

# TAP and S&E 2023 Conference program

Day 1: TAP sessions – Monday, 25 September		
11:30 – 13:00	<b>Light lunch, registration</b>	
13:00 – 13:35	<b>Plenary session #1 – <u>Room Wallenbergsalen</u></b>	
13:00 – 13:15	<b>TAP &amp; SE conference opening</b>	
13:15 – 13:35	<b>#1 Keynote presentation: Dr. Said Dahdah, Global Lead for Road Safety, The World Bank Vehicle Emissions in Developing Countries – Challenges and Opportunities</b>	
<b>Oral session</b> 13:45 – 15:00	<b>TAP oral block 1a</b> <b><u>Room Wallenbergsalen</u></b> <b>Non-road emissions (TAP.07)</b> <b>New emission control concepts, testing conditions and pollutants, non-exhaust emissions (TAP.01)</b> Chair: Benedikt Notter, INFRAS Zissis Samaras, LAT AUTH	<b>TAP oral block 1b</b> <b><u>Room Europa</u></b> <b>Vehicle emission modelling and measurements. Impact assessment of emission regulations (TAP.06)</b> Chair: Georgios Fontaras, DG JRC Ispra Stefan Hausberger, TU Graz
13:45	<b>TAP.07.1</b> <b>Train type effect on nanoparticles on an underground metro platform in Stockholm</b> M. Tu*, U. Olofsson	<b>TAP.06.1</b> <b>Updated vehicle emission inventory in China.</b> Y. Wen*, Min Liu, X. Wu, S. Zhang, Y. Wu
14:10	<b>TAP.07.2</b> <b>Toxicity of particle emissions from car and train brake materials</b> A. T. Juárez-Facio*, M. Introna, L. Bard, M.H. Tu, S.S. Steimer, U. Olofsson, K. Elihn	<b>TAP.06.2</b> <b>Long-term trends of black carbon and particle number concentrations and vehicle emission factors in Stockholm</b> P. Krecl, C. Johansson, M. Norman, S. Silvergren* and L. Burman

14:35	<p><b>TAP.07.3</b>  <b>Real-world NOx emissions of Stage IV and V machines</b>  J. Demuynck*, R. Vermeulen, P. Paschinger, P. Mendoza Villafuerte, D. Bosteels</p>	<p><b>TAP.06.3</b>  <b>Assessing pollutant emissions on an urban area using different traffic simulation approaches: multi-agent modelling and microscopic modelling</b>  M. Tirico*, V. Lebescond, D. Lejri, P. Gastineau, A. Can</p>
15:00 – 15:30	<b>Coffee break</b>	
15:30 – 16:45	<p><b>TAP oral block 2a</b>  <b>Room Wallenbergsalen</b>  TAP.07 and TAP.01 (cont.)</p>	<p><b>TAP oral block 2b</b>  <b>Room Europa</b>  TAP.06 (cont.)</p>
15:30	<p><b>TAP.07.4</b>  <b>PM10 emissions from, and rubber content in, different tyre types in relation to rubber hardness</b>  M. Gustafsson*, P. Tromp, N. Svensson</p>	<p><b>TAP.06.4</b>  <b>Secondary aerosol formation from real vehicle exhausts – Development of an equivalent total particle emission index module for air quality modelling applications</b>  P. Roldin*, M. P. Rissanen, L. Pichelstorfer, J. Pagels, A. Oudin, H. Timonen, T. Rönkkö, P. Aakko-Saksa</p>
15:55	<p><b>TAP.07.5</b>  <b>Brake wear ultrafine particle emissions from a light duty vehicle under real driving conditions</b>  Q. Vroom*, N. Ligterink</p>	<p><b>TAP.06.5</b>  <b>Emission savings potential of ecodriving based on over 1500 hours of driving data from 5 countries. Findings from the uCARE project</b>  B. Cox*, B. Notter, M. Opetnik, L. D'Amore</p>
16:20	<p><b>TAP.07.6</b>  <b>A Novel Simulation Approach for Non-Exhaust Particle Emissions</b>  L. Landl*, S. Hausberger</p>	<p><b>TAP.06.6</b>  <b>Impact of uCARE measures on air quality in selected cities</b>  E. Johansson*, R. van Gijlswijk, B. Schäppi, B. Notter</p>

Day 2: TAP sessions – Tuesday, 26 September		
08:30 – 08:50	<b>Plenary session #2 – <u>Room Wallenbergsalen</u></b>	
	<b>#2 Keynote: Prof. Zissis Samaras, Laboratory of Applied Thermodynamics, Aristotle University of Thessaloniki</b> <b>The transition towards zero emission vehicles – Technologies, fuels and impacts</b>	
<b>Oral session</b> 09:00 – 10:40	<b>TAP oral block 3a</b> <b><u>Room Wallenbergsalen</u></b> <b>Vehicle greenhouse gas (GHG) emissions, energy consumption, vehicle, and fuel life cycle analysis (TAP.05)</b> Chair: Leonidas Ntziachristos, AUTH Ake Sjodin, IVL	<b>TAP oral block 3b</b> <b><u>Room Europa</u></b> <b>Remote sensing of vehicle emissions (TAP.04)</b> Chair: Harald Jenk, Bundesamt für Umwelt, Switzerland James Tate, ITS, University of Leeds
09:00	<b>TAP.05.1</b> <b>From physical testing to on-board fuel consumption monitoring and telemetry: a pilot project for capturing the real-world fuel consumption of vehicles</b> A. Tansini*, J. Suarez, N. Aguirre, A. Laverde, G. Fontaras	<b>TAP.04.1</b> <b>A Gas Schlieren Imaging Sensor System for Locating and Examining Automotive Exhaust Plumes for Remote Emission Sensing Applications</b> H. Imtiaz*, P. Schaffer, M. Kupper and A. Bergmann
09:25	<b>TAP.05.2</b> <b>CO<sub>2</sub> emissions performance comparison of Australian and European SUVs</b> D. Komnos*, J.J. Gómez Vilchez, R. Smit, L. Ntziachristos, and G. Fontaras	<b>TAP.04.2</b> <b>Single-blind test on the effectiveness of the Gumbel distribution method in detecting high-emitters in remote sensing data</b> Z. Yang*, J. Tate; C. Rushton; J. Borken-Kleefeld; M. Qiu; Å. Sjödin
09:50	<b>TAP.05.3</b> <b>Temperature Effects on Energy Consumption from Battery Electric Vehicles</b> S. Hausberger*, G. Silberholz, S. Lipp, M. Opetnik and H. Helms	<b>TAP.04.3</b> <b>Optimisation and Validation of Plume Chasing for Particle and NO<sub>x</sub> High Emitter Identification</b> C. Schmidt*, D. Pöhler, S. Schmitt, M. Knoll, T. Frateur, J. P. Lollinga, N. E. Ligterink, M. Vojtíšek, J. Borken-Kleefeld, Y. Bernard, N. J. Farren, D. C. Carslaw and U. Platt

