

# LPMR workshop 2017 (LPMR-2017)

Kühlungsborn, Germany, 18-22 September 2017

Monday, 18 September	
08:00 - 08:30	Shuttle from hotels
08:00 - 09:00	Registration <span style="float: right;">Foyer</span>
09:00 - 09:20	Welcome
09:20 - 10:20	<b>Session: Observations of the MLT</b> Monday, 18 September - Conference room Chair/s: Gerd Baumgarten
09:20	<p><b>Simultaneous observations of Noctilucent Clouds and Mesospheric Summer Echoes at a mid-latitude site (Kühlungsborn/Germany, 54°N): Hints for advection of ice particles.</b></p> <p><u>Michael Gerding</u>, Marius Zecha, Kathrin Baumgarten, Franz-Josef Lübken <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</i></p>
09:40	<p><b>Constraints on meteoric smoke composition and meteoric influx using SOFIE observations with models</b></p> <p><u>Mark Hervig</u><sup>1</sup>, John Plane<sup>2</sup>, James Brooke<sup>2</sup>, Charles Bardeen<sup>3</sup>, Wuhu Feng<sup>2</sup> <sup>1</sup><i>Global Atmospheric Technology and Science, Driggs, United States,</i> <sup>2</sup><i>University of Leeds, Leeds, United Kingdom,</i> <sup>3</sup><i>National Center for Atmospheric Research, Boulder, United States</i></p>
10:00	<p><b>The MATS satellite mission - looking into the future in three dimensions</b></p> <p><u>Ole Martin Christensen</u> <i>Stockholm University, Stockholm, Sweden</i></p>
10:20 - 11:00	Coffee break
11:00 - 12:20	<b>Session: Ice microphysics</b> Monday, 18 September - Conference room Chair/s: Mark Hervig
11:00	<p><b>Lab experiments on the complex microphysics controlling PMC formation</b></p> <p><u>Denis Duft</u><sup>1</sup>, Mario Nachbar<sup>2</sup>, Thomas Dresch<sup>2</sup>, Henrike Wilms<sup>3</sup>, Markus Rapp<sup>3</sup>, Thomas Leisner<sup>1,2</sup> <sup>1</sup><i>Institute of Meteorology and Climate Research - Atmospheric Aerosol Research, Karlsruhe Institute of Technology, Karlsruhe, Germany,</i> <sup>2</sup><i>Institute</i></p>

	<p><i>of Environmental Physics, University of Heidelberg, Heidelberg, Germany, <sup>3</sup>German Aerospace Center (DLR), Institute of Atmospheric Physics, Wessling, Germany</i></p>
11:20	<p><b>Implications of recent laboratory results for the formation of mesospheric ice particles</b>  <u>Henrike Wilms</u><sup>1</sup>, Denis Duft<sup>2</sup>, Mario Nachbar<sup>3</sup>, Markus Rapp<sup>1</sup>, Thomas Leisner<sup>2,3</sup>  <sup>1</sup>Deutsches Zentrum für Luft- und Raumfahrt, Institut für Physik der Atmosphäre, Oberpfaffenhofen, Germany, <sup>2</sup>Institute of Meteorology and Climate Research, Karlsruhe Institute of Technology – KIT, Karlsruhe, Germany, <sup>3</sup>Institute of Environmental Physics, University of Heidelberg, Heidelberg, Germany</p>
11:40	<p><b>On the impact of condensation nuclei characteristics on observable mesospheric ice properties</b>  <u>Linda Megner</u>  MISU, Stockholm University, Stockholm, Sweden</p>
12:00	<p><b>Interpretation of longitudinal and local time variations in polar mesospheric clouds</b>  <u>Jia Yue</u><sup>1</sup>, Pingping Rong<sup>1</sup>, Ruth Lieberman<sup>2</sup>, Mark Hervig<sup>3</sup>, Jerry Lumpe<sup>5</sup>, Cora Randall<sup>4</sup>  <sup>1</sup>Center for Atmospheric Sciences, Hampton University, Hampton, United States, <sup>2</sup>National Science Foundation, Arlington, United States, <sup>3</sup>GATS Inc, Driggs, United States, <sup>4</sup>University of Colorado, Department of Atmospheric and Oceanic Sciences, Boulder, Boulder, United States, <sup>5</sup>Computational Physics Inc, Boulder, United States</p>
12:20 - 13:30	Lunch
13:30 - 14:50	<p><b>Session: Long period waves in NLC</b>  Monday, 18 September - Conference room  Chair/s: Gerd Baumgarten</p>
13:30	<p><b>Signatures of the semidiurnal lunar tide in noctilucent clouds in AIM/SOFIE data</b>  <u>Christoph Hoffmann</u><sup>1</sup>, Christian von Savigny<sup>1</sup>, Mark Hervig<sup>2</sup>, Esther Oberbremer<sup>1</sup>  <sup>1</sup>Universität Greifswald, Greifswald, Germany, <sup>2</sup>GATS Inc., Driggs, United States</p>
13:50	<p><b>Solar and lunar tides in NLC data of the ALOMAR RMR-lidar</b>  <u>Jens Fiedler</u>, Gerd Baumgarten, Franz-Josef Lübken</p>

