

MONDAY 26 May 2014

| TIMETABLE | ACTIVITY-TALK | AUTHORS |
|-------------|--|--|
| 9:00-11:00 | Registration and visit to the ICM (optional) | |
| 11:00-11:10 | Welcome | E. Berdalet (ICM) |
| 11:10-11:40 | Introduction | R. Simó |
| 11:40-12:10 | Quantifying the impact of the 2010 updated dimethylsulfide (DMS) climatology on atmospheric sulfur burden, cloud microphysics and radiative forcing | <u>A. S. Mahajan</u> , S. Fadnavis, M. Thomas, L. Pozzoli, R. Simó, S.-J. Royer, A. Saiz-Lopez |
| 12:10-12:40 | Ice, wind and water: ties between climate, halogen chemistry and DMS oxidation pathways in the community earth ecosystem model's high latitudes in the southern hemisphere | <u>E. C. Asher</u> , J.-F. Lamarque, S. Tilmes, A. Saiz-Lopez, R. Fernandez, M. C. Long |
| 13:00-14:00 | LUNCH | |
| 14:30-14:50 | Measurement of air-sea exchange of dimethyl sulfide by PTR-MS coupled with gradient flux technique in the Pacific Ocean | <u>H. Tanimoto</u> , Y. Omori, T. Iwata, S. Kameyama, S. Inomata |
| 14:50-15:10 | The dimethylsulfide cycle in the eutrophied Southern North Sea: a model study integrating phytoplankton and bacterial processes | <u>N. Gypens</u> , A. V. Borges, G. Speeckaert, C. Lancelot |
| 15:10-15:30 | Impact of river discharge on distribution of dimethyl sulphide (DMS) and its fluxes in the coastal Bay of Bengal | <u>R. Viswanadham</u> , V. D. Rao, M. D. Bharati, V. V. S. S. Sarma, M. D. Kumar |
| 15:30-15:50 | Seasonal variability in DMS fluxes from tropical estuarine intertidal surfwater | <u>S. Pandey</u> , P. A. LokaBharathi |
| 16:00-16:30 | COFFEE BREAK | |
| 16:30-16:50 | DMSP is a potent chemical cue for chemotactic marine microbes | <u>J. R. Seymour</u> , J. Tout, R. Simo, M. Garren, R. Stocker |
| 16:50-17:10 | DMSP aids a bacterial coral pathogen in identifying heat-stressed hosts | <u>M. Garren</u> , K. Son, J.-B. Raina, R. Rusconi, F. Menolascina, O. H. Shapiro, A. Vardi, D. G. Bourne, J. R. Seymour, R. Stocker |
| 17:10-17:30 | Dimethyl sulphide detection in krill-eating Antarctic penguins | L. Amo, M. A. Rodriguez-Girones, <u>A. Barbosa</u> |
| 17:30-17:50 | Evidence that dimethyl sulfide facilitates a tritrophic mutualism between marine primary producers and top predators | <u>G. A. Nevitt</u> , M. Savoca |
| 18:00-19:30 | POSTER SESSION & DRINKS | |