10:15	<p><b>TAP.05.4</b> <b>Electric and conventional vehicles energy consumption under various traffic conditions</b></p> <p>S. Mamarikas*, S. Doulgeris, Z. Samaras, L. Ntziachristos</p>	<p><b>TAP.04.4</b> <b>A method for deriving characteristic emission polygons for engine families based on large datasets from remote sensing measurements</b></p> <p>Å. Sjödin*, S. Hausberger, M. Jerksjö, Y. Cha</p>
<b>10:40 – 11:10</b>	<b>Coffee break</b>	
<p><b>Oral session</b> <b>11:10 – 12:30</b></p>	<p><b>TAP oral block 4a</b> <b><u>Room Wallenbergsalen</u></b> <b>Vehicle greenhouse gas (GHG) emissions, energy consumption, vehicle, and fuel life cycle analysis (TAP.05)</b></p> <p>Chair: Ye Wu, Tsinghua University Georgios Fontaras, DG JRC Ispra</p>	<p><b>TAP oral block 4b</b> <b><u>Room Europa</u></b> <b>Remote sensing of vehicle emissions (TAP.04)</b></p> <p>Chair: James Tate, ITS, University of Leeds Harald Jenk, Bundesamt für Umwelt, Switzerland</p>
11:10	<p><b>TAP.05.5</b> <b>Prediction of fuel consumption for truck planning based on VECTO simulations</b></p> <p>N. Kousias, F. Kyriakidis, K. Agavanakis, R. Quittard, G. Mellios*</p>	<p><b>TAP.04.5</b> <b>Intercomparison of Remote Emission Sensing Methods and Validation with PEMS Measurements</b></p> <p>M. Knoll*, M. Penz, T. Rossi, H. Juchem, C. Schmidt, D. Pöhler, S. Casadei, Y. Bernard, A. Bergmann, A. Sjödin</p>
11:35	<p><b>TAP.05.6</b> <b>Experimental validation of battery electric truck simulation in VECTO</b></p> <p>S. Broekaert*, E. Bitsanis, G. Fontaras</p>	<p><b>TAP.04.6</b> <b>Applications of multi-sensor roadside networks for fleet emission source apportionment and single-vehicle EF determination</b></p> <p>M. Chu*, P. Brimblecombe, D. Westerdahl and Z. Ning</p>
12:00	<p><b>TAP.05.7</b> <b>Emission Monitoring for used cars: Evaluation of On-Road Testing</b></p> <p>P. Dégeilh, J. Kermani, S. Rodriguez, A. Frobert*</p>	<p><b>TAP.04.7</b> <b>Development and testing of a novelty Remote Sensing Device for the simultaneous measurement of vehicles' emissions circulating in multilane roads</b></p> <p>J. Buhigas, J. Muñoz,</p>
<b>12:30 – 13:30</b>	<b>Lunch break</b>	

<b>Oral session</b> <b>13:30 – 14:45</b>	<b>TAP oral block 5a</b> <b><u>Room Wallenbergsalen</u></b> <b>On-Board Monitoring and Diagnostics, emission tampering and deterioration (TAP.02)</b> Chair: Zissis Samaras, AUTH Stefan Hausberger, TU Graz	<b>TAP oral block 5b</b> <b><u>Room Europa</u></b> <b>In-service conformity and new concepts for enhanced emission testing in PTI (TAP.03)</b> Chair: Norbert Ligterink, TNO Åke Sjödin, IVL
13:30	<b>TAP.02.1</b> <b>Identification of Manipulated &amp; Defective Truck NOx Emission Reduction Systems with Plume Chasing for Authority Inspections</b> D. Pöhler*, C. Schmidt, S. Schmitt, J.P. Lollinga, T. Frateur, N. E. Ligterink, M. Vojtíšek, J. Borcken-Kleefeld, Y. Bernard Å. Sjödin	<b>TAP.03.1</b> <b>Solid particle number (SPN) measurements during the periodic technical inspection (PTI) of vehicles</b> A. Melas*, R. Suarez-Bertoa, B. Giechaskiel
13:55	<b>TAP.02.2</b> <b>Strong impact of ambient temperature on nitrogen oxides emissions from heavy-duty diesel trucks based on plume chasing tests</b> H. Wang*, S. Zhang, X. Wu, Y. Wu	<b>TAP.03.2</b> <b>Extended evaluation of the emissions of top-selling Euro 6 cars depending on powertrain and exhaust after-treatment technologies</b> M. Leblanc*, A. Albinet, S. Raux
14:20	<b>TAP.02.3</b> <b>Real world particle number emission factors from plume chasing data</b> T. Frateur*, N. Ligterink, J. P. Lollinga, D. Pöhler, C. Schmidt, M. Knoll, M. Vojtíšek	<b>TAP.03.3</b> <b>In-use NOx emission trends of diesel trucks in China informed by large-sized inspection data</b> Y. Wang*, H. Cheng, S. Zhang, Y. Wu, Z. Ran
<b>14:45 – 15:15</b>	<b>Coffee break</b>	
<b>15:15 – 16:15</b>	<b>TAP Poster pitch session (Plenary #3) – <u>Room Wallenbergsalen</u></b> <b>Chair: Åke Sjödin</b>	
<b>16:15 – 17:30</b>	<b>TAP poster session 1</b> TAP.01-TAP.07 See appendix A for details	
<b>17:30 – 18:00</b>	<b>Concluding remarks TAP (Plenary #4) – <u>Room Wallenbergsalen</u></b> <b>(registration of S&amp;E delegates 16:30 – 18:00)</b>	
<b>18:00 – 20:00</b>	<b>Welcome reception at the Wallenberg conference centre</b>	

