNICAL LASER WORKSHOP 2012 (ITLW-12)
NOVEMBER 5-9, 2012, INFN-LNF
Frascati (Rome), Italy**

PROGRAM (Version 02/NOV/2012)

**SESSION 1: INTRODUCTION
MONDAY NOV. 5, 9:00 – 11:30**

Session Co-Chairs: Mike Pearlman and Graham Appleby

REGISTRATION FROM 8:00

Welcome to ITLW-12 (9:00-9:20)

Graham Appleby
Chairman, ILRS Governing Board, UK
GAPP@nerc.ac.uk

Welcome to LNF and administrative details (9:20-9:30)

Simone Dell'Agnello
Chairman, LOC ITLW-12
INFN-LNF, Italy
Simone.dellagnello@lnf.infn.it

1. Historical Overview and Path to Present Day Requirements (9:30-10:00)

Michael Pearlman
Center for Astrophysics, USA
mpearlman@cfa.harvard.edu

A brief history of the evolution of retroreflector arrays in satellites and the path toward current day requirements.

2. Laser Ranging: Scientific Accomplishments of the Past and Requirements for the Future (10:00-10:30)

Erricos Pavlis
GEST/UMBC, USA
epavlis@umbc.edu

COFFEE BREAK (10:30-11:00)

3. A Tutorial on Retroreflectors and Arrays for SLR (11:00-11:30)

John Degnan,
Sigma Space Corporation, USA
john.degnan@sigmaspace.com

SESSION 2: GROUND STATION PERFORMANCE FROM CURRENT SATELLITE

ARRAYS

MONDAY, NOV. 5, 11:30 – 13:00

Session Co-Chairs: Georg Kirchner and Matt Wilkinson

1. Introductory talk (11:30-11:40 + 5 min discussion)

Matt Wilkinson,
SGF Herstmonceux, UK
matwi@nerc.ac.uk

2. NGSLR's measurement of the retro-reflector array response of various LEO to GNSS satellites (11:45-11:55 + 5 min discussion)

Jan McGarry¹, Christopher Clarke, John Degnan², Howard Donovan³, Benjamin Han, Julie Horvath⁴, Thomas Zagwodzki⁵
¹NASA-GSFC, USA
²Sigma Space Corporation, USA
³HTSI - NASA NGSLR, USA
⁴NASA / Honeywell, USA
⁵Cybioms Corporation, USA
Jan.McGarry@nasa.gov

3. Performance and Prediction of SLR Tracking on Regional GNSS Constellations (12:00-12:10 + 5 min discussion)

Mark Davis
US Naval Research Lab, USA
mark.davis@nrl.navy.mil

4. SLR energy density modelled and measured at Jason-2 and at the Herstmonceux station (12:15-12:25 + 5 min discussion)

Matthew Wilkinson¹, Jose Rodriguez, Pierre Exertier
¹SGF Herstmonceux, UK
matwi@nerc.ac.uk

5. Current performances and developments of MeO laser station (12:30-12:40 + 5 min discussion)

Clément Courde,
OCA, 2130 Route de l'Observatoire, Caussols, France
clement.courde@oca.eu

6. Linear Polarization Issues for Laser Ranging to Uncoated Retro-Reflectors (12:45-12:55 + 5 min discussion)

Kirchner Georg

Austrian Academy of Sciences, Austria

Georg.Kirchner@oeaw.ac.at

7. Divergence Estimation Procedure and Calculation (POSTER) (13:00-13:05)

Ray Burris¹, Mark Davis², Linda Thomas¹, Dave Huber¹

U.S. Naval Research Laboratory

ray.burris@nrl.navy.mil

LUNCH (13:05-14:00)

14:30 – 18:30: Working Group Meetings

14:30 – 15:30: Missions Working Group

15:45 – 17:15: Networks and Engineering Working Group

17:30 – 18:30: Transponder Working Group The Data Formats and Procedures Working Group does not plan to hold a formal meeting at the Workshop.