TUESDAY 27 May 2014

| TIMETABLE | ACTIVITY-TALK | AUTHORS |
|-------------|---|---|
| 9:00-9:20 | Insights into DMSP metabolism in marine phytoplankton | <u>G. Malin</u> , N. Hockin, M. Bochenek, S. Kopriva |
| 9:20-9:40 | Identification and characterisation of genes for osmolyte synthesis in the marine diatom <i>Thalassiosira pseudonana</i> | <u>A. Bermejo Martinez</u> , A. R. J. Curson, B. R. Lyon, J. Strauss, T. Mock, J. D. Todd |
| 9:40-10:00 | Purification of the <i>L</i> -methionine:2-oxoglutarate aminotransferase from <i>Ulva intestinalis</i> | <u>J. C. Waller</u> , D. Levac, A. Whynot, M. M. McLaughlan |
| 10:00-10:20 | Dimethylsulfoniopropionate uptake in the polar diatom <i>Thalassiosira gravida</i> | <u>M. Lavoie</u> , M. Lepasqueur, R. P. Kiene, M. Babin |
| 10:30-11:00 | COFFEE BREAK | |
| 11:00-11:20 | A seasonal study of particulate glycine betaine in the Western English Channel | <u>C. Cree</u> , R. Airs, S. Archer, M. Fitzsimons |
| 11:20-11:40 | Late summer concentrations and biological turnover rates of acrylate and DMSO in the Gulf of Mexico | <u>I. M. B. Tyssebotn</u> , J. D. Kinsey, D. J. Kieber, R. P. Kiene, A. N. Rellinger, L. Oswald, J. Motard-Côté |
| 11:40-12:00 | Changes in dimethylsulfoniopropionate (DMSP) in <i>S. pistillata</i> in response to different depths | <u>E. M. Borell</u> , M. Steinke, M. Fine |
| 12:00-12:20 | Corals up-regulate DMS production during subaerial exposure events – a mechanism to prepare for oxidative stress? | <u>F. E. Hopkins</u> , T. G. Bell, D. J. Suggett, M. Steinke |
| 13:00-14:00 | LUNCH | |
| 14:30-14:50 | Irradiance effects on cellular and dissolved organosulfur and acrylate in <i>Phaeocystis antarctica</i> | <u>J. D. Kinsey</u> , I. M. B. Tyssebotn, D. J. Kieber, P. J. Neale, R. P. Kiene |
| 14:50-15:10 | DMSO production in salinity-stressed <i>Thalassiosira pseudonana</i> monocultures: further support of an algal DMSP antioxidant cascade | <u>B. R. Lyon</u> |
| 15:10-15:30 | The DMSP antioxidant hypothesis revisited | <u>D. J. Kieber</u> , R. P. Kiene |
| 15:30-15:50 | DMSP production is not an antioxidant mechanism | <u>J. Stefels</u> , M. A. van Leeuwe |
| 16:00-16:30 | COFFEE BREAK | |
| 16:30-18:30 | Discussion session(s): Antioxidant hypothesis / multiple stressors Organizers: R. P. Kiene, D. J. Kieber, N. M. Levine | |
| 18:30-20:00 | POSTER SESSION & DRINKS | |

WEDNESDAY 28 May 2014

| TIMETABLE | ACTIVITY-TALK | AUTHORS |
|---|---|--|
| 9:00-9:20 | Functional genetic, genomic and metagenomic insights into the diverse ways in which bacteria catabolise DMSP | <u>A. W. B. Johnston</u> , A. R. J. Curson, E. K. Fowler, J. S. Pratscher, H. Schäfer, J. C. Murrell, J. D. Todd |
| 9:20-9:40 | Transcriptional response of coastal DMSP-consuming bacterial communities after short and long term additions | <u>M. Vila-Costa</u> , J. M. González, A. Barberan, S. Sun, X. Mou, L. Chang, M. A. Moran |
| 9:40-10:00 | Molecular insight into bacterial cleavage of oceanic dimethylsulfoniopropionate (DMSP) into dimethyl sulfide (DMS) | C.-Y. Li, T.-D. Wei, S.-H. Zhang, X.-L. Chen, X. Gao, P. Wang, B.-B. Xie, H.-N. Su, Q.-L. Qin, X.-Y. Zhang, J. Yu, H.-H. Zhang, B.-C. Zhou, G.-P. Yang, <u>Y.-Z. Zhang</u> |
| 10:00-10:20 | A novel pathway for the production of dimethyl sulfide in marine and terrestrial bacteria | O. Carrión Fonseca, A. R. J. Curson, A. Lang, A. W. B. Johnston, E. Mercadé Gil, <u>J. D. Todd</u> |
| 10:30-11:00 | COFFEE BREAK | |
| 11:00-11:20 | Stable isotope probing and metagenomics identify members of the <i>Methylophilaceae</i> as dimethylsulfide degrading bacteria in terrestrial environments | <u>H. Schäfer</u> , Ö. Eyice, M. Namura, Y. Chen, A. Mead, S. Samavedam |
| 11:20-11:40 | Bacterial genes for the detoxification of the harmful DMSP cleavage product acrylate | <u>A. R. J. Curson</u> , S. Voget, R. Daniel, J. D. Todd, M. Wexler, A. W. B. Johnston |
| 11:40-12:00 | Dissolved DMSP in seawater – a dynamic pool with a refractory component | <u>R. P. Kiene</u> , J. Motard-Côté, D. J. Kieber |
| 12:00-12:20 | Linking DMSP-metabolism and antimicrobial production in coral-associated bacteria | <u>J.-B. Raina</u> , D. Tapiolas, C. A. Motti, S. Forêt, B. L. Willis, D. G. Bourne |
| 13:00 | BOX LUNCH | |
| <p>13:15h Meeting point: main door of Marine Sciences Institute</p> <p>EXCURSION - Montserrat - Tuna Tour at l'Ametlla de Mar</p> | | |