	<i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</i>
14:10	<p><b>Planetary wave effects on Polar Mesospheric Clouds during the Northern Hemisphere 2014 season</b></p> <p><u>Jeff France</u><sup>1,2</sup>, Cora Randall<sup>2,3</sup>, Ruth Lieberman<sup>1</sup>, V. Lynn Harvey<sup>2,3</sup>, Dave Siskind<sup>4</sup>, Jerry Lumpe<sup>5</sup></p> <p><sup>1</sup>GATS, Inc., Boulder, United States, <sup>2</sup>University of Colorado, Boulder - LASP, Boulder, United States, <sup>3</sup>University of Colorado, Boulder - ATOC, Boulder, United States, <sup>4</sup>Space Science Division, Naval Research Laboratory, Washington, United States, <sup>5</sup>Computational Physics, Inc., Boulder, United States</p>
14:30	<p><b>The role of the winter residual circulation in the Northern Hemisphere summer mesopause in WACCM</b></p> <p><u>Maartje Kuilman</u>, Bodil Karlsson</p> <p><i>Stockholm University, Stockholm, Sweden</i></p>
14:50 - 15:30	Coffee break
15:30 - 16:50	<p><b>Session: Posters 1</b></p> <p>Monday, 18 September - Poster area</p> <p>Chair/s:</p>
	<p><b>Methods of retrieval of daytime O(<sup>3</sup>P) and O<sub>3</sub> concentrations in the mesosphere and lower thermosphere</b></p> <p><u>Valentine Yankovsky</u>, Rada Manuilova</p> <p><i>Saint-Petersburg State University, 7/9 Universitetskaya nab., St. Petersburg, 199034 Russia, St. Petersburg, Russia</i></p>
	<p><b>Development of a mobile Doppler lidar system for wind and temperature measurements at 30-70km in China</b></p> <p><u>Zhaoai Yan</u><sup>1,2</sup>, Xiong Hu<sup>1</sup>, Wenjie Guo<sup>1</sup>, Shangyong Guo<sup>1</sup>, Yongqiang Cheng<sup>1</sup></p> <p><sup>1</sup>National Space Science Center, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>University of Chinese Academy of Sciences, Beijing, China</p>
	<p><b>Study of the global nickel and aluminium layers in the upper atmosphere</b></p> <p><u>Shane Daly</u><sup>1</sup>, Michael Gerding<sup>3</sup>, Juan C. M. Gómez Martín<sup>1</sup>, Josef Höffner<sup>3</sup>, Wuhu Feng<sup>1,2</sup>, John M. C. Plane<sup>1</sup></p> <p><sup>1</sup>School of Chemistry, University of Leeds, Leeds, United Kingdom, <sup>2</sup>NCAS, School of Earth and Environment, University of Leeds, Leeds, United Kingdom, <sup>3</sup>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</p>