19:00 – 19:40: Concert

19:40 – 20:30: WELCOME RECEPTION

SESSIONS 3&4: SATELLITE SIGNATURES AND CENTRE-OF-MASS ISSUES

TUESDAY, NOV. 6, 9:00 – 10:15, 10:45 – 12:15

Session Co-Chairs: Toshi Otsubo and Tom Varghese

Session Co-Chairs: Graham Appleby and Daniela Thaller

1. Introductory talk: Target signatures of existing sub-cm targets and prospects for future SLR constellations (9:00 – 9:15)

T. Otsubo¹, R. A. Sherwood, and G. M. Appleby²

¹Hitotsubashi University, Japan

²SGF Herstmonceux, UK

t.otsubo@r.hit-u.ac.jp

2. Review of the Pre-launch Lageos-2 testing in the laboratory using CW and pulsed techniques, including high-resolution streak camera imaging at various spacecraft orientations (9:15 – 9:30)

T. Varghese, T. Zagwodzki

Cybioms Corporation, USA

tvarghes@cybioms.com

3. Updated Centre of Mass corrections for LAGEOS and Etalon (9:30 – 9:45)

Graham Appleby¹, Toshi Otsubo²

¹SGF Herstmonceux UK

²Hitotsubashi University, Japan

gapp@nerc.ac.uk

4. The Centre of Mass Correction of LARES and LAGEOS (9:45 – 10:00)

R. Neubert¹, T. Otsubo

¹GFZ Potsdam, Germany

²Hitotsubashi University, Japan

neubr@gfz-potsdam.de

5. Calibration of Satellites' Retro-reflectors Center (10:00 – 10:15)

Xiaoya Wang^{1,2}, Qunhe Zhao¹, Zhongping Zhang¹, Wanzhen Chen¹

1. Shanghai Astronomical Observatory, Chinese Academy of Sciences, 80 NanDan Road, Shanghai 200030, China. Email: wxy@shao.ac.cn

2. DGFI, Alfons-Goppel-Straße 11, D-80539 München, Germany

wxy@shao.ac.cn

6. LARES: Analysis of the first months of data (10:15 – 10:30)

C. Baumann, K. Sosnica, D. Thaller, A. Jäggi, R. Dach, M. Mareyen
Astronomical Institute University of Bern, Switzerland
christian.baumann@aiub.unibe.ch

7. Spin parameters of LARES spectrally determined from SLR data (10:30 – 10:45)

D. Kucharski¹, T. Otsubo², G. Kirchner³, G. Bianco⁴
¹Korea Astronomy and Space Science Institute, Korea
²Hitotsubashi University, Japan
³Austrian Academy of Sciences, Austria
⁴ASI-CGS, Italy
daniel@drdk.org

COFFEE BREAK (10:45-11:15)

8. Can we improve LAGEOS solutions by combining with LEO satellites? (11:15 –11:30)

Krzysztof Sosnica
Astronomical Institute University of Bern, Switzerland
sosnica@aiub.unibe.ch

9. The space tie between GNSS and SLR (11:20 – 11:45)

D. Thaller, K. Sosnica, R. Dach, A. Jäggi, C. Baumann
Astronomical Institute University of Bern. Switzerland
thaller@aiub.unibe.ch

10. New results on spin determination of BLITS from High Repetition Rate SLR data (11:45 – 12:00)

D. Kucharski¹, G. Kirchner², H.-C. Lim, F. Koidl
¹Korea Astronomy and Space Science Institute, Korea
²Austrian Academy of Sciences, Austria
daniel@drdk.org

11. Centre-of-mass correction information at the ILRS Website (12:00 – 12:15)

T. Otsubo¹, G. M. Appleby², M. H. Torrence³ and C. E. Noll⁴
¹Hitotsubashi University, Japan
²SGF Herstmonceux, UK
³NASA/GSFC; SGT Inc, Greenbelt, MD, USA
⁴NASA-GSFC, USA
t.otsubo@r.hit-u.ac.jp

SESSION 5: LABORATORY TESTING AND CHARACTERIZATION

(SCF_LAB VISIT ON WED. NOV. 7)

TUESDAY, NOV. 6, 12:15 – 13:00

Session Co-Chairs: Simone Dell'Agnello and Jan McGarry

1. Introductory talk (12:15-12:25)

S. Dell'Agnello

INFN-LNF, Italy

Simone.DellAgnello@lnf.infn.it

2. SCF_LAB: the Satellite/Lunar/GNSS laser ranging and altimetry Characterization Facilities' LABORatory (12:25-12:40)

S. Dell'Agnello¹, G. O. Delle Monache¹, R. Vittori², **C. Cantone**¹, A. Boni¹, G. Patrizi¹, S. Berardi¹, M. Tibuzzi¹, C. Lops¹, M. Martini¹, E. Ciocci¹, N. Intaglietta¹, L. Salvatori, M. Maiello¹, D. G. Currie³, G. Bianco⁴, M. R. Pearlman⁵, S. Contessa¹, L. Palandra¹