Day 3: Joint TAP and S&E sessions – Wednesday, 27 September		
	<b>Plenary session #4</b>	
08:00 – 08:30	<b>Registration of S&amp;E delegates</b>	
<b>8:30 – 9:15</b>	<b>Plenary session #5 – <u>Room Wallenbergsalen</u></b>	
08:30 – 08:40	<b>Introduction of the joint TAP &amp; SE sessions</b>	
08:40 – 08:50	<b>TAP &amp; SE opening talk: Karin Pleijel, Deputy mayor of Gothenburg city responsible for Environment and Climate, Head of Environment and Climate board</b> Sustainable transportation crucial to achieve Gothenburg's climate goals as one of the EU's 100 climate-neutral cities	
08:50 – 09:15	<b>#3 Keynote presentation: Prof. Huan Liu, School of Environment, Tsinghua University</b> <b>Pace and track of climate-friendly shipping</b>	
<b>Oral session</b>	<b>Joint TAP&amp;SE oral block 1a</b>	<b>Joint TAP&amp;SE oral block 1b</b>
09:20 -10:35	<b><u>Room Wallenbergsalen</u></b> <b>Compliance monitoring: technological &amp; legal frameworks; experimental studies; theoretical impact studies (Joint session.10)</b> Chair: Daniëlle van Dinther, Jukka-Pekka Jalkanen	<b><u>Room Europa</u></b> <b>Atmospheric processes and air quality impact studies: modelling impacts of transport on air pollution, climate, health &amp; ecosystems (Joint session.09)</b> Chair: Jana Moldanova, Nicolas Moussiopoulos
09:20	<b>JS.10.1</b> <b>Shipping emissions monitoring with on-board and remote techniques and impacts on air quality: The SCIPPER project summary and results</b> L. Ntziachristos*, et al.	<b>JS.09.1</b> <b>Specification of Zero-Impact Vehicle Emissions &amp; Demonstration of Zero Impact</b> U. Uhrner*, N. Toenges-Schuller, R. Reifeltshammer, Werner Stadlhofer, S. Hausberger
09:40	<b>JS.10.2</b> <b>Comparison of particle emission factors from shipping using different instruments</b> D. van Dinther*, A. Weigelt, Jörg Beecken, J. Mellqvist, V. Conde Jacobo, M. Blom, and J. Duyzer	<b>JS.09.2</b> <b>Impacts of shipping emissions on air pollution in 2040: effects of NECA and non-compliance</b> S. Jutterström*, J. Moldanová, E. Majamäki, J.-P. Jalkanen, J. Kuunen, and V. Matthias

09:58	<p><b>JS.10.3</b></p> <p><b>Performance assessment of state-of-the-art and novel methods for remote compliance monitoring of sulphur emissions from shipping</b></p> <p>J. Beecken*, A. Weigelt, S. Griesel, J. Mellqvist, A.V. Conde Jacobo, D. van Dinther, J. Duyzer, B. Knudsen, J. Knudsen, L. Ntziachristos</p>	<p><b>JS.09.3</b></p> <p><b>Direct evidence of the substantial effect of SECA in the Baltic Sea</b></p> <p>A. Maragkidou*, T. Grönholm, L. Rautiainen, T. Mäkelä, L. Laakso, J. Kukkonen</p>
10:16	<p><b>JS.10.4</b></p> <p><b>Remote monitoring of NOx from shipping- validation and long-term results</b></p> <p>J. Mellqvist*, J. Beecken, A. Weigelt, S. Griesel, A.V. Conde Jacobo, D. van Dinther, J. Duyzer, B. Knudsen, J. Knudsen, M. Irjala, L. Ntziachristos</p>	<p><b>JS.09.4</b></p> <p><b>The impact of shipping emissions to urban air quality in Europe - A port/city analysis</b></p> <p>A. Megaritis*, J.S. Hullegie, J. Tokaya, P. Coenen, and G. Valastro</p>
10:35 – 11:00	<b>Coffee break</b>	
<p><b>Oral session</b></p> <p>11:00 -12:30</p>	<p><b>Joint TAP&amp;SE oral block 2a</b></p> <p><b><u>Room Wallenbergsalen</u></b></p> <p><b>Emissions of air pollutants, GHG, water contaminants, including ambient and underwater noise and vessel-induced mixing</b></p> <p><b><u>Room Wallenbergsalen</u></b></p> <p>(Joint session.08)</p> <p>Chair: Daniëlle van Dinther, Johan Mellqvist</p>	<p><b>Joint TAP&amp;SE oral block 2b</b></p> <p><b><u>Room Europa</u></b></p> <p><b>Atmospheric processes and air quality impact studies: modelling impacts of transport on air pollution, climate, health &amp; ecosystems (Joint session.09)</b></p> <p>Chair: Volker Matthias, Yingying Cha</p>
11:00	<p><b>JS.08.1</b></p> <p><b>Remote detection of ship exhaust plumes from different marine fuels on board a research vessel in the Baltic Sea region using single-particle mass spectrometry</b></p> <p>J. Schade*, J. Passig, E. Iva Rosewig, Helena Osterholz, R. Irsig, J. Hovorka, D. Schulz-Bull, R. Zimmermann, T. W. Adam</p>	<p><b>JS.09.5</b></p> <p><b>Future impact of shipping emissions on air quality in Europe under climate change scenarios</b></p> <p>A. Monteiro, M. Russo*, D. Carvalho, J.-K. Jalkanen</p>

11:18	<p><b>JS.08.2</b></p> <p><b>Underwater noise emissions from ships during 2014-2020</b></p> <p>J.-P. Jalkanen*, L. Johansson, M. H. Andersson, E. Majamäki and P. Sigray</p>	<p><b>JS.09.6</b></p> <p><b>Potential impact of shipping on PM2.5 species in the Mediterranean region - a multi-model evaluation</b></p> <p>L. Fink*, M. Karl, V. Matthias, S. Oppo, R. Kranenburg, J. Kuenen, J. Moldanova, S. Jutterström, J.-P. Jalkanen, E. Majamäki</p>
11:36	<p><b>JS.08.3</b></p> <p><b>Size resolved particle emission behaviour for different types of vessels</b></p> <p>A. Weigelt*, J. Beecken, D. van Dinther, S. Griesel, J. Mellqvist and L. Ntziachristos</p>	<p><b>JS.09.7</b></p> <p><b>A numerical CFD model to quantify traffic-related pollutant concentrations in urban scale.</b></p> <p>G. Ioannidis*, L. Ntziachristos, T. Riedel Till, C. Li, P. Tremper</p>
11:54	<p><b>JS.08.4</b></p> <p><b>Ammonia as a Marine Fuel Towards Decarbonization: Emission Control Challenges</b></p> <p>G. Voniati*, A. Dimaratos, S. Kyklis, G. Koltsakis, L. Ntziachristos</p>	<p><b>JS.09.8</b></p> <p><b>Health benefits if air pollution goals achieved along highways</b></p> <p>L. Broman*, B. Lövenheim and C. Johansson</p>
12:12	<p><b>JS.08.5</b></p> <p><b>Characterisation of emissions from marine vessel with E-methanol fuel and NOx emission control</b></p> <p>J. Moldanova*, H. Timonen, P. Simonen, G. M. Lanzafame, R. Verbeek, H. Salberg, L. Barreira, K. Teinilä, S. Saarikoski, L. Markkula, J. Kalliokoski, B. D'Anna, B. Temime-Roussel, H. Hellen, L. Ntziachristos</p>	<p><b>JS.09.9</b></p> <p><b>On the determination of ship exhaust aerosol volatility in the SCIPPER project</b></p> <p>M. Dal Maso*, P. Simonen, O. Kangasniemi, J. Kalliokoski., A. Wagner., L. Markkula, H. Timonen, L. Barreira, J. Moldanova, B. D'Anna, B. Temime-Roussel, G. M. Lanzafame, K. Teinilä, S. Saarikoski, H. Salberg, J.-P. Jalkanen, E. Majamäki, L. Ntziachristos, J. Keskinen</p>
12:30 – 13:30	<b>Lunch break</b>	