	<p><b>A 3D-model for O2 airglow perturbations induced by gravity waves in the upper mesosphere</b>  <u>Anqi Li</u>  <i>Chalmers University of Technology, Gothenburg, Sweden</i></p>
	<p><b>Exploring the behavior of a mesospheric front using Odin tomographic data combined with CIPS PMC images</b>  <u>Lina Broman</u><sup>1</sup>, Susanne Benze<sup>1</sup>, Brentah Thurairajah<sup>2</sup>, Jörg Gumbel<sup>1</sup>  <sup>1</sup><i>Department of Meteorology, Stockholm University, Stockholm, Sweden,</i>  <sup>2</sup><i>Center for Space Science and Engineering Research, Bradley Department of Electrical and Computer Engineering, Virginia Tech, Blacksburg, Virginia, United States</i></p>
	<p><b>The Structure of Ice in Polar Mesospheric Clouds</b>  <u>Thomas Mangan</u>, John Plane, Ben Murray  <i>University of Leeds, Leeds, United Kingdom</i></p>
17:00 - 17:30	Shuttle to hotels
19:00 - 22:00	Opening ceremony
<b>Tuesday, 19 September</b>	
08:15 - 08:45	Shuttle from hotels
09:00 - 10:20	<p><b>Session: NLC / PMSE observations</b>  Tuesday, 19 September - Conference room  Chair/s: Irina Strelnikova</p>
09:00	<p><b>PoSSUM Citizen Science Airborne Noctilucent Cloud Tomography</b>  <u>Jason Reimuller</u><sup>1,2</sup>, Dave Fritts<sup>1,2</sup>, Bjorn Kjellstrand<sup>3</sup>, Glenn Jones<sup>3</sup>, Michele Limon<sup>3</sup>  <sup>1</sup><i>Project PoSSUM, Inc., Boulder, Colorado, United States,</i> <sup>2</sup><i>G.A.T.S., Inc., Boulder, Colorado, United States,</i> <sup>3</sup><i>Columbia University, New York, New York, United States</i></p>
09:20	<p><b>Lidar temperature measurements during a rare mid-latitude noctilucent cloud event</b>  <u>Natalie Kaifler</u><sup>1</sup>, Bernd Kaifler<sup>1</sup>, Henrike Wilms<sup>1</sup>, Andreas Dörnbrack<sup>1</sup>, Gunter Stober<sup>2</sup>, Christoph Jacobi<sup>3</sup>  <sup>1</sup><i>Institute of Atmospheric Physics, German Aerospace Center, Oberpfaffenhofen, Germany,</i> <sup>2</sup><i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany,</i> <sup>3</sup><i>University of Leipzig, Institute for Meteorology, Leipzig, Germany</i></p>

09:40	<p><b>Validation of Low Latitude PMCs with OMPS NP and OMPS LP</b>  <u>Nick Gorkavyi</u>  <i>Science Systems and Applications, Inc. (SSAI), Lanham, United States</i></p>
10:00	<p><b>Enhancing PMSE spatio-temporal features with MIMO techniques using MAARSY</b>  <u>Juan M. Urco</u>, Jorge L. Chau  <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kuehlungsborn, Germany</i></p>
10:20 - 11:00	Coffee break
11:00 - 12:20	<p><b>Session: Airglow and radiation</b>  Tuesday, 19 September - Conference room  Chair/s: Timo Viehl</p>
11:00	<p><b>Laboratory Studies Offer New Insights for Mesospheric Nightglow</b>  <u>Konstantinos S. Kalogerakis</u>, Daniel Matsiev  <i>Center for Geospace Studies, SRI International, Menlo Park, California, United States</i></p>
11:20	<p><b>Influence of temporal and spatial variability in observations used to develop Multiple Ariglow Chemistry model on derived chemical heating rates</b>  <u>Olexandr Lednyts'kyy</u>, Christian von Savigny  <i>Ernst-Moritz-Arndt-University of Greifswald, Greifswald, Germany</i></p>
11:40	<p><b>New non-LTE model of the nighttime OH and CO<sub>2</sub> IR emissions in the mesosphere/lower thermosphere</b>  Peter Panka<sup>1,2</sup>, <u>Alexander Kutepov</u><sup>2</sup>, Konstantinos Kalogerakis<sup>3</sup>, Artem Feofilov<sup>4</sup>, Ladislav Rezac<sup>5</sup>, Diego Janches<sup>2</sup>  <sup>1</sup><i>Department of Physics and Astronomy, George Mason University, Fairfax, VA, United States</i>, <sup>2</sup><i>NASA Goddard Space Flight Center, Greenbelt, MD, United States</i>, <sup>3</sup><i>Center for Geospace, Studies, SRI International, Menlo Park, CA, United States</i>, <sup>4</sup><i>Laboratoire de Meteorologie Dynamique/IPSL/FX-Conseil, CNRS, Ecole Polytechnique, Universite Paris-Saclay, Paris, France</i>, <sup>5</sup><i>Max Planck Institute for Solar System Research, Göttingen, Germany</i></p>
12:20 - 13:30	Lunch
13:30 - 14:10	Introduction to IAP and tour or walk
14:10 - 14:50	<p><b>Session: Metal layers</b>  Tuesday, 19 September - Conference room  Chair/s: Christian von Savigny</p>