¹ INFN-LNF, Italy

² INFN-LNF, ESA and Aeronautica Militare Italiana (AMI)

³ University of Maryland, USA,

⁴ ASI-CGS, Italy

⁵ Center for Astrophysics USA

Claudio.cantone@lnf.infn.it

3. SCF-Test of infrared laser ranging and altimetry to retroreflectors on moons and planets (12:40-12:55)

Dell'Agnello, S.; Delle Monache, G. O.; **Martini, M.**; Vittori, R.; Cantone, C.; Boni, A.; Berardi, S.; Patrizi, G.; Tibuzzi, M.; Lops, C.; Maiello, M.; E. Ciocci, E.; Salvatori, L.; Rinaldi, S.

INFN-LNF, Italy

Manuele.Martini@lnf.infn.it

4. Extended far field diffraction pattern characterization of LAGEOS and LARES retroreflectors in isothermal conditions (12:55-13:10)

A. Boni, S. Dell'Agnello, C. Lops, S. Berardi, M. Martini, G. Patrizi, C. Cantone, G. O. Delle Monache, M. Garattini, N. Intaglietta

INFN-LNF, Italy

Alessandro.Boni@lnf.infn.it

LUNCH (13:10 – 14:30)

Tour downtown Rome (Departure at ~14:30 – Return to hotel at ~21:00)

SESSION 6: RANGING EXPERIENCE ON THE LUNAR REFLECTORS

THURSDAY, NOV. 8, 9:00 – 10:45

Session Co-Chairs: Doug Currie and Pippo Bianco

1. Introductory talk (9:00-9:15)

Douglas Currie

University of Maryland, USA

currie@umd.edu

2. Hollow Retroreflectors for Lunar Laser Ranging at Goddard Space Flight Center (9:15-9:35)

Alix Preston, Stephen Merkwowitz

NASA-GSFC, USA

alix.m.preston@nasa.gov

3. Thermal Analysis of large Cube Corner Reflectors (9:35-9:55)

D. Currie¹, G. Delle Monache², B. Behr¹, S. Dell'Agnello²

¹ University of Maryland, USA

² INFN-LNF, Italy

currie@umd.edu

4. SCF-Test of MoonLIGHT/LLRRA21, the Lunar Laser Ranging Retroreflector for the 21st Century (9:55-10:15)

G. Delle Monache¹, S. Dell'Agnello¹, D. Currie², R. Vittori³, C. Cantone¹, A. Boni¹, S. Berardi¹, G. Patrizi¹, C. Lops¹, M. Maiello¹, N. Intaglietta¹, M. Tibuzzi¹, M. Martini¹, T. W. Murphy⁴, G. Bianco⁵, E. Ciocci¹, L. Salvatori¹

¹ INFN-LNF, Italy

² University of Maryland, USA

³ INFN-LNF, ESA, Aeronautica Militare Italiana

⁴ University of California at San Diego, USA

⁵ ASI-CGS, Italy

dellemon@lnf.infn.it

5. Current and future status of the MeO LLR Station (10:15-10:35)

Jean-Marie Torre

OCA, France

torre@oca.eu

1. Latest improvements of the MeO station
2. 2012 LLR statistics
3. Radioastron: 2011 and 2012 Results, difficulties and solutions
4. Perspectives of the future of the LLR station

6. The LLR activity of MLRO (10:35-10:45)

Pippo Bianco
ASI-GCS, Italy
Giuseppe.bianco@asi.it

COFFEE BREAK (10:45-11:15)

**SESSION 7: ARRAY AND CORNER CUBE MANUFACTURERS AND SPECIFICATIONS
& SPACE DEBRIS
THURSDAY, NOV. 8, 11:15 – 13:00**

Session Co-Chairs: Scott Wetzel and Dominic Doyle

1. Introductory talk (11:15-11:30)

Scott Wetzel
Honeywell, USA
scott.wetzel@honeywell.com

2. Design and Manufacture of Laser Retro-reflector Arrays for LEO and HEO Satellites at Shanghai Astronomical Observatory (11:30-11:50)