THURSDAY 29 May 2014

| TIMETABLE | ACTIVITY-TALK | AUTHORS |
|-------------|--|--|
| 9:00-9:20 | Using genetic algorithm and satellite based data to simulate and predict dimethylsulfide in the Arctic Ocean | <u>B. Qu</u> , A. J. Gabric, J. Xi |
| 9:20-9:40 | New insights into the spatial and temporal distribution of DMS in Southern Ocean surface waters: Broad-scale patterns and fine-scale variability revealed by a decade of MIMS-based measurements | <u>P. D. Tortell</u> , E. C. Asher, C. Schine, J. W. H. Dacey |
| 9:40-10:00 | Nutrient availability determines dimethylsulfide (DMS) and isoprene distribution in the eastern Atlantic Ocean | <u>C. Zindler</u> , C. A. Marandino, H. W. Bange, F. Schütte, E. S. Saltzman, H. Tanimoto, S. Kameyama, Y. Omori, S. Takeda, T. Kodama |
| 10:00-10:20 | Assessment of the role of light and phosphorus on summer DMS dynamics in subtropical waters using a global ocean biogeochemical model | <u>I. Masotti</u> , S. Belviso, L. Bopp, A. Tagliabue, E. Bucciarelli |
| 10:30-11:00 | COFFEE BREAK | |
| 11:00-11:20 | DMS, DMSP, and DMSO concentrations in two contrasting <i>Phaeocystis</i> blooms in Ross Sea sector of the Southern Ocean | <u>C. M. Smith</u> , E. C. Asher, A.-C. Alderkamp, P. D. Tortell, J. W. H. Dacey, K. R. Arrigo |
| 11:20-11:40 | Processes controlling the increase of DMS under anoxic condition | <u>Y. Omori</u> , H. Tanimoto, S. Inomata, S. Wada, T. Hama |
| 11:40-12:00 | The influence of Ocean Acidification from anthropogenic CO ₂ emissions on DMS and DMSP production in the field and laboratory | <u>A. Webb</u> , P. S. Liss, G. Malin, F. Hopkins, R. von Glasow, C. Hughes |
| 12:00-12:20 | Sulfur isotope homogeneity of oceanic DMSP and DMS | <u>A. Amrani</u> , W. Said-Ahmad, Y. Shaked, R. P. Kiene |
| 13:00-14:00 | LUNCH | |
| 14:30-14:50 | Osmoprotective role of dimethylsulfoniopropionate (DMSP) for estuarine bacterioplankton | <u>J. Motard-Côté</u> , R. P. Kiene |
| 14:50-15:10 | Revisiting upper-ocean sulfur dynamics near Bermuda: new lessons from three years of concentration and rate measurements | <u>N. M. Levine</u> , D. Toole, A. Neeley, N. R. Bates, S. Doney, J. W. H. Dacey |
| 15:10-15:30 | Oceanic dimethylsulfide (DMS) cycling across biological hotspots of the New Zealand Subtropical Front | <u>M. Lizotte</u> , M. Levasseur, C. Law, C. Walker, K. Safi, A. Marriner, R. P. Kiene, et al. |
| 15:30-15:50 | A meta-analysis of DMS(P) cycling processes: insights into biogeochemical regimes and the DMS summer paradox | <u>M. Galí</u> , R. Simó |
| 16:00-16:30 | COFFEE BREAK | |
| 16:30-18:30 | Discussion session(s): Process rate database / New directions Organizers: M. Galí, M. Lizotte, R. Simó | |
| 18:30-20:00 | POSTER SESSION & DRINKS | |