14:10	<p><b>Recent results of the mobile IAP Fe lidar campaigns to Antarctica and the Arctic</b></p> <p><u>Timo Viehl</u>, Josef Höffner, Franz-Josef Lübken  <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kuehlungsborn, Germany</i></p>
14:30	<p><b>A three dimensional global atmospheric model of meteoric metal layers: An update</b></p> <p><u>WUHU FENG</u><sup>1,2</sup>, John Plane<sup>1</sup>, Shane Daly<sup>1</sup>, Juan Diego Carrillo-Sánchez<sup>1</sup>, Daniel Marsh<sup>3</sup>, Chester Gardner<sup>4</sup>  <sup>1</sup><i>School of Chemistry, University of Leeds, Leeds, United Kingdom</i>, <sup>2</sup><i>NCAS, School of Earth and Environment, University of Leeds, Leeds, United Kingdom</i>, <sup>3</sup><i>National Center for Atmospheric Research, Boulder, United States</i>, <sup>4</sup><i>Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Illinois, United States</i></p>
14:50 - 15:30	Coffee break
15:30 - 16:50	<p><b>Session: Metal Layers / MSP</b>  Tuesday, 19 September - Conference room  Chair/s: Xinzhao Chu</p>
15:30	<p><b>Impact of Solar Proton Event (SPE) on mesospheric Na layer over Utah, Logan (42°N, 112°W)</b></p> <p><u>TIKEMANI BAG</u>  <i>Postdoctoral Fellow, National Atmospheric Research Laboratory, Gadanki, India, Gadanki, Chittoor District, India</i></p>
15:50	<p><b>Retrieval of MLT Na profiles from satellite Na D-line nightglow observations – testing the Chapman excitation mechanism</b></p> <p><u>Christian von Savigny</u>, Martin Langowski, Bianca Zilker  <i>Ernst-Moritz-Arndt-University of Greifswald, Greifswald, Germany</i></p>
16:10	<p><b>Characteristics of neutral and ionized layers in the E-region over Arecibo</b></p> <p><u>Jens Lautenbach</u>, Eframir Franco, Jonathan Friedman, Michael Sulzer, Shikha Raizada  <i>Arecibo Observatory / SRI International Space &amp; Atmospheric Sciences, Arecibo, Puerto Rico</i></p>
16:30	<p><b>On small scale mesospheric dust structures and secondary charging effects observed by the MAXIDUSTY payload</b></p> <p><u>Tarjei Antonsen</u>, Ove Havnes  <i>University of Tromsø, Tromsø, Norway</i></p>

17:00 - 17:30	Shuttle to hotels
<b>Wednesday, 20 September</b>	
08:15 - 08:45	Shuttle from hotels
09:00 - 10:20	<b>Session: PMSE</b> Wednesday, 20 September - Conference room Chair/s: Markus Rapp
09:00	<b>PMSE spectral parameter estimation from aperture synthesis radar imaging experiments with MAARSY</b> <u>Ralph Latteck</u> , Jorge Chau, Miquel Urco, Toralf Renkwitz <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</i>
09:20	<b>Mean vertical wind in the summer polar mesosphere: Are radar measurements reliable?</b> <u>Nikoloz Gudadze</u> , Gunter Stober, Fazlul Laskar, Jorge L. Chau <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</i>
09:40	<b>On aspect sensitivity of Polar Mesospheric Summer Echoes – and its dependence on the measuring method</b> <u>Cesar La Hoz</u> <sup>1</sup> , Jorge Chau <sup>2</sup> , Henry Pinedo <sup>1</sup> <i><sup>1</sup>UiT The Arctic University of Norway, Tromsø, Norway, <sup>2</sup>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</i>
10:00	<b>Multi- VHF frequency, multi-angle and multi-location studies of polar mesospheric summer echoes using KAIRA and MAARSY</b> <u>Jorge Chau</u> <sup>1</sup> , Nikoloz Gudadze <sup>1</sup> , Derek McKay <sup>2</sup> , Juha Vierinen <sup>2</sup> , Thomas Ulich <sup>3</sup> , Ralph Latteck <sup>1</sup> <i><sup>1</sup>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany, <sup>2</sup>UiT, The Arctic University of Norway, Tromsø, Norway, <sup>3</sup>Sodankyla Geophysical Observatory, Sodankyla, Finland</i>
10:20 - 11:00	Coffee break
11:00 - 12:20	<b>Session: Gravity waves</b> Wednesday, 20 September - Conference room Chair/s: Bodil Karlsson
11:00	<b>Gravity wave coupling from the troposphere to the mesosphere: insights from a series of combined airborne and ground based field campaigns in both hemispheres</b>