Zhang Haifeng, **Zhang Zhongping**, Chen Wanzhen, Wu Zhibo, Li Pu
Shanghai Astronomical Observatory, China
zp@shao.ac.cn

3. Increase of FFDP uniformity for flat CCRs-array (TIR) (on the example of GLONASS satellites) (11:50-12:10)

M.A.Sadovnikov, V.B.Burmistrov, **A.L.Sokolov**, T.I.Khorosheva, N.M.Souzova, E.A.Nikolaev,
V.V.Murashkin
OJC " RPC "Precision Systems and Instruments", Russia
alsokolov@bk.ru

4. Laser ranging on space debris with the MeO station (12:10-12:25)

Clément Courde,
OCA, France
clement.courde@oca.eu

5. Laser Tracking of Space Debris at SLR Graz (12:25-12:40)

Kirchner Georg
Austrian Academy of Sciences, Austria
Georg.Kirchner@oeaw.ac.at

6. Preliminary results of satellite laser ranging based on a receiver of updated 1.56m telescope and a nearby 60cm SLR system as a transmitter (POSTER) (12:40-12:45)

Wu Zhibo, Zhang Zhongping, Zhang Haifeng, Chen Juping, Li Pu
Shanghai Astronomical Observatory, Chinese Academy of Sciences, China
10099134@163.com

7. The Blue-Sky Effect (POSTER) (12:45-12:50)

Krzysztof Sosnica

Astronomical Institute University of Bern, Switzerland

sosnica@aiub.unibe.ch

8. Poster on new ILRS Website (12:50-12:55)

Carey Noll

NASA-GSFC, USA

Carey.Noll@nasa.gov

LUNCH (13:00-14:30)

SESSION 8: NOVEL ARRAY DESIGNS

THURSDAY, NOV. 8, 14:30 – 16:00

Session Co-Chairs: Reinhart Neubert and Giovanni Delle Monache

1. Introductory talk (14:30-14:45)

Reinhart Neubert

GFZ Potsdam, Germany

neubr@gfz-potsdam.de

2. Design, construction and SCF-Test of a prototype Galileo & GNSS Retroreflector Array of Hollow retroreflectors (GRA-H) (14:45-15:10)

Berardi S., Dell'Agnello S., Delle Monache G. O., Boni A., Cantone C., Garattini M., Lops, C., Martini M., Patrizi G., Tibuzzi M., Maiello M., Intaglietta N.

INFN-LNF, Italy

simone.berardi@lnf.infn.it

3. Testing a 20 cm Diameter Open Reflector (15:10-15:30)

Reinhart Neubert¹, Ludwig Grunwaldt¹, Andre Hamdorf¹, Christian Schopf², Engelbert Hofbauer², Jost Munder³, Mark Herding³, Manfred Woche⁴, Jürgen Rendtel⁴

¹ GFZ Potsdam, Germany

² Fachhochschule Deggendorf, Germany

³ SpaceTech GmbH Immenstaad, Germany

⁴ Leibniz-Institut für Astrophysik (AIP) Potsdam, Germany

reinhart.neubert@web.de

4. Prospects of laser retroreflector arrays in GLONASS (15:30-15:50)

M.A. Sadochnikov, V.D. Shargorodskiy, A.L. Sokolov

OJC «RPC «Precision Systems and Instruments», Russia

alsokolov@bk.ru

5. Design, construction and optical test of a laser-ranged test mass for deep space missions (15:50-15:55) (POSTER)

S. Berardi, A. Boni, S. Dell'Agnello, M. Martini, G. Patrizi, G. O. Delle Monache, N. Intaglietta, C. Lops, C. Cantone, L. Porcelli, M. Garattini, M. Maiello

INFN-LNF, Italy

giordano.patrizi@lnf.infn.it

6. The mission of Chinese Space VLBI and Laser Ranging supports for Space VLBI satellites with Retro-reflectors (15:55-16:00) (POSTER)

Shen zhiqiang, Zhang zhongping, Zhang Haifeng, Wu zhibo, Chen WanZhen

Shanghai Astronomical Observatory, Chinese Academy of Sciences, China

hfzhang@shao.ac.cn

ILRS Governing Board Meetings (16:00 – 18:30)