<p><b>Oral session</b></p> <p>13:30 – 15:00</p>	<p><b>Joint TAP&amp;SE oral block 3a</b> <b><u>Room Wallenbergsalen</u></b></p> <p><b>Emissions of air pollutants, GHG, water contaminants, including ambient and underwater noise and vessel-induced mixing</b> (Joint session.08)</p> <p>Chair: Volker Matthias, Andreas Weigelt</p>	<p><b>Joint TAP&amp;SE oral block 3b</b> <b><u>Room Europa</u></b></p> <p><b>Reduction measures for GHG emissions - alternative fuels, electrification, energy use optimization; inter-disciplinary and cross-sector studies</b> (Joint session.11)</p> <p><b>Scenarios and policy options for sustainable transport</b> (Joint session.12)</p> <p>Chair: Erik Fridell, Julia Hansson,</p>
<p>13:30</p>	<p><b>JS.08.6</b></p> <p><b>Discharges from exhaust gas cleaning systems in the OSPAR marine area</b></p> <p>T. Grönholm*, J.-P. Jalkanen, J. Kukkonen, I.-M. Hassellöv</p>	<p><b>JS.12.1</b></p> <p><b>Potential impact on emissions of an introduction of hydrogen &amp; fuel cell-based propulsion in Nordic shipping</b></p> <p>R. Parsmo*, H. Lundström, J. Hansson, E. Fridell, K. Jivén</p>
<p>13:48</p>	<p><b>JS.08.7</b></p> <p><b>Characterisation of fresh and aged ship emissions in the Port of Marseille</b></p> <p>Å. M. Hallquist*, G. M. Lanzafame, P. Simonen, M. Dal Maso, B. Temime-Roussel, H. Salberg, J. Kalliokoski, J. Mellqvist, V. Conde, B. D'Anna, J. Keskinen, L. Ntziachristos</p>	<p><b>JS.12.2</b></p> <p><b>Environmental and economic assessment of green and blue fuels for shipping</b></p> <p>F. Malik Kanchiralla*, E. Malmgren, M. Grahn, S. Brynolf</p>
<p>14:06</p>	<p><b>JS.08.8</b></p> <p><b>Distribution of PAHs and metals between exhaust and scrubber water discharge from a large 2-stroke slow speed marine engine equipped with open loop scrubber</b></p> <p>A. Lunde Hermansson*, J. Moldanová, B. Strandberg, E. García-Gómez, M. Gros, M. Petrović, S. Rodríguez-Mozaz, I.-M. Hassellöv, E. Ytreberg</p>	<p><b>JS.12.3</b></p> <p><b>Policy scenarios for analysing use of scrubbers in shipping</b></p> <p>E. Fridell*, R. Parsmo, E. Majamäki and J.-P. Jalkanen</p>

14:24	<p><b>JS.08.9</b> <b>Effects of sulphur scrubbers on particulate emissions from a marine diesel engine</b></p> <p>T. Streibel*, S. Jeong, J. Bendl, M. Saraji-Bozorgzad, M. Sklorz, C. Gehm, L. Anders, J. Passig, J. Schade, U. Etzien, T. Adam, B. Buchholz, Detlef E. Schulz-Bull, R. Zimmermann</p>	<p><b>JS.12.3</b> <b>Projections of shipping emissions in Europe in 2040 and 2050</b></p> <p>E. Majamäki*, J.-P. Jalkanen, V. Matthias, J. Moldanova, L. Johansson</p>
14:42	<p><b>JS.08.10</b> <b>Methane slip from LNG engines - review and on-board study</b></p> <p>Yn, N*, Heikkilä, M., Vesala, H., Karppanen, M., Jalkanen, J.-P., Lehtoranta, K.</p>	<p><b>JS.12.4</b> <b>Climate friendly and pollution-free? Scenarios for air pollution from shipping in Europe in 2050</b></p> <p>V. Matthias*, L. Fink, A. Grigoriadis, J. Hahn, J.-P. Jalkanen, J. Kuenen, E. Majamäki, L. Ntziachristos, R. Petrik, D. Schwarzkopf</p>
15:05 – 16:00	<p><b>Joint TAP and S&amp;E Poster pitch session (Plenary #6)</b> <b><u>Room Wallenbergsalen</u></b> <b>Chair: Jana Moldanova</b></p>	
16:00 – 16:10	<p><b>Coffee</b></p>	
16:10 – 17:40	<p><b>Joint TAP and SE Poster session 2</b> Joint.08 -Joint.12 + S&amp;E.13-S&amp;E.14 See appendix B for details</p>	
17:40 – 18:00	<p><b>Concluding remarks Joint TAP and SE (Plenary #7)</b> <b><u>Room Wallenbergsalen</u></b></p>	
19:00 – 22:00	<p><b>Conference Dinner at Kårrestaurangen at Chalmers, Sven Hultins gata 4, 412 58 Göteborg</b></p>	

Day 4: S&E sessions – Thursday, 28 September	
	<p><b>Plenary session #8</b> <b><u>Room Wallenbergsalen</u></b></p>
08:45 – 09:05	<p><b>Introduction to the SE marine sessions</b></p>
09:05 – 09:30	<p><b>#4 Keynote presentation:</b> <b>Prof Ida-Maja Hassellöv, Chalmers University of Technology</b> <b>Moving through unchartered waters: challenges and knowledge gaps in the assessment of shipping impacts on the marine environment</b></p>