	<p><u>Markus Rapp</u>, Andreas Dörnbrack, Bernd Kaifler, Natalie Kaifler  <i>German Aerospace Center (DLR), Institute of Atmospheric Physics, Oberpfaffenhofen, Germany</i></p>
11:20	<p><b>Small scale dynamics in the summer mesopause region as revealed by the vertical and horizontal structure of noctilucent clouds.</b>  <u>Baumgarten Gerd</u>, Fiedler Jens, Lübken Franz-Josef, Stober Gunter  <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</i></p>
11:40	<p><b>Small-scale gravity waves in the Alpine region observed in OH-airglow - comparison of measurements at Oberpfaffenhofen, Germany, and Sonnblick, Austria</b>  <u>Patrick Hannawald</u><sup>1</sup>, René Sedlak<sup>1</sup>, Carsten Schmidt<sup>2</sup>, Sabine Wüst<sup>2</sup>, Michael Bittner<sup>1,2</sup>  <sup>1</sup><i>University of Augsburg, Institute for Physics, Atmospheric Remote Sensing, Augsburg, Germany,</i> <sup>2</sup><i>German Aerospace Center, German Remote Sensing Data Center, Atmosphere, Oberpfaffenhofen, Germany</i></p>
12:00	<p><b>PMC-Turbo: a Balloon-Borne Mission to Image Gravity Waves and Turbulence in Polar Mesospheric Clouds</b>  <u>B. Kjellstrand</u><sup>1</sup>, D. Fritts<sup>2</sup>, A. Miller<sup>3</sup>, G. Jones<sup>1</sup>, B. Williams<sup>2</sup>, J. Reimuller<sup>2</sup>, C. Geach<sup>7</sup>, S. Hanany<sup>7</sup>, M. Limon<sup>6</sup>, B. Kaifler<sup>4</sup>, M. Taylor<sup>5</sup>  <sup>1</sup><i>Columbia University, New York, NY, United States,</i> <sup>2</sup><i>G.A.T.S., Inc., Boulder, CO, United States,</i> <sup>3</sup><i>University of Southern California, Los Angeles, CA, United States,</i> <sup>4</sup><i>Institute of Atmospheric Physics, German Aerospace Center, Oberpfaffenhofen, Germany,</i> <sup>5</sup><i>Utah State University, Logan, UT, United States,</i> <sup>6</sup><i>University of Pennsylvania, Philadelphia, PA, United States,</i> <sup>7</sup><i>University of Minnesota, Minneapolis, MN, United States</i></p>
12:20 - 13:20	Lunch
13:20 - 22:00	Excursion
<b>Thursday, 21 September</b>	
08:15 - 08:45	Shuttle from hotels
09:00 - 10:20	<p><b>Session: Trend</b>  Thursday, 21 September - Conference room  Chair/s: Matthew DeLand</p>
09:00	<p><b>58 years of phase-height measurements – Long-term variability of the mesospheric temperature over Europe</b></p>



