

ICRS 2022

Preliminary Program Book



Table of Content

Monday, July 4, 2022	6
2A - Open Session: Species and their populations	6
3C - Coral reef metabolism and biogeochemical processes (organism to ecosystem): What are current state and future trajectories of reef functioning?	7
4B+F - Fifty years of disease studies on coral reefs and other marine communities: What have we learned? What is the current knowledge on understanding and effectively responding to coral disease outbreaks?	9
4E - The jellyfish <i>Cassiopea</i> - a model organism?	10
4G - What is the role of benthic holobionts and free-living microbes in element recycling and overall ecosystem functioning?	11
6C - Mesophotic Coral Ecosystems: Lifeboats in the Challenging Future of Coral Reefs?	11
7A - Open Session: Scalable observations and technologies	13
7C - How can new imaging-based tools help us better understand corals and other reef organisms?	14
9B - How do local drivers mediate coral reef ecosystem responses to climate change?	15
9E - Ocean acidification and coastal acidification: What are the drivers, processes and consequences for coral reef ecosystems?	16
9F - Plastics in corals reefs: What is there and how does it impact reef organisms?	16
11C - Shift in scleractinian dominated reefs - are we facing new winners - octocorals, sponges and macroalgae? / Sponges on coral reefs: how can we reconcile contradictory reports on controls, population and community dynamics, and functional roles?	17
12B - Can we help people make smart choices in a time of crisis and uncertainty?	18
12H - How to design participatory processes to achieve transformations in reef management towards a sustainable future?	19
12K - Resilient Reefs: What is the Evidence for and the Future of Resilience-Based Management?	19
12L - What are the challenges, solutions and synergies at the interface of science and policy to successfully conserve coral reefs?	20
13E - How can interventions and restoration help coral reefs survive the next few decades?	20
15C - Models as synthesis tools in coral reef research - How to identify drivers, facilitate projections, and aid management?	21
15D - What can photosymbiont-bearing foraminifera tell us about the past, present and future of coral reefs?	22
Tuesday, July 5, 2022	23
1E - What can corals and marine calcifiers tell us about anthropogenic effects and trajectory of coral reef ecosystems under global change?	23
1G - Can large-scale ocean and climate reconstructions from corals improve our understanding of past, present, and future extremes?	24

2D - How will the coral populations of today affect the ecology and recovery of coral reefs in the future?	24
4D - What are the drivers of similarity and dissimilarity within the microbiome of reefs and reef organisms?.....	25
6B - From refugia to extreme coral habitats: What can we learn? And how can they aid future coral survival?	27
7F - What can molecular approaches contribute to determining sublethal stressor effects on coral reefs and evaluating the effectiveness of management interventions?.....	29
7H - Where are coral reefs now and where are they headed: The status of coral reefs of the world in 2020	29
7J - How can innovative techniques to investigate calcification shed light into the past, present, future of coral reef organisms? / How do new insights into biomineralization help us understand reef calcification response to global climate change?	30
10B - How do ecological processes affect the adaptation and evolution of coral reef organisms in the Anthropocene?	31
10F - What role do non-genetic mechanisms play in adaptation of reef inhabitants to climate change?	31
10H - Behavioural responses to environmental change: what are the underlying mechanisms, ecological significance, and future consequences?	32
12A - Open Session: Conservation and management	32
12N - Communities of Practice - Do Learning Networks lead to better local management?..	34
13F - How can we apply sexual propagation to restore resilient coral reefs at significant scales?	34
15F - How has mass coral bleaching changed through time and how is it expected to progress into the future: Tools, products, and analyses. / Can evolution rescue corals from the effects of climate change?	36
Wednesday, July 6, 2022	38
1B - Lessons from the past: how do coral reefs respond to paleo-environmental and oceanographic changes over different spatio-temporal scales?.....	38
2B - How can we use phylogenetic tools to better understand biodiversity, evolutionary patterns, and processes?	39
2E - What are the Patterns, Causes and Consequences of Intraspecific Variation in Marine Larval Dispersal and Population Connectivity?	40
3A - Open Session: Ecosystem functions and services	41
3E - How will ecosystem services from coral reefs change?.....	42
4A - Open Session: Microbial ecology, holobionts and model organisms	43
5A - Open Session: Cold-water and temperate reefs.....	45
5B - What is the different impact of climate change in temperate reefs relative to tropical regions?	46
7B - How can autonomous data-driven robotics be used to improve cost effectiveness and spatial/temporal scaling of reef assessments?.....	46

7G - What can we learn about the biology of coral reef organisms from 'omics-based analyses?	47
9C - How will anthropogenic stressors influence the roles of consumer-derived nutrients on coral reefs?	49
9D - Is ocean deoxygenation a key factor regulating global decline of coral reefs?	49
9G - Thinking outside the reef: how do open-ocean processes influence coral reefs now and in the future?	50
9J - What do we know about cyclone impacts on reefs and how can it help target where to take conservation action?	51
9K - Beyond single-species experiments: how do marine populations, communities, and ecosystems respond to global change? / How do organismal responses scale to ecosystem processes?	51
10E - What phenotype, genotype, and environmental factors underlie coral vulnerability and resilience to thermal stress and bleaching?	52
13C - Creating coral reefs waiting: Can we harness heterogeneity in phenotypic-stress response to optimize coral reef restoration?/ How can we leverage advances in evolutionary ecology to maximize adaptive potential of restored coral populations?	55
13G - What methods and techniques can scale-up coral reef restoration?	56
13H - Can coral climate resilience be enhanced via assisted evolution?	57
Thursday, July 7, 2022	58
1A - Open Session: Reef environments and climate of the past	58
2B - How can we use phylogenetic tools to better understand biodiversity, evolutionary patterns, and processes?	58
2C - How is coral reproduction and dispersal affected by the environment?	59
2F - Coralline algae: what are their global contributions to coral reefs now and in future oceans?	60
3F - What are the roles of nutrients in coral reef survival?	60
3G - Budgetary breakdown: Can reef geo-ecological functions persist in the Anthropocene?	61
4H - Beyond diversity: What can we learn from exploring microbial function in coral reef holobionts?	62
6A - Open Session: Unexplored and unexpected reefs	63
7E - What are the genetic and cellular mechanisms underlying cnidarian-dinoflagellate symbiosis and its breakdown during bleaching?	64
8A - Open Session: Human relations to reefs	65
8B - How can social sciences contribute to equal exchanges between different ways of thinking and doing coral protection and rehabilitation?	65
9A - Open Session: Global and local impacts	66
10A - Open Session: Organismal physiology, adaptation and acclimation	68
10G - What role does phenotypic plasticity play in acclimatization or adaptation to environmental change?	68