<p><b>Oral session</b></p> <p>09:30 – 10:25</p>	<p><b>S&amp;E oral block 1 – <u>Room Wallenbergsalen</u></b></p> <p><b>Marine processes - fate of pollution from shipping in the marine environment: impact studies on ecotoxicology, eutrophication and acidification, energy pollution including underwater noise &amp; induced mixing; experimental work, modelling studies of dispersion, transport, and chemical and biological processes in marine waters (S&amp;E.13)</b></p> <p>Chair: Elisa Giubilato Christa Maradino</p>
<p>09:30</p>	<p><b>SE.13.1</b></p> <p><b>A multi species and multi system evaluation of the ecotoxicological effects of scrubber water – a synopsis of results from the EMERGE project</b></p> <p>M. Granberg*, et al.</p>
<p>09:48</p>	<p><b>SE.13.2</b></p> <p><b>Ecotoxicological effects of exhaust gas cleaning system (EGCS) discharge water on marine copepods</b></p> <p>M. Picone*, E. Giubilato, K. Magnusson, M. Granberg, A. Volpi Ghirardini, A. Marcomini</p>
<p>10:06</p>	<p><b>SE.13.3</b></p> <p><b>Sampling strategies and characterization of greywater from ships</b></p> <p>J.T. Mujingni*, G.B.M Rathnamali, I-M Hassellöv, E. Ytreberg and K. Salo</p>
<p>10:25 – 10:55</p>	<p><b>Coffee break</b></p>
<p><b>Oral session</b></p> <p>10:55 – 12:30</p>	<p><b>S&amp;E oral block 2 – <u>Room Wallenbergsalen</u></b></p> <p><b>Marine processes - fate of pollution from shipping in the marine environment: impact studies on ecotoxicology, eutrophication and acidification, energy pollution including underwater noise &amp; induced mixing; experimental work, modelling studies of dispersion, transport, and chemical and biological processes in marine waters (S&amp;E.13)</b></p> <p>Chair: Elisa Giubilato, Erik Ytreberg</p>
<p>10:55</p>	<p><b>SE.13.4</b></p> <p><b>Turbulent ship wakes: extent, intensity, and interaction with stratification</b></p> <p>A. Nylund*, I.-M. Hassellöv, A. Tengberg, R. Bensow, G. Broström, M. Hassellöv, and L. Arneborg</p>

11:13	<p><b>SE.13.5</b></p> <p><b>Response in the marine diatom <i>Nitzschia</i> sp., following exposure to bilge water from different ships</b></p> <p>J. Egardt*, I.-M. Hassellöv, I. Dahllöf</p>
11:31	<p><b>SE.13.6</b></p> <p><b>Scrubber water impairs fertilization and development in the green sea urchin (<i>Strongylocentrotus droebachiensis</i>) at very low concentrations</b></p> <p>C.Y. Chen*, K. Magnusson, S. Dupont, R. Pfeiffer, M. Granberg</p>
11:49	<p><b>SE.13.7</b></p> <p><b>The possibilities and effects of ship speed reduction on underwater noise – a case study</b></p> <p>R.E. Bensow*, D. Glebe, M. Andersson, L.-G. Malmberg, E. Lalander, K. Larsson, M. Svedendahl, I.-M. Hassellöv, E.-L. Sundblad</p>
12:07	<p><b>SE.13.8</b></p> <p><b>Influence of scrubber effluent on biogenic trace gas production</b></p> <p>D. Booge*, A. J. Paul, J.F. Tavares, S.C. Yang, K. Salo, K.R.M. Mackey, S.G. John, C. Marandino</p>
12:25	Discussion
12:30 – 13:30	<b>Lunch break</b>
<p><b>Oral session</b></p> <p>13:30 – 15:00</p>	<p><b>SE oral block 3 – <u>Room Wallenbergsalen</u></b></p> <p><b>Holistic assessment of shipping impacts on the environment, shipping in marine spatial planning (S&amp;E.14)</b></p> <p>Chair:</p> <p>Eva-Lotta Sundblad, Jukka-Pekka Jalkanen, Ida-Maja Hassellöv</p>
13:30	<p><b>SE.14.1</b></p> <p><b>Impact assessment of shipping activities: Applying the critical load concept to both the atmosphere and marine environment</b></p> <p>S. Guéret*, W. Winiwarter, A. Lunde Hermansson, J. Borken-Kleefeld, I.-M. Hassellöv and E. Ytreberg</p>
13:48	<p><b>SE.14.2</b></p> <p><b>Managing Marine Resources Sustainably: a transdisciplinary approach to the causes, consequences, and responses to environmental problems of shipping and navigation</b></p> <p>M. Elliott*, I.-M. Hassellöv</p>

14:06	<p><b>SE.14.3</b></p> <p><b>Impacts of expanding commercial anchoring on the Pacific Coast of Canada</b></p> <p>F.T. Francis*, K. Douglas, L.C. Hannah, S. Agbayani, K. Berry, S. Dudas, R. Enkin, D. Havens, T. Norgard, C. Robb, E. Rubidge, S. Verrin, and C. Murray</p>
14:24	<p><b>SE.14.4</b></p> <p><b>Reducing ports' contribution to climate change</b></p> <p>F. Sakellariadou*, I.-M. Hassellöv, C. F. Wooldridge and D. Kitsiou</p>
14:42	<p><b>SE.14.5</b></p> <p><b>Financial incentives for ship underwater noise mitigation</b></p> <p>A. T. Johansson*, S. Sköld, Carl Andersson, Cecilia Andersson, and H. Winnes</p>
15:00 – 15:30	<b>Coffee break</b>
15:30 – 16:30	<p><b>Concluding remarks, discussion S&amp;E (Plenary #8)</b></p> <p><b><u>Room Wallenbergsalen</u></b></p>

THE END

## Appendix A: TAP Poster session 1

Day 2: TAP poster sessions – Tuesday, 26 September 16:15 – 17:30

TAP Poster session 1 TAP.01-TAP.07	
<p><b>PS.1.1</b> <b>Measurement and Analysis of Brake and Tyre Particle Emissions for High-Load Driving Scenarios on a Test Bed</b> Martin Kupper*, L. Schubert, M. Nachtnebel, H. Schröttner, M. Huber, A. Bergmann, P. Fischer</p>	<p><b>PS.1.2</b> <b>Predictive energy management for a plug-in hybrid electric truck</b> N. Aletras*, S. Broekaert, E. Bitsanis, G. Fontaras, Z. Samaras, L. Ntziachristos</p>
<p><b>PS.1.3</b> <b>The EV-olution of non-exhaust emissions</b> D. Mehlig*, H. ApSimon</p>	<p><b>PS.1.5</b> <b>Influence of vehicle weight on PM emissions from studded and studless winter tyres - laboratory and on-road results</b> S. Kulovouri*, M. Gustafsson</p>
<p><b>PS.1.7</b> <b>The effect of a porous pavement on air quality in comparison to a dense pavement</b> N. Svensson*, J. Lundberg, M. Gustafsson, S. Janhäll, S. Kulovuori</p>	<p><b>PS.1.8</b> <b>CO<sub>2</sub> emissions targets, revisiting the transition from 2020 NEDC to 2021 WLTP</b> J. Suarez-Corujo*, D. Komnos, M.A. Ktistakis, G. Fontaras</p>
<p><b>PS.1.9</b> <b>First application of a protocol for physico-chemical characterization of the nanoparticulate.</b> A. Colombo*, C.E. Campiglio, S. Conti, A. Mancini, S. Petromelidou, A. Besis, D. Margaritis, D. Lambropoulou</p>	<p><b>PS.1.10</b> <b>Multi-sectoral drivers of decarbonizing battery electric vehicles in China</b> F. Wang*, S. Zhang, Y. Wu</p>
<p><b>PS.1.11</b> <b>Development of a mobile ALI exposure system for toxicity testing of emissions from different transportation modes</b> K. Elihn*, M. Introna, A.T. Juárez-Facio, S.S. Steimer</p>	<p><b>PS.1.13</b> <b>Comparison of two Air Liquid Interface (ALI) systems: lung cells exposure to vehicle exhaust</b> G. Tsakonas*, A. Kontses, R. Stamatiou, P. Baltzopoulou, E. Papaioannou, D. Deloglou, A. Lazou, Z. Samaras</p>