	<p><u>Dieter H.W. Peters</u>, Günter Entzian, Dieter Keuer, Jorge L. Chau <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Ostseebad Kühlungsborn, Germany</i></p>
09:20	<p><b>On consistency of variability and long term trends in temperature, CO2 VMR, and Cooling-Heating rates derived from SABER/TIMED</b> <u>Rezac Ladislav</u><sup>1</sup>, Paul Hartogh<sup>1</sup>, Jia Yue<sup>2</sup>, Yongxiao Jian<sup>2</sup> <sup>1</sup><i>Max Planck Institute for Solar System Research, Göttingen, Germany,</i> <sup>2</sup><i>Center for Atmospheric Science, Hampton University, Hampton, United States</i></p>
09:40	<p><b>Long Term Airglow Variations by the Influences of CO2 Increase, Solar Cycle Variation, and Geomagnetic Activity</b> <u>Tai-Yin Huang</u> <i>Physics Department, Penn State University - Lehigh Valley, Center Valley, United States</i></p>
10:00	<p><b>Probability density distributions of PMCs</b> <u>Uwe Berger</u>, Gerd Baumgarten, Jens Fiedler, Franz-Josef Luebken <i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kuelungsborn, Germany</i></p>
10:20 - 11:00	Coffee break
11:00 - 12:20	<p><b>Session: Solar cycle and trend in PMC</b> Thursday, 21 September - Conference room Chair/s: Mark Hervig</p>
11:00	<p><b>Solar Cycle Response in SBUV PMC Ice Water Content</b> <u>Matthew DeLand</u><sup>1</sup>, Gary Thomas<sup>2</sup> <sup>1</sup><i>Science Systems and Applications, Inc. (SSAI), Lanham, United States,</i> <sup>2</sup><i>Laboratory for Atmospheric and Space Physics (LASP), Univ. of Colorado, Boulder, United States</i></p>
11:20	<p><b>Long-term H<sub>2</sub>O and CH<sub>4</sub> variability in the Middle Atmosphere Observed by SOFIE on the AIM Satellite</b> <u>Jia Yue</u><sup>1</sup>, James Russell<sup>1</sup>, Pingping Rong<sup>1</sup>, Mark Hervig<sup>2</sup>, Tom Marshall<sup>3</sup> <sup>1</sup><i>Center for Atmospheric Research Hampton University, Hampton, United States,</i> <sup>2</sup><i>GATS, Inc, Driggs, United States,</i> <sup>3</sup><i>GATS, Inc, Newport News, United States</i></p>
11:40	<p><b>Long term evolution of mesospheric ice particles</b> <u>Franz-Josef Lübken</u>, Gerd Baumgarten, Uwe Berger</p>

	<i>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</i>
12:20 - 13:30	Lunch
13:30 - 14:10	IAP tour or walk
14:10 - 14:50	<b>Session: PMWE / PMC in the Arctic and Antarctic</b> Thursday, 21 September - Conference room Chair/s: Franz-Josef Lübken
14:10	<b>Characteristics of winter time mesosphere echoes over Syowa and Davis in the Antarctic obtained using PANSY and MF radars</b> <u>Masaki Tsutsumi</u> <sup>1</sup> , kaoru Sato <sup>2</sup> , Toru Sato <sup>3</sup> , Damian Murphy <sup>4</sup> <i><sup>1</sup>National Institute of Polar Research, Tokyo, Japan, <sup>2</sup>Department of Earth and Planetary Science, The University of Tokyo, Tokyo, Japan, <sup>3</sup>Department of Communications and Computer Engineering, Kyoto University, Kyoto, Japan, <sup>4</sup>Australian Antarctic Division, Tasmania, Australia</i>
14:30	<b>Sounding rocket project PMWE</b> <u>Boris Strelnikov</u> <sup>1</sup> , Franz-Josef Lübken <sup>1</sup> , Ralph Latteck <sup>1</sup> , Jorge L. Chau <sup>1</sup> , Martin Friedrich <sup>2</sup> , Markus Rapp <sup>3,4</sup> <i><sup>1</sup>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kuehlungsborn, Germany, <sup>2</sup>Graz University of Technology, Graz, Austria, <sup>3</sup>Meteorologisches Institut München, Ludwig-Maximilian-Universität München, Munich, Germany, <sup>4</sup>Deutsches Zentrum für Luft- und Raumfahrt, Institut für Physik der Atmosphäre, Oberpfaffenhofen, Germany</i>
14:50 - 15:30	Coffee break
15:30 - 16:50	<b>Session: Posters 2</b> Thursday, 21 September - Poster area Chair/s:
	<b>Case studies of downward-propagating gravity waves observed with mesospheric lidars</b> <u>Bernd Kaifler</u> , Natalie Kaifler, Markus Rapp <i>Institute of Atmospheric Physics, German Aerospace Center, Oberpfaffenhofen, Germany</i>
	<b>Project PoSSUM: Aeronomy Citizen Science, Education and Public Outreach</b> <u>Jason Reimuller</u> <sup>1,2</sup> , Gary Thomas <sup>3</sup> , Dave Fritts <sup>1,2</sup> , Zoltan Sternovsky <sup>3</sup> , Mike Taylor <sup>4</sup> , Gerd Baumgarten <sup>5</sup>