11A - Open Session: Resilience, phase shifts and novel ecosystems	69
11D - hat are the biological and fishery consequences of losing coral reef complexity that is critical for fish populations?	70
13B - Can Coral Reef Restoration Increase Coastal Protection?	71
13D - Effectiveness of regional coral reef restoration approaches - what can we learn from the Caribbean and Eastern Tropical Pacific?	71
14 - Open Session: Outreach and education	72
Friday, July 8, 2022	73
1C - Look forward to the past: What role does historical data play in the future of coral reefs?	73
3D - How do metabolic processes underpin the health and function of reef ecosystems?	74
4A - Open Session: Microbial ecology, holobionts and model organisms	74
7D - Scaling up: what lessons can we learn across larger scales for understanding coral reefs?	75
10A - Open Session: Organismal physiology, adaptation and acclimation	76
10G - What role does phenotypic plasticity play in acclimatization or adaptation to environmental change?	76
11E - How can multi-taxon studies help us understand ecosystem dynamics under climate change?	77
12D - From Thinking to Doing: What Does It Actually Take to Practice Ecosystem Based Management in Coral Reef Fisheries?	77
12F - How can successful local reef management and restoration efforts be scaled up to achieve meaningful conservation results?	78
13A - Open Session: Interventions and restoration	79
14 - Open Session: Outreach and education	80
15A - Open Session: New theories and future projections	81
15B - How will tropical fisheries respond to climate changes on coral reefs?	81
15E - Will coral reef islands survive 21st century sea-level rise?	82

Monday, July 4, 2022



Salon Danzig

11:00–17:30

2A- Open Session: Species and their populations

Chair:

Reinicke, G.
Wörheide, G.
Sampaio, Í.

11:00–11:15

Tomasetti, R., Bracken-Grissom, H.

Evaluating global species-to-genus ratios of algae reveals biodiversity patterns mimicking corals and reef fishes

11:15–11:30

Pérez-Botello, A. M., Guerra-Castro, E. J., Hernandez-Diaz, Q., Muciño-Reyes, M. d. R., Paz-Rios, C. E., Cervantes-Campero, G., Simões, N.

Sponge dwelling fauna: a model to assess species diversity in living islands at multi-spatial scales

11:30–11:45

Guibert, I., Conti-Jerpe, I., Pons, L., Tayaban, K., Lyn, S. S., Cabaitan, P., Conaco, C., Baker, D.

Trophic niche partitioning in the evolution of giant clams

11:45–12:00

Vermeij, M.

Caribbean coral species distributions and traditional coral species names hide an abundance of unrecognized cryptic species and morphospecies

12:00–12:15

Gutierrez, L., Polidoro, B., Obura, D., Cabada-Blanco, F., Pettersson, E., Kemppinen, K., Linardich, C.

Estimated extinction risk of Atlantic Reef-Building Corals: An Update

12:15–12:30

Sampaio, Í., S. McFadden, C., M. Quattrini, A., Benayahu, Y.

The Indo-Pacific soft corals: discovering biodiversity of *Paralemnalia* Kükenthal, 1913

14:50–15:05

Eviatar, G., Bronstein, O.

Dynamics of changes in echinoderms population of the Gulf of Aqaba – population collapse of the sea urchin *Diadema setosum*

15:05–15:20

Zirler, R., Leck, L., Feldstein-Farkash, T., Bronstein, O.

Population outbreak of the invasive echinoid *Diadema setosum* (Leske, 1778) in the Mediterranean Sea

15:20–15:35

Nugues, M., Pozas-Schacre, C., Siu, G., Salvat, B., Dubé, C., Chancerelle, Y.

Population collapse of the long-spined sea urchins *Diadema* and *Echinothrix* in the coral reef lagoon of Moorea, French Polynesia

- 15:35–15:50 **Narvaez, P.**, Vaughan, D., Morais, R., Yong, R., Grutter, A., Hutson, K.
The role of cleaner fish in parasite transmission
- 15:50–16:05 **Palacios-Narvaez, S.**, Coker, D. J., Tietbohl, M. D., Justo, M. S., Nunes-Peinemann, V., Aylagas, E., Berumen, M. L.
Trophic niche partitioning of small coral reef mesopredators (Family: Pseudochromidae) in the Red Sea.
- 16:30–16:45 **French, B.**, Schiettekatte, N., Minich, J., Zgliczynski, B., Siu, G., Sandin, S., Planes, S.
Axes of the n-dimensional hypervolume: spatial, temporal and trophic partitioning in a guild of zooplanktivorous fish in Moorea, French Polynesia
- 16:45–17:00 **Barbosa Martins, A.**, Heupel, M., Chin, A., Simpfendorfer, C.
Refining the Ecological Role of Stingrays in Coral Reef Ecosystems
- 17:00–17:15 **Gil Ramos, G. L.**
Spatial variability of Red Sea coral reef fishes: perspectives from taxonomical and ecological trait approaches
- 17:15–17:30 **Williams, C.**, Garzon, F., Cochran, J., Tanabe, L., Hawkes, L., McIvor, A., Eweida, A., Marshall, P., Berumen, M.
Coral reef predator assemblages of the Gulf of Aqaba and northern Red Sea



Salon Scharoun

- 11:00–16:05**
3C- Coral reef metabolism and biogeochemical processes (organism to ecosystem): What are current state and future trajectories of reef functioning?
Chair: Sawall, Y.
de Goeij, J.
- 11:00–11:15 **Silbiger, N.**, Hagedorn, B., Zeff, M., Jorissen, H., Barnas, D., Kerlin, J., Maine, B., Justis, E., Sparagon, W., McClintock, R., Nelson, C., Donahue, M.
Predicting the effects of submarine groundwater discharge on coral reef biogeochemistry and ecosystem functioning
- 11:15–11:30 **van de Loosdrecht, N. C. J.**, Sánchez Barranco, V., Vermeij, M. J., Visser, P. M., de Goeij, J. M.
Unraveling the land-to-reef continuum: Spatial distribution of stable isotope signatures of benthic reef communities along the coast of Curaçao
- 11:30–11:45 **Rintoul, M.**, Courtney, T., Dohner, J., Giddings, S., Kekuewa, S., Mitarai, S., Monismith, S., Pezner, A., Andersson, A.

The Effects of Light Intensity and Flow Speed on Biogeochemical Variability within a Fringing Coral Reef in Onna-son, Okinawa, Japan

11:45–12:00

Shamberger, K., Cohen, A., Lentz, S., Barkley, H., DeCarlo, T., McCorkle, D., Gouezo, M., Golbuu, Y., Rengjil, G.