<p><b>PS.1.14</b></p> <p><b>Fuel consumption, regulated and unregulated exhaust emission tests on three Euro 6d bi-fuel LPG passenger cars, fed by an innovative LPG/DME 80/20 (V/V) blend</b></p> <p>T. Rossi*, S. Casadei, S. Lixi, M. Martini, D. Faedo</p>	<p><b>PS.1.15</b></p> <p><b>Design of a sampling system for brake particles on-road measurement – A computational preliminary study</b></p> <p>A. Dimaratos*, et al.</p>
<p><b>PS.1.16</b></p> <p><b>Future SUV fleet and CO<sub>2</sub> emissions projections in Australia and the European Union</b></p> <p>J. Gómez Vilchez*, R. Smit, D. Komnos, G. Fontaras</p>	<p><b>PS.1.17</b></p> <p><b>Toxicity of real-world road tunnel emissions in an ALI exposure model.</b></p> <p>M. Introna*, A.T. Juárez-Facio, S.S. Steimer, M.H. Tu, U. Olofsson, H.L. Karlsson, N.V.S. Vallabani, K. Elihn</p>
<p><b>PS.1.18</b></p> <p><b>Vehicle fleet electrification: electric energy consumption assessment at the scale of an urban area.</b></p> <p>D. Lejri*, B. Jeanneret, C. Bécarie, R. Trigui</p>	<p><b>PS.1.20</b></p> <p><b>A combination of 1 Hz speed data and license plate scans offer unprecedented insight into driver behaviour on Dutch roads</b></p> <p>J.M. de Ruiter*, U. Stelwagen, N. Deschle, N.E. Ligterink</p>
<p><b>PS.1.21</b></p> <p><b>Non-Exhaust Emissions in Aotearoa New Zealand</b></p> <p>G. Coulson*, P.K. Davy, E.R. Somervell, G. A. Olivares, A. Semadeni-Davies, I. D. Longley</p>	<p><b>PS.1.22</b></p> <p><b>Nanoparticle in different environment in Stockholm, the nPETS project</b></p> <p>M. Norman*, S. Silvergren, D. Schlesinger, M. Tu, U. Olofsson</p>
<p><b>PS.1.25</b></p> <p><b>Characterization &amp; quantification of traffic-derived non-exhaust particles (TWP/TRWP, brake &amp; road wear) in airborne dust</b></p> <p>J. Rausch*, D. Jaramillo-Vogel, S. Perseguers</p>	<p><b>PS.1.27</b></p> <p><b>Effects of geofencing on exhaust emissions and noise: A combined test track and traffic simulation study</b></p> <p>N. Svensson*, A. Genell, J. Olstam</p>
<p><b>PS.1.28</b></p> <p><b>Quantification of temperature dependence of NO<sub>x</sub> emissions from road traffic in Norway using air quality modelling and monitoring data</b></p> <p>E. Grötting Wærsted*, Sundvor, B.R. Denby, Q. Mu</p>	<p><b>PS.1.29</b></p> <p><b>Data protection in remote sensing through profiling high-emitting vehicles</b></p> <p>L. Unterschütz*, P. Kerschke, J. Borken-Kleefeld</p>

<p><b>PS.1.30</b></p> <p><b>The impact of UK Clean Air Zones (CAZs) on the observed vehicle fleet</b></p> <p>I. Philips*, J. Tate</p>	<p><b>PS.1.31</b></p> <p><b>Feasibility study for future on-board NOx monitoring of passenger cars</b></p> <p>C. Matzer*, S. Hausberger, S. Lipp, U. Ellmers, J. Blassnegger, A. Prosenec</p>
<p><b>PS.1.32</b></p> <p><b>Lubrication oil as a potential source of traffic originated secondary particulate mass</b></p> <p>M. Priestley*, A. A. Hammoud, E. Tsiligiannis, M. Hallquist, Å. M. Hallquist</p>	<p><b>PS.1.33</b></p> <p><b>Simultaneous in-cabin and on-road CO2 concentrations on-board measurements</b></p> <p>A. Mehel*, N. Hafs</p>
<p><b>PS.1.34</b></p> <p><b>Estimation of mobility and traffic emissions based on cell phone data</b></p> <p>F. Troncoso Lamaison*, T. Vieira Da Rocha, S. Moukhtar, D. Collet, G. De Nunzio, J.-M. André, M. Seppecher, J. Boutang</p>	<p><b>PS.1.35</b></p> <p><b>Assessment of Hot Idling Test Procedure for NOx Measurement in Periodic Technical Inspection (PTI) of Vehicles</b></p> <p>J. Franzetti*, T. Selleri, C. Ferrarese, A. D. Melas, D. Manara, B. Giechaskiel, R. Suarez-Bertoa</p>
<p><b>PS.1.36</b></p> <p><b>Input requirements for modelling the microscale spatial distribution of emission hotspots based on real-world measured vehicle activity</b></p> <p>C. Quaassdorff*, L. Pillai, T. Khan, H.C. Frey</p>	<p><b>PS.1.37</b></p> <p><b>A simplified in-Field Calibration method for Periodical Technical Inspections Particle Counters with atomized NaI</b></p> <p>H. Krasa*, M. Kupper, M. A. Schriefl, A. Bergmann</p>
<p><b>PS.1.38</b></p> <p><b>NRMM Real Operation NOx Emission Measurements with Plume Chasing</b></p> <p>C. Schmidt*, D. Pöhler, S. Schmitt, C. Heidt, F. Münch, U. Platt</p>	<p><b>PS.1.43</b></p> <p><b>Advanced Air quality sensors and Remote Sensing to investigate vehicular traffic emissions in Milan: CARES H2020 Project results</b></p> <p>S. Moroni*, F. Cruz Torre, R. Pedrini, P. Palomba, S. Belmuso, M. Bedogni, S. Casadei, T. Rossi, G. Migliavacca, M. Knoll, C. Schmidt, H. Juchem, D. Pöhler, Y. Bernard, A. Sjödin</p>
<p><b>PS.1.46</b></p> <p><b>Assessing the Impact of Car Cabin Filters mileage on In-Vehicle Air Quality: Results from Controlled Environment</b></p> <p>N. Hafs*, A. Mehel, G. Fokoua, H. Er-Rbib, P. Chevrier</p>	<p><b>PS.1.47</b></p> <p><b>Remote Sensing Measurements of Vehicle Emissions in Sarajevo</b></p> <p>Y. Cha*, Å. Sjödin</p>