	<p><sup>1</sup>Project PoSSUM, Inc., Boulder, Colorado, United States, <sup>2</sup>G.A.T.S., Inc., Boulder, Colorado, United States, <sup>3</sup>Laboratory for Atmosphere and Space Physics, Boulder, Colorado, United States, <sup>4</sup>Utah State University, Provo, Utah, United States, <sup>5</sup>Leibniz-Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany</p>
	<p><b>MICE-TRAPS: Nanoparticles as a sensitive probe for studying the properties of atmospheric vapors</b>  <u>Denis Duft</u><sup>1</sup>, Mario Nachbar<sup>2</sup>, Thomas Dresch<sup>2</sup>, Thomas Leisner<sup>1,2</sup>  <sup>1</sup>Institute of Meteorology and Climate Research - Atmospheric Aerosol Research, Karlsruhe Institute of Technology, Karlsruhe, Germany, <sup>2</sup>Institute of Environmental Physics, University of Heidelberg, Heidelberg, Germany</p>
	<p><b>MF radar technique for investigating the long-term dynamics and structure of the mesopause over Langfang, China</b>  <u>Cunying Xiao</u><sup>1</sup>, Xiong Hu<sup>1</sup>, Junfeng Yang<sup>1</sup>, Xuan Cheng<sup>1,2</sup>, Qingchen Xu<sup>1</sup>  <sup>1</sup>National Space Science Center, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>University of Chinese Academy of Sciences, Beijing, China</p>
	<p><b>Multi-Year Survey of Persistent Gravity Wave Parameters in the Mesosphere and Lower Thermosphere at McMurdo (77.8°S, 166.7°E), Antarctica</b>  <u>Ian Geraghty</u>, Xinzhao Chu, Jian Zhao, Cao Chen  University of Colorado Boulder, Boulder, United States</p>
	<p><b>Seven years (2010-2017) of lidar observations of polar mesospheric clouds at Arrival Heights (77.8°S, 166.7°E) in Antarctica</b>  Mattia Astarita, <u>Xinzhao Chu</u>, Jian Zhao  University of Colorado Boulder, Boulder, United States</p>
17:00 - 17:30	Shuttle to hotels
<b>Friday, 22 September</b>	
08:15 - 08:45	Shuttle from hotels
09:00 - 10:20	<p><b>Session: Mesospheric temperatures and inversion layers</b>  Friday, 22 September - Conference room  Chair/s: Boris Strelnikov</p>
09:00	<p><b>A comparison of mesospheric temperatures derived during the WADIS 2 campaign</b>  <u>Raimund Wörl</u><sup>1</sup>, Josef Höffner<sup>1</sup>, Boris Strelnikov<sup>1</sup>, Franz-Josef Lübken<sup>1</sup>, Michael J. Taylor<sup>2</sup>, Bifford P. Williams<sup>3</sup></p>

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09:20	<p><b>Modeling Mesospheric Inversion Layers: Role of entropically consistent turbulence parameterization</b>  <u>Almut Gassmann</u>  <i>Institute of Atmospheric Physics Kühlungsborn, Kühlungsborn, Germany</i></p>
09:40	<p><b>Dynamics of Gravity Waves Encountering a Mesosphere Inversion Layer</b>  <u>Ling Wang</u><sup>1</sup>, David Fritts<sup>1</sup>, Brian Laughman<sup>1</sup>, Thomas Lund<sup>2</sup>  <sup>1</sup>GATS, Inc., Boulder, United States, <sup>2</sup>NorthWest Research Associates, CoRA Division, Boulder, United States</p>
10:00	<p><b>Causative Mechanisms of Tropical (10°N-15°N) Mesospheric Inversion Layers: Dynamics Vs Chemistry</b>  <u>Karanam Ramesh</u><sup>1</sup>, Sundararajan Sridharan<sup>1</sup>, Sarangam Vijaya Bhaskara Rao<sup>2</sup>  <sup>1</sup>National Atmospheric Research Laboratory (NARL), Gadanki, India, <sup>2</sup>Department of Physics, Sri Venkateswara University, Tirupati, India</p>
10:20 - 10:30	<p>Farewell</p> <p style="text-align: right;">Conference room</p>
10:30 - 11:00	<p>Coffee break</p>
11:15 - 12:15	<p>Bus transfer to Rostock railway station</p>
11:30 - 12:30	<p>Lunch</p>