Coral Reef Ecosystem Metabolism Over Twenty Years on Palau's Barrier Reef

12:00–12:15

Davis, K., Colefax, A., Tucker, J., Kelaher, B., Santos, I.

Global coral reefs exhibit declining calcification and increasing primary productivity: insights from a meta-analysis

12:15–12:30

Kornder, N. A., Barnes, W. J., Rombouts, A. J., Riley, A. K. T., Esser, Y., Webb, A. E., de Bakker, D. M., Mueller, B., Huisman, J., Vermeij, M. J. A., de Goeij, J. M.

Revealing the invisible wires of nature in Caribbean coral reefs

14:50–15:05

Hu, I., Takeshita, Y., Cyronak, T., Albright, R., Caldeira, K., Coles, A., Eyre, B., Griffin, A., Kowweek, D., Mertz, K., Romanó de Orte, M., Warren, J., Wolfe, K.

Does net calcification recover faster than coral cover after mass disturbance events? -- A case study from Lizard Island

15:05–15:20

Sawall, Y., Bakker, R., Adamson, N., Padillo-Anthemides, N.

Diurnal and seasonal variation of coral and algal respiration and its drivers

15:20–15:35

Baer, J., Carilli, J., Hartmann, A., Chadwick, B., Hatay, M., van der Geer, A., Aquino, J., Ballard, A., Scholten, Y., Barnes, W., Little, M., Brzenski, J., Liu, X., Haas, A., Rohwer, F.

Coral Reef Arks: A standardized *in situ* mesocosm and potential reef restoration tool

15:35–15:50

El-Khaled, Y. C., Roth, F., Räddecker, N., Tilstra, A., Karcher, D. B., Kürten, B., Jones, B. H., Voolstra, C. R., Wild, C.

Nitrogen fixation and denitrification activity differ between coral- and algae-dominated Red Sea reefs

15:50–16:05

Pacherres, C. O., Ahmerkamp, S., Koren, K., Holtappels, M., Richter, C.

Ciliary currents regulate the oxygen distribution in the boundary layer of a coral with a patchy *Symbiodinium* distribution

11:00–17:30

4B+F- Fifty years of disease studies on coral reefs and other marine communities: What have we learned? What is the current knowledge on understanding and effectively responding to coral disease outbreaks?

Chair: Aeby, G.
Muller, E. M.
Neely, K.
Voss, J.
Walker, B.

11:00–11:15

Farmer, B., Meiling, S., Brandt, M., Holstein, D.

Community composition and the epidemiological modeling of coral disease

11:15–11:30

Aeby, G., Couch, C., Hunter, C., Shore, A., Ushijima, B., Vargas-Angel, B., White, D., Work, T.

Coral disease in the Hawaiian archipelago: then and now

11:30–11:45

Hayes, N., Walton, C., Gilliam, D.

Tissue loss disease outbreak significantly alters the Southeast Florida stony coral assemblage

11:45–12:00

Rossin, A., Bloomberg, J., Green, B., Meiling, S., Brandt, M., Studivan, M., Holstein, D.

Multispecies tissue effects of Stony Coral Tissue Loss Disease in Caribbean Corals

12:00–12:15

Dennison, C. E., Karp, R. F., Wen, A. D., Cook, S. M., del Campo, J., Traylor-Knowles, N., Rosales, S. M., Baker, A. C.

Algal symbionts in the genus *Breviolum* increase the susceptibility of corals to stony coral tissue loss disease

12:15–12:30

Huntley, N., Brandt, M., Becker, C., Miller, C., Meiling, S., Correa, A., Holstein, D., Muller, E., Mydlarz, L., Smith, T., Apprill, A.

Experimental transmission of Stony Coral Tissue Loss Disease results in differential microbial responses within coral mucus and tissue

14:50–15:05

Brandt, M., Ennis, R., Meiling, S., Townsend, J., Edwards, K., Henderson, L., Smith, T.

Understanding and responding to the dual threats of stony coral tissue loss disease (SCTLD) and mass bleaching in the US Virgin Islands

15:05–15:20

Meiling, S., Williams, L., Quetel, J., Brandt, M., Townsend, J.

Examining reef-scale impact of localized stony coral tissue loss disease (SCTLD) intervention

- 15:20–15:35 **Holstein, D.**, Farmer, B., Bloomberg, J., Brandt, M., Ennis, R., Limer, B., Meiling, S., Rossin, A., Smith, T.
Spatially and temporally realistic disease dispersal and epidemic modeling of SCTLD in the US Virgin Islands
- 15:35–15:50 **Neely, K.**, Dobler, M., Macaulay, K., Gallagher, S.
Treatment of coral diseases: historical perspectives, modern efforts in Florida, and future directions
- 15:50–16:05 **Shilling, E.**, Carreiro, A., Combs, I., Studivan, M., Beal, J., Voss, J.
Intervention strategies for diseased corals in Southeast Florida and potential impacts on mucus microbial communities
- 16:30–16:45 **Studivan, M.**, Eckert, R., Shilling, E., Soderberg, N., Enochs, I., Voss, J.
Optimizing stony coral tissue loss disease intervention strategies through whole-transcriptome gene expression profiling
- 16:45–17:00 **Schul, M.**, Reed, S., Pitts, K., Ushijima, B., Paul, V., Meyer, J.
Coral probiotics to treat stony coral tissue loss disease on Florida's Coral Reef
- 17:00–17:15 Eaton, K. R., Clark, A. S., Curtis, K., Favero, M., Hanna Holloway, N., Ewen, K., **Muller, E. M.**
A highly effective therapeutic ointment for treating corals with black band disease
- 17:15–17:30 **Heron, S. F.**, Vasile, R., Miller, I., Caldwell, J. M., Liu, G., De La Cour, J. L., Geiger, E. F., Eakin, C. M., Donahue, M.
Improvements to temperature-based nowcasting and forecasting of coral disease outbreak risk



Borgward Saal

17:30–17:45

4E- The jellyfish Cassiopea- a model organism?

Chair:

Medina, M.

17:30–17:45

Hung, S.-H., Salazar, O. R., Klein, S. G., Duarte, C. M., Aranda, M.

Flipping the perspective! Using the upside-down jellyfish *Cassiopea* sp. to study cnidarian-Symbiodiniaceae symbiosis

Borgward Saal

17:45–18:15

4G- What is the role of benthic holobionts and free-living microbes in element recycling and overall ecosystem functioning?