<p><b>PS.1.48</b></p> <p><b>Statistical evaluation of Conformity of Production of road vehicles</b></p> <p>A. Ktistakis, J. Suarez, J. Pavlovic, D. Komnos, B. Ciuffo, A. Marotta, G. Fontaras*</p>	<p><b>PS.1.49</b></p> <p><b>Emissions from in-use vehicles in Dublin using on-road remote sensing</b></p> <p>S. Mahesh*, B. Ghosh, A. McNabola, W. Smith, D. Timoney, B. Fowler, P. Willis</p>
<p><b>PS.1.50</b></p> <p><b>Remote Sensing Emission Measurements on a German Motorway – Insights and initial Results</b></p> <p>C. Piasecki*</p>	<p><b>PS.1.51</b></p> <p><b>Simulations of a NIR TDLAS Sensor for Stand-Off Measurement of Carbon Dioxide for Remote Emission Sensing</b></p> <p>P. Schaffer*, H. H. Imtiaz, B: Lang, M. Kupper Alexander Bergmann</p>
<p><b>PS.1.52</b></p> <p><b>A modern, flexible cloud-based database and computing service for storing and analysing vehicle emission measurements</b></p> <p>C. Rushton*, J.E. Tate, M. Callaghan, M. Knoll, Y. Bernard, A. Sjodin</p>	<p><b>PS.1.54</b></p> <p><b>Roadway diesel vehicle emission measurement by PEMS and its dispersion at on-road conditions captured by plume chasing</b></p> <p>X. Qin, A. Abhishek, N. Kumar, Z. Ning*</p>
<p><b>PS.1.55</b></p> <p><b>Comparative chemical composition of US and European tyres VOC profile, potential environmental impact, including 6PPD</b></p> <p>N. Molden, I. Usen</p>	<p><b>PS.1.56</b></p> <p><b>Incorporating NOx into the Periodic Technical Inspection vehicle emission test procedures</b></p> <p>Thomas, D., Sandhu, G.</p>

## Appendix B: Joint TAP and SE Poster session 2

Day 3: Joint TAP and S&E poster sessions – Wednesday, 27 September 15:40 – 17:30

Joint TAP and SE Poster session 2	
Joint.08 - Joint.12 + S&E.13-S&E.14	
<p><b>PS.2.1</b></p> <p><b>Particulate and gaseous emissions from a large 2-stroke slow speed marine engine equipped with open-loop scrubber under real sailing conditions</b></p> <p>A. Grigoriadis*, N. Kousias, A. Raptopoulos, S. Mamarikas, A. Kontses, Z. Toumasatos, H. Salberg, A. Lunde-Hermansson, J. Moldanová, L. Ntziachristos</p>	<p><b>PS.2.2</b></p> <p><b>Application of a 24-hour ship plume forecasting system</b></p> <p>R. Badeke*, V. Matthias</p>
<p><b>PS.2.3</b></p> <p><b>AIS data mining to identify tank cleaning operations at sea</b></p> <p>W. Mao*, S. Wang, I.-M. Hassellöv</p>	<p><b>PS.2.4</b></p> <p><b>DOAS applied to shipping emission monitoring: compliance assessment and comparison to satellite measurements</b></p> <p>M. Prignon*, V. Conde, T. J. Smyth, A.-M. Sundström, J. van Vliet, J. Mellqvist</p>
<p><b>PS.2.5</b></p> <p><b>FUGITIVE Methane Emissions from Ships (FUMES): Characterizing methane emissions from LNG-fuelled ships using drones, helicopters, and on-board measurements</b></p> <p>J. Beecken*, B. Comer, L. Osipova, E. Sturup, J. Beecken, B. Knudsen, J. Knudsen, R. Vermeulen, P. Paschinger, A. Delahaye, R. Verbeek</p>	<p><b>PS.2.6</b></p> <p><b>SEICOR - Ship Emission Inspection with Calibration-free Optical Remote sensing</b></p> <p>M. Rieker*, A. Daubinet, K. Krause, F. Wittrock, A. Richter, S. Schmitt, D. Pöhler</p>
<p><b>PS.2.7</b></p> <p><b>Discharges from ships to the sea in European sea regions</b></p> <p>J.-P. Jalkanen*, E. Majamäki, L. Johansson, T. Grönholm, A. Maragkidou, J. Kukkonen</p>	<p><b>PS.2.8</b></p> <p><b>Experiences with sensor based continuous emission monitoring for demonstration of maritime emissions compliance</b></p> <p>R. Verbeek*, V. Verhagen, P. Paschinger, T. Smyth, J. Pewter, A. Deakin, R. Proud, N. Kousias, S. Mamarik, M. Irjala, T. Rantala, J. Weisheit, A. Chink Nok, J. Moldanova, P. Simonen, L. Haedrich</p>