FRIDAY 30 May 2014

| TIMETABLE | ACTIVITY-TALK | AUTHORS |
|-------------|--|---|
| 9:00-9:20 | <i>Phaeocystis antarctica</i> maintains intracellular DMSP and other cellular constituents but loses cellular DMSO in prolonged darkness | <u>A. N. Rellinger</u> , R. P. Kiene, D. J. Kieber |
| 9:20-9:40 | Dimethyl sulfide and dimethylsulfoniopropionate profiles from winter sea ice - Influence of physical parameters and speciation | <u>C. Uhlig</u> , J. Rintala, J.-L. Tison, G. Carnat, G. Dieckmann, B. Delille, E. Damm |
| 9:40-10:00 | DMSP in zooplankton body parts derived from sea ice microalgae | <u>E. Damm</u> , B. Meyer, B. Hunt, F. Schaafsma, M. Nerentorp |
| 10:00-10:20 | Seasonal cycling of DMSP in a Scottish maerl bed | <u>H. L. Burdett</u> , A. D. Hatton, N. A. Kamenos |
| 10:30-11:00 | COFFEE BREAK | |
| 11:00-11:20 | Influence of DMSP degradation products on the N ₂ O reduction step of denitrification and the salinity side effect | C. Magalhães, <u>P. Salgado</u> , A. Machado, A. Buchan, W. J. Wiebe, R. P. Kiene. |
| 11:20-11:40 | Improved method for minimizing sulfur loss in analysis of particulate organic sulfur | <u>K.-T. Park</u> , K. Lee, K. Shin, H. Jin Jeong, K. Y. Kim |
| 11:40-12:30 | Wrap-up | |
| 13:00-15:00 | LUNCH & FAREWELL | |

POSTER PRESENTATIONS (in alphabetical order of presenting author)

| POSTER | AUTHORS |
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| Development and application of solid phase microextraction to the measurement of methylamines in seawater | Charlotte Cree, <u>Ruth Airs</u> , Mark Fitzsimons |
| Emiliana Huxleyi diversification and specialization | <u>Uria Alcolombri</u> , Shilo Rosenwasser, Uri Sheyn, Assaf Vardi, Dan S. Tawfik |
| Iron limitation and DMSP uptake in diatoms and cyanobacteria | <u>Eva Bucciarelli</u> , Géraldine Sarthou, Marie Cheize, Céline Ridame, Céline Dimier-Huguenay, Sauveur Belviso |
| Coastal carbonate chemistry as a driver of sulphur biogeochemical processes | <u>Heidi L. Burdett</u> , Penelope J.C. Donohue, Angela D. Hatton, Magdy M. Alwany, Nick A. Kamenos |
| Distribution of dimethylsulfide (DMS) and dimethylsulfoniopropionate (DMSP) in the southern Gulf of Mexico | <u>Ma. de la Luz Espinosa</u> , Amparo Martínez, Oscar Peralta, Telma Castro |
| DMSO loss pathways in the oceans: the next big question in biogeochemistry. | <u>Susan Evans</u> , David Green, Angela Hatton |
| DMSP catabolism in the marine Roseobacter clade | <u>Emily K. Fowler</u> , Andrew R.J. Curson, Andrew W.B. Johnston, Jonathan D. Todd |
| Towards microscale testing of the DMSP availability hypothesis | Cherry Gao, Justin R. Seymour, Roman Stocker |
| Regulation of dimethylsulphoniopropionate (DMSP) and stress response metabolites in the scleractinian coral <i>Acropora millepora</i> under short-term hyposalinity stress | <u>Stephanie G. Gardner</u> , Daniel A. Nielsen, Peter J. Ralph, Katherina Petrou |
| The role of dimethyl sulfur compounds as antioxidant in planktonic photosymbiosis | <u>Andres Gutierrez-Rodriguez</u> , Loic Pillet, Rafel Simó, Fabrice Not |
| Development of a DMS(P) cycle in a coupled sea ice-pelagic ecosystem model | <u>Hakase Hayashida</u> , Nadja Steiner, Adam Monahan |
| The short term dimethyl sulphide (DMS) response to ocean acidification: from temperate to polar waters. | <u>Frances E. Hopkins</u> , C. Mark Moore, Sophie Richier, John Stephens, Stephen D. Archer |
| Strong relationship between dimethyl sulfide and net community production in the western subarctic Pacific | <u>Sohiko Kameyama</u> , Hiroshi Tanimoto, Satoshi Inomata, Hisayuki Yoshikawa-Inoue, Urumu Tsunogai, Atsushi Tsuda, Mitsuo Uematsu, Masao Ishii, Daisuke Sasano, Koji Suzuki, Yuishi Nosaka |