Chair: de Goeij, J.
Mueller, B.
Silveira, C.

17:45–18:00

Arts, M. G. I., Mueller, B., Wegley Kelly, L., Nelson, C. E., Koester, I., Petras, D., Dorrestein, P. C., Hopmans, E. C., Vermeij, M. J. A., Haas, A. F.

Novel Combination of DOM Characterization Reveals Unique Modifications of Coral and Algae Exudate during Remineralization

18:00–18:15

Nelson, C., Wegley Kelly, L., Haas, A., Koester, I., Quinlan, Z., Arts, M., Comstock, J., Petras, D., Carlson, C., Aluwihare, L., Dorrestein, P.

The Fugacious Feast: Microbial Transformation of Dissolved Metabolites in Coral Reefs

Salon London

11:00–17:45

6C- Mesophotic Coral Ecosystems: Lifeboats in the Challenging Future of Coral Reefs?

Chair: Slattery, M.
Smith, T.

11:00–11:15

Lesser, M.

Trophic Ecology of Corals and Sponges on Mesophotic Coral Reefs

11:15–11:30

Voss, J. D., Eckert, R. J., Sturm, A. B., Studivan, M. S., Reed, J. K., Farrington, S., Gonzalez Diaz, S. P., Hickerson, E., Schmahl, G. P.

Mesophotic Coral Ecosystem Exploration and Characterization in the Gulf of Mexico, Florida, Cuba, and Mesoamerica

11:30–11:45

Foster, N., Diaz, C., Attrill, M., Howell, K.

A preliminary assessment of the diversity and community structure of the mesophotic coral ecosystems of the Chagos Archipelago, Indian Ocean

11:45–12:00

Pérez-Rosales, G., Rouzé, H., Pichon, M., Bongaerts, P., Torda, G., Parravicini, V., Hédouin, L.

Diving deep in French Polynesia reveals new insights on the ecological importance of mesophotic coral ecosystems

12:00–12:15

Pichon, M., Harii, S., Muir, P., Perez-Rosales, G., Rouzé, H., Sinniger, F.

Scleractinian coral assemblages on deeper fore-reef slopes: Lower mesophotic,

- oligophotic, or rariphotic?**
- 12:15–12:30 **Eckert, R.**, Sturm, A., Carreiro, A., Klein, A., Voss, J.
- Genetic connectivity and algal symbiont communities of shallow and mesophotic *Stephanocoenia intersepta* populations in the Florida Keys**
- 14:50–15:05 **Sturm, A.**, Eckert, R., Carreiro, A., Klein, A., Studivan, M., Dodge Farelli, D., Simoes, N., González-Díaz, P., González Méndez, J., Voss, J.
- Genetic connectivity patterns among shallow and mesophotic *Montastraea cavernosa* coral populations in the Gulf of Mexico and western Caribbean**
- 15:05–15:20 **Smith, T.**, Brandt, M., Blondeau, J., Brandtneris, V., Ennis, R., Heidmann, S., Kadison, E., Nemeth, R.
- Chronic and acute disease impacts as a driver of mesophotic coral degradation in the US Virgin Islands**
- 15:20–15:35 **Townsend, J.**, Brandt, M., Mukherjee, S., Medina, M., Smith, T.
- Differing lesion recovery of two reef-building Caribbean stony coral species from shallow water to mesophotic depths**
- 15:35–15:50 **Kahng, S.**, Martinez, S., Wall, C.
- Growth and physiology of the deepest photosymbiotic corals. What are the implications?**
- 15:50–16:05 **Goodbody-Gringley, G.**, Neder, M., Nativ, H., Scucchia, F., Mass, T.
- Phenotypic plasticity and physiological adaptation at early developmental stages for corals on shallow and mesophotic reefs in two northerly locations**
- 16:30–16:45 **Mass, T.**
- Molecular and skeletal fingerprints of scleractinian coral biomineralization: From the sea surface to mesophotic depths**
- 16:45–17:00 **Kramer, N.**, Guan, J., Chen, S., Wangpraseurt, D., Loya, Y.
- Light-driven design: how coral architecture optimizes light capture for photosynthesis at shallow and mesophotic depths**
- 17:00–17:15 **Bollati, E.**, Lyndby, N., D'Angelo, C., Kühl, M., Wiedenmann, J., Wangpraseurt, D.
- The role of host pigments in coral photoacclimation on mesophotic reefs**
- 17:15–17:30 **Diaz, C.**, Howell, K., Hosegood, P., Robinson, E., Stashchuk, N., Vlasenko, V., Attrill, M., Foster, N.
- Hidden coral bleaching in the Indian Ocean**
- 17:30–17:45 **Rocha, L.**, Pinheiro, H., MacDonald, C., Shepherd, B.
- Taxonomy, biogeography, ecology, and conservation of recently discovered mesophotic fishes**

Kaisen Saal

11:00–16:05

7A- Open Session: Scalable observations and technologies

Chair:

Chennu, A., Bremen
Gonzalez Rivero, M.

11:00–11:15

Aboud, S., Gudka, M., Obura, D.

Understanding Patterns of Hard Coral Demographics in Kenyan Reefs to inform restoration

11:15–11:30

Petrovic, V., Pedersen, N., Edwards, C., Runyan, H., Amir, C., Alcantar, E., Zgliczynski, B., Smith, J., Sandin, S., Kuester, F.

Tracking benthic change via large area imagery and virtual fieldwork

11:30–11:45

Runyan, H., Petrovic, V., Edwards, C., Pedersen, N., Alcantar, E., Kuester, F., Sandin, S.

Experiments in automation to expedite high-precision 2D/3D coral segmentation

11:45–12:00

Renegar, D. A., Turner, N., Bickham, D., Lopez, J., Desplat, Y., Bera, G., Riegl, B., Schuler, P.

High Resolution Species Sensitivity Assessment of Petroleum Hydrocarbons in Six Species of Atlantic Scleractinian Corals

12:00–12:15

Ford, H., Gove, J., Healey, J., Davies, A., Graham, N., Conklin, E., Williams, G.

Quantifying spatial scaling properties of coral reef benthic communities across tropical seascapes

14:50–15:05

Moura, A., Winters, R. S.

Novel tool for restoration: Unified coral sample registry to support cross-referencing across restoration programs

15:05–15:20

Rago, Z.

Altered predator and prey densities influence foraging behavior and vegetation patterns in mesocosm systems

15:20–15:35

Murthy, S., Picioreanu, C., Kühl, M.

Exploring 3D modelling of radiative, heat and mass transfer in corals

15:35–15:50

Magneville, C., Brissaud, C., Fleuré, V., Loiseau, N., Claverie, T., Villéger, S.