SESSION 9: TRANSPONDERS AND RECEIVERS

FRIDAY, NOV. 9, 9:00 – 10:30

Session Co-Chairs: John Degnan and Ulrich Schreiber

Introductory talk

John Degnan,

Sigma Space Corporation, USA

john.degnan@sigmaspace.com

1. Time Transfer by Laser Link T2L2 – Experimental campaign (9:00 – 9:15)

E. Samain¹, P. Exertier¹, Ph. Guillemot², M. Aimar¹, C. Courde¹, N. Martin¹, M. Laas-Bourez¹, J-L Oneto¹, F. Pierron¹, M. Pierron¹, J.-M. Torre¹, S. Leon³

¹*OCA – Observatoire de la Côte d'Azur, Caussol, France*

²*CNES – French Space Agency, Toulouse, France*

³*CNES – French Space Agency, Paris, France*

etienne.samain@oca.eu

2. European Laser Timing – new challenges for the SLR community (9:15 – 9:30)

Ivan Procházka², Jan Kodet^{1,2}, **Ulrich Schreiber**¹

¹Technical University of Munich, Forschungseinrichtung Satellitengeodäsie Fundamentalstation Wettzell, 93444 Bad Kötzing, Germany

²Czech Technical University in Prague, Brehova 7, 115 19 Prague, Czech Republic

ulrich.schreiber@canterbury.ac.nz

3. One-way LASER Ranging to LRO (9:30 – 9:45)

Mark Torrence

NASA/GSFC; SGT Inc, Greenbelt, MD, USA

mark.h.torrence@nasa.gov

4. Reduction and analysis of one-way laser ranging data from Wettzell ground station to LRO (9:45-10:00)

S. Bauer, J. Oberst, H. Hussmann, P. Gläser, U. Schreiber, D. Mao, G. Neumann, E. Mazarico, M. Torrence, J. McGarry, G. Herold, D. Smith, M. Zuber

Planetary Research, DLR, Germany

sven.bauer@dlr.de

5. One-way ranging to spacecraft at planetary distances (10:00 – 10:15)

David E Smith and Maria T Zuber

Massachusetts Institute of Technology, USA

smithde@mit.edu

6. Quantification of interplanetary laser ranging system requirements through bottom-up link simulations (10:15 – 10:30)

Dominic Dirkx

Aerospace Engineer faculty, Delft University of Technology, Netherlands
d.dirkx@tudelft.nl

COFFEE BREAK (10:30-11:00)

SESSION 10: WRAP-UP SESSION WITH RECOMMENDATIONS AND CONCLUSIONS

FRIDAY, NOV. 9, 11:00 – 13:00

Session Co-Chairs: Mike Pearlman and Simone Dell’Agnello

Each session chair (or co-chair) must present a session summary (2 charts max) at the final session on Friday. All presentations and session summaries will be made available on the Workshop website.

LUNCH (13:00-14:30)

JOINT ITLW-12 AND ETRUSCO-2 WORKSHOP

WEDNESDAY, NOV. 7, 9:00 – 20:00

Session Co-Chairs: Mike Pearlman and Simone Dell’Agnello

**MORNING:
SLR TRACKING OF GNSS CONSTELLATIONS**

WELCOME AND LOGISTICS (9:00-9:10)

Simone Dell’Agnello

Chairman, LOC ITLW-12

INFN-LNF, Italy

Simone.dellagnello@lnf.infn.it

1. GGOS Ground Based Space Geodesy Networks Required to Improve the Reference Frame (9:10-9:35)

Michael Pearlman

Center for Astrophysics, USA

mpearlman@cfa.harvard.edu

2. Status and prospects of SLR of GLONASS (9:35-9:50)

A.L. Sokolov

OJC «RPC «Precision Systems and Instruments», Russia

alsokolov@bk.ru

3. The GPS Laser Retroreflector Array Project (9:50-10:05)

Stephen Merkowitz

NASA-GSFC, USA

Stephen.M.Merkowitz@nasa.gov

4. Status and prospects of SLR of Compass (10:05-10:20)

Zhang Zhongping, Zhang Haifeng, Wu Zhibo

Shanghai Astronomical Observatory, Chinese Academy of Sciences, China

zzp@shao.ac.cn

5. Accuracy evaluation of QZS-1 orbit solutions with Satellite Laser Ranging (10:20-10:35)

Kyohei Akiyama¹ and Toshimichi Otsubo²

¹ Japan Aerospace Exploration Agency, Japan

² Hitotsubashi University, Japan

t.otsubo@r.hit-u.ac.jp

COFFEE BREAK (10:35-11:00)