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| Application of PTR-MS to an incubation experiment of the marine diatom <i>Thalassiosira pseudonana</i> | <u>Sohiko Kameyama</u> , Hiroshi Tanimoto, Satoshi Inomata, Koji Suzuki, Daisuke D. Komatsu, Akinari Hirota, Uta Konno, Urumu Tsunogai |
| Microwaving <i>Phaeocystis antarctica</i> cultures and Delaware Bay samples as a preservation method for total organosulfur and acrylate concentrations | Joanna D. Kinsey, Inger Marie B. Tyssebotn, David J. Kieber |
| The multi-stressor effects of UV radiation, ocean acidification and ocean warming on the DMS(P) system of <i>Phaeocystis antarctica</i> | <u>Erin McParland</u> , Naomi Levine |
| Influence of a river plume on the contribution of DMSP to carbon and sulfur fluxes in the gulf of Mexico | <u>Jessie Motard-Côté</u> , David J. Kieber, Alison Rellinger, Lisa Oswald, Ronald P. Kiene |
| Diversity of plant-associated dimethylsulfide degrading microbial populations in a coastal salt marsh | <u>Eileen Muhs</u> , Jennifer Pratscher, Hendrik Schäfer |
| Cooxidation of dimethyl sulfide by trimethylamine monooxygenase-containing marine | Ian Lidbury, <u>Eileen Muhs</u> , Yijun Zhu, Yin Chen, Hendrik Schäfer |
| Making and breaking of DMSP and DMS in salt marsh sediments | <u>Jenny Pratscher</u> , Sophie Mazard, Jonathan D. Todd, H. Soon Gweon, Andrew R.J. Curson, J. Colin Murrell, Andrew W.B. Johnston, Hendrik Schäfer |
| A comparison of DMSP production in 3 temperate species of <i>Phaeocystis</i> (<i>P. globosa</i> , <i>P. jahnii</i> and <i>P. cordata</i>) across varied irradiances | <u>Alison N. Rellinger</u> , Jae-Shin Kang, Ronald P. Kiene |
| Short-term variability and environmental drivers of DMS across tropical and sub-tropical oceans | <u>Sarah-Jeanne Royer</u> , Anoop Sharad Mahajan, Martí Galí, Eric Saltzman, Rafel Simó |
| Determination of 3-Mercaptopropionic Acid by HPLC: A Sensitive Method for Environmental Applications. | <u>Paula Salgado</u> , Tatiana Visnevschi-Necrasov, Ronald P. Kiene, Isabel Azevedo, Catarina Magalhães |
| DMSP cell quota and the conversion into DMS by key Southern North Sea spring diatoms (<i>Skeletonema costatum</i> and <i>Chaetoceros socialis</i>) and <i>Phaeocystis globosa</i> . | <u>Gaëlle Speeckaert</u> , Christiane Lancelot, Alberto V. Borges, Nathalie Gypens |
| Response of DMS and DMSP under coupled and decoupled carbonate system conditions in heterotrophic and mixed plankton communities | <u>Kerstin Suffrian</u> , Lennart Bach, Thomas Hornick, Patricia Matrai, Peter Countway, Stephen D. Archer |
| Effects of nitrate and iron limitation on cellular and dissolved acrylate, DMSP, and DMSO in <i>Karenia brevis</i> | <u>Inger Marie B. Tyssebotn</u> , Joanna D. Kinsey, David J. Kieber |
| The effect of ocean acidification on Dimethylsulfoxide (DMSO) | <u>Cathleen Zindler</u> , Hannah Lutterbeck, Christa Marandino and Hermann W. Bange |