A new framework based on synchronised cameras to measure fish abundance

15:50–16:05

Thobor, B. M., Schanz, F. R., Kerzenmacher, S., Wild, C.

Microbial fuel cells in coral reef sediments as indicator tools for organic carbon

eutrophication

Kaisen Saal

16:30–18:15

7C- How can new imaging-based tools help us better understand corals and other reef organisms?

Chair:

Rädecker, N.
Cui, G.

16:30–16:45

Titze, V. M., Schubert, M., Gather, M. C.

Turning microplastics into microscopic lasers - Hyperspectral imaging of whispering gallery mode lasers to study microplastics in reef building corals

16:45–17:00

Kuhl, M., Lyndby, N., Murthy, S., Jacques, S., Jaffe, J. S., Wangpraseurt, D.

Optical Coherence Tomography (OCT) as a novel tool to study structural and optical properties of corals and other aquatic symbioses

17:00–17:15

Alcantar, E., Pedersen, N., Edwards, C., Petrovic, V., Sandin, S., Vermeij, M.

Quantifying skeletal extension rates of *Montastrea annularis* and *Montastrea faveolata* using large-area imagery on reef communities in Curacao

17:15–17:30

Yuval, M., Pearl, N., Tchernov, D., Loya, Y., Bar-Massada, A., Treibitz, T.

Extracting Novel Ecological Information from Image-Based 3-Dimensional Models of Coral Reefs Before and After an Extreme Weather Event

17:30–17:45

Clampitt, M., Milanesio, M., Tara Pacific Consortium, Tara Pacific Coordinators, McMind, R., Röttinger, E., Gilson, E.

Exploring artificial intelligence (AI) tools on coral photographic data from the Tara-Pacific Expedition

17:45–18:00

Teague, J., Megson-Smith, D., Allen, M. J., Day, J. C., Scott, T. B.

Combining structure motion (SfM) photogrammetric techniques with low-cost Hyperspectral imagers as a tool for assessing coral reef 'health'

18:00–18:15

Neufeld, A., Moura, A., Winters, R. S.

Developing a cloud-based pipeline for the automated creation, storage, and AI-driven analysis of large-scale coral restoration photomosaics

Salon Focke-Wolf

16:30–18:15

9B- How do local drivers mediate coral reef ecosystem responses to climate change?

Chair:

Devlin, M.
Graham, N.

16:30–16:45

Zamborain Mason, J., Connolly, S. R., Cinner, J. E., MacNeil, M. A., Socio-ecological research frontiers group (SERF)

Catch of the day: Towards the sustainability of the world's coral reef fisheries

16:45–17:00

Lamont, T., Williams, B., Chapuis, L., Harding, H., Maulana, P., Prasetya, M., Razak, T., Nedelec, S., Meekan, M., Smith, D., Radford, A., Simpson, S., Graham, N.

The changing song of the sea: reef soundscapes as symptoms and drivers of ecosystem change

17:00–17:15

Jones, N., Gilliam, D.

Environmental stress related spatiotemporal variations in coral reef benthic communities

17:15–17:30

Cowburn, B., Obura, D., Sluka, R., Rogers, A., Taylor, M., Bluemel, J., Couce, E., van Katwijk, M.

Untangling components of reef resilience to bleaching and other pressures to make effective management decisions

17:30–17:45

Yadav, S., Roach, T., McWilliam, M., Miller, S., Caruso, C., Rocha de Souza, M., Drury, C., Madin, J.

Fine-scale tracking of coral bleaching and mortality during a thermal stress event in Kaneohe Bay, Hawaii

17:45–18:00

Barrios, L. M., Gonzalez, R., Navas-S, G. R., Sanjuan-Munioz, A., Hall-Spencer, J. M., Ruiz-Pino, D.

CO₂ seeps, rivers, pollution and coral reefs near Cartagena: an approximation into the effects of multi-stressors in Caribbean coral reefs

18:00–18:15

Mezger, S. D., Caporale, G., Tilstra, A., El-Khaled, Y. C., Wild, C.

The widely distributed soft coral *Xenia umbellata* exhibits high tolerance against warming, acidification, and eutrophication

Salon Focke-Wolf

11:00–12:30

9E- Ocean acidification and coastal acidification: What are the drivers, processes and consequences for coral reef ecosystems?

Chair: Fabricius, K.
Enochs, I., Miami

11:00–11:15

Plaisance, L., Matterson, K., Fabricius, K., Casey, J., **Knowlton, N.**

Metabarcoding coral reef communities in naturally low pH environments reveals reduced diversity and deep shifts in community composition

11:15–11:30

Cryer, S., Evans, C., Carvalho, F., Fowell, S., Ludgate, J., Andrews, G., Rosado, S., Young, A., Delgallerie, D., Theophille, D., Strong, J., Sanders, R., Loucaides, S.

Changes in pH and dissolved oxygen on Caribbean Reefs

11:30–11:45

Enochs, I., Manzello, D., Formel, N., Lirman, D.

Diel CO₂ fluctuations influence coral calcification, with implications for persistence under future acidification conditions

12:00–12:15

Morris, J., Enoch, I., Mayfield, A., Studivan, M., Young, B., Soderburg, N., Kolodziej, G., Manzello, D.

Physiological and Molecular Impact of Ocean Acidification on Two Common Caribbean Bioeroding Sponges

12:15–12:30

Palacio-Castro, A. M., Manzello, D., Besemer, N., Jankulak, M., Boyd, A., Kolodziej, G., Webb, A. E., Hirsh, H. K., Towle, E. K., Smith, I., Kelble, C., Enoch, I. C.

Carbonate system along the Florida Reef Tract: Long term trends, seasonality, and regional variation

Salon Focke-Wolf

14:50–16:05

9F- Plastics in corals reefs: What is there and how does it impact reef organisms?

Chair: Reichert, J., Giessen
Ziegler, M.

14:50–15:05

Reichert, J., Tirpitz, V., Anand, R., Bach, K., Knopp, J., Schubert, P., Wilke, T., Ziegler, M.

Heating up – The combined effects of microplastic pollution and global warming on reef-building corals

15:05–15:20

Axworthy, J., Wang, S., DiBenedetto, M., Baker, L., Padilla-Gamino, J.