6. SLR Tracking of the Glonass Constellation at the Observatory Zimmerwald (11:00-11:15)

Martin Ploner,
Observatory Zimmerwald, Switzerland
martin.ploner@aiub.unibe.ch

7. Graz Experience with HEO Ranging (11:15-11:30)

Kirchner Georg
Austrian Academy of Sciences, Austria
Georg.Kirchner@oeaw.ac.at

8. SGF experience with GNSS Tracking (11:30-11:40)

Matt Wilkinson,
SGF Herstmonceux, UK
matwi@nerc.ac.uk

9. Wettzell experience with GNSS Tracking (11:40-11:50)

Ulrich Schreiber
Technical University of Munich, Germany
ulrich.schreiber@canterbury.ac.nz

10. NASA Network Experience with GNSS Tracking (11:50-12:00)

Nikki Desch
Exelis, USA
nikki.desch@exelisinc.com

11. Combined GNSS-SLR analysis (12:00-12:25)

D. Thaller, K. Sosnica, R. Dach, A. Jäggi, C. Baumann
Astronomical Institute University of Bern. Switzerland
thaller@aiub.unibe.ch

12. SLR Measurements of the Forthcoming ESA Earth Observation Missions and Their Applications in the Reference Frames Realization (12:25-12:50)

Drazen Svehla¹, Rune Floberghagen², Roger Haagsmans³, Ulf Klein³

¹ ESA/ESOC, Darmstadt, Germany

² ESA/ESRIN, Frascati, Italy

³ ESA/ESTEC, Noordwijk, The Netherlands

Drazen.Svehla@esa.int

LUNCH (13:00-14:30)

AFTERNOON:

ASI-INFN ETRUSCO-2 PROJECT OF TECHNOLOGICAL DEVELOPMENT AND TEST OF SLR PAYLOADS FOR GNSS SATELLITES

1. Introductory talk: ETRUSCO-2 and the SCF_LAB (14:30-14:45)

S. Dell'Agnello

PI, ETRUSCO-2

INFN-LNF, Italy

Simone.dellagnello@lnf.infn.it

2. Status and prospects of SLR of Galileo IOV and FOC (14:45-15:00)

Daniel Navarro-Reyes

ESA/ESTEC

daniel.navarro-reyes@esa.int

3. SCF-Test of Galileo IOV retroreflectors (15:00-15:15)

Dell'Agnello S.¹, Delle Monache G. O.¹, Vittori R.³, Boni A.¹, Berardi S.¹, Cantone C.¹, Garattini M.¹, Lops C.¹, Martini M.¹, Patrizi G.¹, Tibuzzi M.¹, Maiello M.¹, G. Bianco⁴, Zerbini S.⁵, Intaglietta N.¹, Contessa S.^{1,2}

¹ INFN-LNF, Italy,

² University of Rome "La Sapienza", Italy

³ Aeronautica Militare Italiana (AMI), Italy

⁴ ASI-CGS, Italy

⁵ University of Bologna, Italy

Simone.dellagnello@lnf.infn.it

4. Thermal-optical design and preliminary simulation for the ETRUSCO-2 GNSS Retroreflector Array (15:15-15:30)

Boni A.¹, Cantone C.¹, Dell'Agnello S.¹, Delle Monache G. O.¹, Berardi S.¹, Lops C.¹, Martini M.¹, Palandra L.^{1,2}, Patrizi G.¹, Tibuzzi M.¹, Maiello M.¹, Vittori R.³, Bianco G.⁴, Zerbini S.⁵

¹ INFN-LNF, Italy,

² University of Rome "Tor Vergata", Italy

³ Aeronautica Militare Italiana (AMI), Italy

⁴ ASI-CGS, Italy

⁵ University of Bologna, Italy

alessandro.boni@lnf.infn.it

5. Galileo in ASI's Long Term Plan 2010-2020 (15:30-15:45)

Representative of the ASI Presidency (name to be announced), Italy

Distribution of ETRUSCO-2 brochure and workshop photo (15:45-16:10)

COFFEE BREAK (16:10-16:30)

Visit of SCF_LAB and other LNF facilities (16:30)

JOINT ITLW-12/ETRUSCO-2 SOCIAL DINNER (20:30)