<p><b>PS.2.9</b></p> <p><b>A low-cost Optoacoustic Sensor for Black Carbon monitoring of ships</b></p> <p>N. Kousias*, L. Haedrich, A. Stylogiannis, I. Raptis, V. Ntziachristos, L. Ntziachristos</p>	<p><b>PS.2.10</b></p> <p><b>Remote monitoring of sulphur emissions from shipping with a novel high sensitivity laser system</b></p> <p>V. Conde Jacobo, J. Mellqvist, J. Beecken, A. Weigelt, T. Smyth</p>
<p><b>PS.2.11</b></p> <p><b>Measurement of NOx and ultrafine particles from inland shipping in Germany</b></p> <p>P. Eger*, T. Mathes, A. Zavarisky, L. Duester</p>	<p><b>PS.2.12</b></p> <p><b>A single instrument for simultaneous monitoring of greenhouse gases and air pollutants</b></p> <p>M. Hundt*, M. Brunner, O. Aseev</p>
<p><b>PS.2.13</b></p> <p><b>A new set of Emission Factors for ships</b></p> <p>A. Grigoriadis*, S. Mamarikas, G. Ioannidis, E. Majamäki, J.-P. Jalkanen, L. Ntziachristos</p>	<p><b>PS.2.14</b></p> <p><b>Monetary return on scrubber installations at the expense of environmental damage</b></p> <p>A. Lunde Hermansson*, I.-M. Hassellöv, J.-P. Jalkanen, J. Hassellöv, E. Ytreberg</p>
<p><b>PS.2.15</b></p> <p><b>VOC emissions from ships</b></p> <p>K. Salo*, J. Mellqvist, A. V. Conde</p>	<p><b>PS.2.16</b></p> <p><b>The actor perspective on reaching a low emitting shipping sector</b></p> <p>E. Malmgren*, S. Brynolf, L. Styhre</p>
<p><b>PS.2.17</b></p> <p><b>Automatic Classification of Aerosol Particles using Single-Particle Mass Spectrometry and Machine Learning</b></p> <p>G. Wang*, H. Ruser, J. Schade, J. Passig, T. Adam, G. Dollinger, R. Zimmermann</p>	<p><b>PS.2.19</b></p> <p><b>Gentlemen, do not start your engines: The association between vessel departures and air pollution in Helsinki port area 2016-2021</b></p> <p>M. Heikkilä*</p>
<p><b>PS.2.21</b></p> <p><b>Maritime Greenhouse Gas Emission Reduction Scenarios – Extension of DIONE model</b></p> <p>J. Krause, Z. Samos, L. Maineri, M. Georgakaki, G. Papadimitriou, C. Kouridis, and G. Fontaras*</p>	<p><b>PS.2.22</b></p> <p><b>Solid Oxide Fuel Cells for Reduced Health and Climate Impact of Ship Emissions</b></p> <p>J. Pagels*, A. Oudin, S. Ansar, A. Kristensson</p>
<p><b>PS.2.24</b></p> <p><b>Legal barriers to transporting CO2 streams by ships</b></p> <p>G. Argüello*, O. Bokareva</p>	<p><b>PS.2.25</b></p> <p><b>High-resolution air quality mapping via massive mobile monitoring and land use random forest models</b></p> <p>T. Zheng*, S. Zhang, Y. Wen, S. Xiang, Y. Wu</p>

<p><b>PS.2.26</b></p> <p><b>Is post-exposure feeding inhibition of <i>Artemia</i> sp. and <i>Mytilus galloprovincialis</i> impaired by exposure to scrubber-waters?</b></p> <p>N. Abrantes*, A. Ré, A.T. Rocha, A. Monteiro, M. Granberg, N. Abrantes</p>	<p><b>PS.2.27</b></p> <p><b>Air quality assessment at the street level: sensitivity analysis of a road traffic-emissions-CTM model chain for the Paris region</b></p> <p>M. Lannes*, Y. Roustan, N. Coulombel</p>
<p><b>PS.2.28</b></p> <p><b>Environmental fate modelling of organic pollutants from land-based and shipping emissions in the Northern Adriatic Sea coastal areas</b></p> <p>L. Calgaro*, E. Giubilato, M. Aghito, J.P. Jalkanen, C. Ferrarin, E. Semenzin, A. Marcomini</p>	<p><b>PS.2.29</b></p> <p><b>The assessment of a Zero Emission Zone: air quality and human health impacts in the metropolitan city of Milan</b></p> <p>A. Piccoli*, V. Agresti, M. Bedogni, G. Lonati, G. Pirovano</p>
<p><b>PS.2.30</b></p> <p><b>Deposition quantification of gaseous emissions at the air-water interface during a single vessel travel</b></p> <p>N. Rapkos*, L. Ntziachristos</p>	<p><b>PS.2.31</b></p> <p><b>Improving 3-day deterministic air pollution forecasts using machine learning algorithms</b></p> <p>Magnuz Engardt*, C. Johansson, Z. Zhang, M. Stafoggia, X. Ma</p>
<p><b>PS.2.32</b></p> <p><b>Variation in responses of microalgae, <i>Nitzschia</i> sp. exposed to grey water from ships.</b></p> <p>M. Rathnamali*, J.T. Mujingni, J. Egardt, I. Dahllöf, I.-M. Hassellöv, E. Ytreberg, K. Salo</p>	<p><b>PS.2.33</b></p> <p><b>Effects of noise barriers on population exposure to and health impacts of air pollutants downwind of highways</b></p> <p>D. Schlesinger*, C. Johansson</p>
<p><b>PS.2.34</b></p> <p><b>Holistic environmental impact assessment from shipping: A decision support tool for stakeholder engagement</b></p> <p>W. Winiwarter*, S. Guéret</p>	<p><b>PS.2.35</b></p> <p><b>CFD dispersion modelling for the reproduction of real shipping emission conditions in a port area</b></p> <p>C. Boikos*, L. Ntziachristos, S. Oppo, A. Armengaud</p>
<p><b>PS.2.36</b></p> <p><b>Cumulative effects of commercial anchoring on the Pacific Coast of Canada: Ecological and Socio-Economic Effects</b></p> <p>L. Hannah*, F.T. Francis K. Douglas, E. Rubidge, T. Norgard, S. Dudas, K. Berry, S. Agbayani, C. Robb, R. Enkin, S. Verrin, D. Havens, C.C. Murray</p>	<p><b>PS.2.37</b></p> <p><b>The impact of maritime activities on air quality in three European ports</b></p> <p>M. Ramacher*, M. Karl, R. Badeke, A. Auling</p>

<p><b>PS.2.38</b></p> <p><b>Assessing the impact of environmental policy instruments for ships in Europe with a modelling tool</b></p> <p>R. Parsmo*, J. Hansson, E. Ytreberg, E. Fridell, S. Brynolf</p>	<p><b>PS.2.39</b></p> <p><b>Transition to cleaner and carbon-free marine fuels and their potential impacts on air quality in the North and Baltic Sea in the future</b></p> <p>D. Schwarzkopf*, J. Hahn, R. Petrik, V. Matthias, L. Ntziachristos</p>
<p><b>PS.2.40</b></p> <p><b>LNG feeder vessel environmental pressures, partially decoupled from transport demand</b></p> <p>I.-M. Hassellöv*, A. Hörteborn</p>	<p><b>PS.2.42</b></p> <p><b>The Poseidon Principles: Designing and implementing a regulatory framework to create ecosystem sustainability</b></p> <p>I.-M. Hassellöv*, L. Huemer, C. Martinson</p>
<p><b>PS.2.43</b></p> <p><b>The impact of data splitting in air quality modelling on the possibilities of interpretation of the results</b></p> <p>J. Kamińska*, J. Kajewska-Szkudlarek</p>	<p><b>PS.2.44</b></p> <p><b>ShipTRASE, Global shipping: Linking policy and economics to biogeochemical cycling and air-sea interaction</b></p> <p>A. Rutgersson*, C. Marandino, D. Booge, S. Hajjaji, R. Kumar, N. Matz-Luck, L. Recuero-Virto, K Salo, M. Sebe, F. Yao</p>
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