Microplastics ingestion and adhesion by reef-building corals under different flow rates

- 15:20–15:35 **Lartaud, F.**, Chapron, L., Meistertzheim, A.-L., Galand, P., Ghiglione, J.-F., Mouchi, V., Peru, E., Pruski, A., Vétion, G.
The impact of plastic debris on the health status of deep corals
- 15:35–15:50 **Marangoni, L.**, Beraud, E., Ferrier-Page, C.
Nanoplastics impair photosynthetic capacities of Symbiodinaceae and promote coral bleaching
- 15:50–16:05 **Vered, G.**, Shenkar, N.
Limited effect of plastic additives on the development of early life stages of *Rhytisma fulvum*, *Stylophora pistillata*, and *Millepora dichotoma*



Saal Lloyd

11:00–16:05

11C- Shift in scleractinian dominated reefs- are we facing new winners- octocorals, sponges and macroalgae? / Sponges on coral reefs: how can we reconcile contradictory reports on controls, population and community dynamics, and functional roles?

Chair:

Benayahu, Y.
Ferrier-Pagès, C.
Schönberg, C.
Wulff, J.

- 11:00–11:15 **Lasker, H. R.**, Martinez Quintana, A., Bramanti, L., Edmunds, P. J.
Octocoral Forests: The new normal for Caribbean Reefs?
- 11:15–11:30 **Coffroth, M.-A.**, Buccella, L., Eaton, K., Franklin, H., Gooding, A., Pelosi, J., terHorst, C.
Octocoral resilience through a major bleaching event: A study of three host species and their symbionts
- 11:30–11:45 **Simancas-Giraldo, S. M.**, Xiang, N., Vollstedt, S., Moger Kennedy, M., Nafeh, R., Zelli, E., Dessì, C., Katzer, N., Wild, C.
Organic eutrophication and ocean warming effects on the ecophysiology of the soft coral *Xenia umbellata*
- 11:45–12:00 **Hollister, K.**, Ennis, R., Spalding, H., Gabrielson, P., Smith, T.
Utilizing 3D photogrammetry to assess coral-algal competition and growth of a rapidly emerging red alga (*Ramicrostus* sp.) in the U.S. Virgin Islands
- 12:00–12:15 **Bulleri, F.**, Pozas-Schacre, C., Bischoff, H., Bramanti, L., Gasc, J., Nugues, M. M.

The dominance of brown seaweed canopies in the lagoon of Moorea: the roles of epilithic bacterial biofilms and sea urchin grazing

12:15–12:30

Ennis, R., Smith, T.

The scale and impact of the encrusting red algae *Ramicrosta* sp. (Peyssonneliaceae) overgrowing coral colonies in the United States Virgin Islands

14:50–15:05

Tahitu, E., Becking, L., Doğruer, G., Meesters, E.

Dynamics of the Deep The influence of spatial heterogeneity of water quality on phase shifts of dominant benthic groups reefs on Bonaire.

15:05–15:20

Chaves-Fonnegra, A., Spagnolia, C., Perez, A., Gilliam, D. S.

Sponge Persistence and Species Interactions on Future Coral Reefs

15:20–15:35

Wulff, J.

Bottom-up control of coral reef sponges: for better and worse

15:35–15:50

Sannassy Pilly, S., Roche, R., Turner, J.

Depth variation in benthic community response to climate change

15:50–16:05

Saldaña, P., Goetz, N., Altieri, A.

Rethinking the roles of non-trophic and trophic interactions on coral accretion rates in degraded reef systems



Hanse Saal - live

11:00–12:15

12B- Can we help people make smart choices in a time of crisis and uncertainty?

Chair:

McLeod, I.
Mead, D.

11:00–11:15

Mumby, P. J., Chaloupka, M., Bozec, Y.-M., Steneck, R.

Making evidence-based decisions to manage coral reefs

11:15–11:30

Nand, Y., Mangubhai, S., Reddy, C., Jagadish, A.

Impact of the COVID-19 pandemic on Indo-Fijians engaged in coral reef fisheries

11:30–11:45

Robillot, C., Anthony, K.

Sustainably financing coral reef restoration and adaptation on a large scale, do numbers add up?

11:45–12:00

Anthony, K., Iwanaga, T., Crocker, R.

The value of guided reef restoration and adaptation

12:00–12:15

Dempsey, A., Purkis, S., Faisal, M.

World Reef Map: A high-resolution mapping tool for marine spatial planning in remote regions of the world



Hanse Saal - live

16:30–17:30

12H- How to design participatory processes to achieve transformations in reef management towards a sustainable future?

Chair:

Ferse, S.
Breckwoldt, A.

16:30–16:45

Turnip, I. N., Youvan, T., Dirgantara, R., Erdiansyah, E., Indra, I., Duffy, H.

Customary Management of Coral Reefs & Fisheries by the Panglima Laot in Simeulue Island, Aceh, Indonesia

16:45–17:00

Dunning, K.

Participatory coral reef management to enhance socio-ecological resilience: case studies from Southeast Asia

17:00–17:15

Kelsey, H., Towle, E., Donovan, C., Kimball, J., Fries, A., Miller, N., Koss, J.

Co-design of coral reef health status reports enables stakeholder engagement in local and global scale reef management

17:15–17:30

Wood, E., Yusah, H. M., Ng, J. V., Mabustan, L., Bin Ahmad, N., Mapait, J. A., Bavoh, E. M.

Conservation incentives initiative to promote reef health and socio-economic well-being in Tun Sakaran Marine Park, Malaysia: progress and challenges



Hanse Saal - live

12:15–12:30

12K- Resilient Reefs: What is the Evidence for and the Future of Resilience-Based Management?

Chair:

McLeod, I.
Mead, D.

12:15–12:30

Eckrich, C., Steneck, R., Viridis, F., Francisca, R.-L., Bertuol, P.

Adaptive management and resilient reefs in Bonaire, Dutch Caribbean

Hanse Saal - live

14:45–16:00

12L- What are the challenges, solutions and synergies at the interface of science and policy to successfully conserve coral reefs?

Chair: Dohna, T.
Pfaff, M.
Puk, L.

14:45–15:00

Edwards, K., Towle, E.

NOAA's National Coral Reef Monitoring Program - Atlantic basin case studies in balancing a standardized program with emerging local management needs

15:00–15:15

Andradi-Brown, D. A., Estradivari, E., Amkieltiela, A., Lazuardi, M. E., Iqbal, M., Veverka, L., Ahmadi, G. N.

Closing the gap between coral reef field monitoring, adaptive management, and national MPA policy

15:15–15:30

Bood, N., Rohe, J., Arkema, K., Bartlett, R., Del Mel, M., Calzada, A., Chevez, L., Vasquez, P., Porta, M. A.

Climate-Smarting the Mesoamerican Reef Region

15:30–15:45

Bambic, B., Rivera-Sosa, A., Lieb, Z., Lyons, M., Say, C., Markey, K., Alvarez, A. O., Roelfsema, C., Flynn, M., Gerstner, P., Asner, G., Fox, H.

The impact of the Allen Coral Atlas, a global tool for mapping and monitoring coral reefs

15:45–16:00

Nisa, Z.

The Scuba diving industry at the interface of science and policy in islands

Saal Lloyd

16:30–18:15

13E- How can interventions and restoration help coral reefs survive the next few decades?

Chair: Vardi, T.

16:30–16:45

Morikawa, M., Blanco, M., Calle, J., Cortes, C., Galvan, V., Harms, E., Fluxa, G.

Iberostar's Wave of Change as the tourism sector's first comprehensive program in coral conservation restoration

16:45–17:00

Knoester, E. G., Rizzi, E., Murk, A. J., Osinga, R.

Efficiency and success of coral mariculture can be improved through grazing by herbivorous fish

17:00–17:15	VanWynen, C., Hightshoe, M. , Fogarty, N., Dahlgren, C., Gilliam, D. Hybrids in coral restoration: A comparison of growth and survival among Caribbean acroporid species and their hybrid in a coral tree nursery
17:15–17:30	Baker, A. Assisted gene flow of corals to exploit thermal heterogeneity over small spatial scales: Implications for sexual and asexual restoration programs
17:30–17:45	DeMerlis, A. , Kirkland, A., Kaufman, M., Mayfield, A., Formel, N., Kolodziej, G., Manzello, D., Lirman, D., Traylor-Knowles, N., Enochs, I. Pre-exposure to a variable temperature treatment improves the response of <i>Acropora cervicornis</i> to acute thermal stress
17:45–18:00	Akiona, A. , Chancellor, K., Lubarsky, K., McNamara, D., Vardi, T., Williams, Z., Zgliczynski, B., Sandin, S. Modeling interventions to increase the resilience of coral reefs in the Maldives
18:00–18:15	Mead, D. , Ortiz, J., Anthony, K., Bainbridge, S., Radford, B., Robson, B., Poutinen, M., Gibbs, M. Maximising restoration outcomes: a framework for guided intervention and monitoring



Salon Scharoun

16:30–18:00	15C- Models as synthesis tools in coral reef research- How to identify drivers, facilitate projections, and aid management?
Chair:	Reuter, H.
16:30–16:45	Warmuth, L. , Bonsall, M., Head, C. How do climate change and connectivity drive coral reef fish abundance in the Western Indian Ocean?
16:45–17:00	Clarke, T. , Cheung, W. Modeling the impacts of long term warming and marine heatwaves on reef fish habitat
17:00–17:15	Williams, S. , Macknight, N., Beavers, K., Brandt, M., Mydlarz, L., Muller, E. From immunity to community: a predictive trait space model for coral species exposed to white plague disease
17:15–17:30	Bachman, S. , Kleypas, J. Coral reef refugia at a smaller scale: A global map of tidally-generated internal waves and their impact on temperature variability

17:30–17:45

Rodríguez, L., Tuya, F., Martínez, B.

SDMs & Phylogenetic Analyses to predict changes in richness, phylogenetic and functional diversity of Atlantic coral assemblages under climate change

17:45–18:00

McManus, L., Forrest, D., Tekwa, E., Schindler, D., Colton, M., Fox, H., Webster, M., Essington, T., Palumbi, S., Mumby, P., Pinsky, M.

Conservation for evolving coral populations



Salon Scharoun

18:00–18:15

15D- What can photosymbiont-bearing foraminifera tell us about the past, present and future of coral reefs?

Chair:

Schmidt, C.
Stuhr, M.

18:00–18:15

S. Raposo, D., Morard, R., Schmidt, C., Hassenrück, C., Titelboim, D., Abramovich, S., Caruso, A., Kucera, M.

Cold-tolerant photosymbiosis as a key to invasion success of a coral reef foraminifera in the Mediterranean Sea

Tuesday, July 5, 2022



Salon Danzig

09:50–12:15

1E- What can corals and marine calcifiers tell us about anthropogenic effects and trajectory of coral reef ecosystems under global change?

Chair:

Wu, H.
Zinke, J.

09:50–10:05

Vergotti, M., D'Olivo, J. P., Linares, C., Brachet, T., Spreter, P., Pretus, J. L., Kersting, D.

Reconstructing the impacts of past thermal stress events in the temperate coral *Cladocora caespitosa* along an environmental gradient.

10:05–10:20

Kersting, D. K., Brachert, T., Hathorne, E., Linares, C., Pretus, J. L., Reuning, L., Spreter, P., Zinke, J.

High resolution environmental and ecological information recorded in the skeletons of the Mediterranean coral *Cladocora caespitosa*

10:20–10:35

Stoll, M. M., Deutsch, C., Gothmann, A., Jurikova, H., Rae, J., Gagnon, A.

A Century of Change in the California Current: Quantifying the Impact of Anthropogenic Climate Change on Ocean Acidification

11:00–11:15

Watanabe, T., Yamazaki, A., CREES member

Reconstruction of anthropogenic CO₂ uptake in the NW Pacific over the last 100 years

11:15–11:30

Todorovic, S., Wu, H., Linsley, B., Kuhnert, H., Benthien, A., Richter, K.-U., Bijma, J., Raitzsch, M., Dissard, D.

Tracking the anthropogenic influence on surface temperatures and pH in the Southwest Pacific since the Industrial Revolution

11:30–11:45

Gagnon, A., Gothmann, A., Branson, O., Rae, J., Stewart, J.

There Is More To Boron Isotopes Than pH: Controls On Boron Isotopes In A Cold-Water Coral And The Cost Of Resilience To Ocean Acidification

11:45–12:00

Duprey, N. N., Foreman, A. D., Martínez-García, A., Sanchez, S. C., Charles, C. D., Carriquiry, J. D., Vonhof, H., Sigman, D. M., Haug, G. H.

High Resolution Coral skeleton N isotope records from the eastern tropical North Pacific over the last 80 years

12:00–12:15

Foreman, A. D., Zinke, J., Duprey, N. N., Guillaume, M. M. M., Bruggemann, J. H., Charles, C., Martínez-García, A., Haug, G.

Nitrogen isotope constraints on southwestern Indian Ocean variability in the late 20th century

Salon Danzig

16:15–17:45	1G	1G- Can large-scale ocean and climate reconstructions from corals improve our understanding of past, present, and future extremes?
	Chair:	DeLong, K. Felis, T. Thompson, D.
16:15–16:30		Cole, J. , Dyez, K., Patterson, E., Lough, J., Schrag, D. <i>New coral proxy records from northern Australia reflect diverse impacts of Pacific SST on regional hydroclimate and ocean circulation</i>
16:30–16:45		Chapman, A. , Thompson, D., Carilli, J., Sayani, H., Marchitto, T., Cobb, K. Coral Mn/Ca: A Window into Pacific Trade-wind Behavior
16:45–17:00		Watanabe, T. K. , Watanabe, T., Pfeiffer, M., Hu, H.-M., Shen, C.-C., Yamazaki, A. Coral records support upwelling in the Arabian Sea is weakening during the current warming era
17:00–17:15		Zinke, J. , Browning, S., Hoell, A., Goodwin, I. The West Pacific Gradient as novel index for ENSO variability and Walker Circulation strength over the past Millennium
17:15–17:30		DeLong, K. , Ouellette, G., Martin, E., Goodkin, N., Wagner, A., Manfrino, C., Taylor, F., Shen, C.-C. Towards Understanding Past Climate of the Inter-America Sea Using a Network of <i>Siderastrea Siderea</i> corals
17:30–17:45		Pfeiffer, M. , Leupold, M., Reuning, L., Watanabe, T. K. The warming of the tropical Indian Ocean during the twentieth century: causes and consequences

Salon Scharoun

09:50–12:15	2D- How will the coral populations of today affect the ecology and recovery of coral reefs in the future?
	Chair: Marhaver, K. L.

	Speare, K. E.
09:50–10:05	Stephens, T. , Strand, E., Putnam, H., Bhattacharya, D. Differences in ploidy and the prevalence of clonal propagation between <i>Montipora capitata</i> and <i>Pocillopora acuta</i> from Kāneʻohe Bay, Hawaiʻi
10:05–10:20	Chamberland, V. F. , Miller, M. W., Latijnhouwers, K. R. W., Bennett, M.-J., Conn, T., Osborne, C., Vasquez Kuntz, K., Doblado Speck, T., Baums, I. B. Implications of senescence, gamete incompatibility and relatedness in larval cultures of the critically endangered elkhorn coral (<i>Acropora palmata</i>)
10:20–10:35	Kimura, T. Impact of Coral Bleaching 2016 in Japan
11:15–11:30	Brinker, E. , Feingold, J. Long-term population increase in a <i>Pocillopora</i> community, Devil's Crown, Galápagos Islands, Ecuador
11:30–11:45	Cant, J. , Reimer, J., Sommer, B., Cook, K., Kim, S., Sims, C., Mezaki, T., O'Flaherty, C., Brooks, M., Nakamura, M., Malcolm, H., Pandolfi, J., Salguero-Gómez, R., Beger, M. Decomposing the demographic patterns of survival, growth, and recruitment is crucial for predicting the viability of subtropical coral populations
11:45–12:00	Wulstein, D. , Madin, J., Oliver, T., Falster, D. Taking a leaf out of the terrestrial book: a scaling law for assessing coral population trends
12:00–12:15	McWilliam, M. , Dornelas, M., Alvarez-Noriega, M., Baird, A., Connolly, S., Madin, J. Multiple demographic dimensions predict fitness and abundance in reef coral assemblages
	 Borgward Saal

09:50–17:45	4D- What are the drivers of similarity and dissimilarity within the microbiome of reefs and reef organisms?
Chair:	Kelly, L. Wegley Kelly, L.
09:50–10:05	Kriefall, N. , Rippe, J., Castillo, K., Davies, S. Testing the resilience of coral microbial networks to disturbance
10:05–10:20	Weiler, B. A. , Kellogg, C. A., Bonacolta, A. M., Whitson, E., del Campo, J. A meta-analysis of the published coral microbiome studies

- 10:20–10:35 **Howe, C.**, Roitman, S., Pollock, J., Zaneveld, J. R., Vega Thurber, R., Medina, M.
Utilizing next-generation phylogenetics to categorize and identify core microbial communities across distinct Caribbean Scleractinian Families.
- 11:00–11:15 **Correa, A.**, Veglia, A., Coy, S., Grupstra, C., Howe-Kerr, L., Work, T., Brandt, M., Mydlarz, L., Thurber, A., Vega Thurber, R.
Discovery and Characterization of Coral Holobiont Viruses and Their Roles in Reef Health Across Space and Time
- 11:15–11:30 **Mohamed Fairoz, M. F.**, Green, K., Sajith, K. N., Kularathna, K. N., Wegley-Kelly, L., Rohwer, F.
Microbiome of Sri Lankan Coral Reefs: An Indian Ocean Island
- 11:30–11:45 **Bravo, H.**, Röthig, T., Corley, A., Prigge, T., Chung, A., Yu, V., McIlroy, S., Sweet, M., Baker, D.
Environmental flexibility of *Oulastrea crispata* in a highly urbanised environment - a microbial view
- 11:45–12:00 Dubé, C., **Martineau, G.**, Mercier, P.-L., Planes, S., Derome, N.
Microbiome taxonomic and functional composition of fire coral clones during a thermal bleaching event
- 12:00–12:15 **Sparagon, W.**, Arts, M., Quinlan, Z., Koester, I., Comstock, J., Bullington, J., Carlson, C., Wegley Kelly, L., Haas, A., Nelson, C.
The Effect of Coral Bleaching on Coral DOM Exudation and Bacterioplankton Dynamics
- 12:15–12:30 **Vompe, A.**, Epstein, H., Speare, K., Burkepile, D., Vega Thurber, R.
Thermal stress, nutrient pollution, and herbivore reduction differentially affect the microbiomes of dominant *Moorea* stony corals
- 16:15–16:30 **Buzzoni, D.**, Starko, S., Cuning, R., Baum, J. K.
Local Stressors and Marine Heatwaves drive the Community Diversity of Coral-Symbiodiniaceae Symbioses.
- 16:30–16:45 **Brodnicke, O. B.**, Burian, A., Conlan, J., Smith, H., Connellan, K., Høj, L., Kühl, M., Sweet, M., Francis, D., Humphrey, C., Bourne, D.
Regulation of coral microbiomes and lipid metabolism: a joint dance or two separate solos
- 16:45–17:00 **Levy, O.**, Mieka Rinsky, Eviatar Weizman, Hiba Waldman Ben-Asher, Gal Eyal, Bokai Zhu
Temporal gene expression patterns in the coral *Euphyllia paradivisia* reveal the complexity of biological clocks in the cnidarian-algal symbiosis
- 17:00–17:15 **Dunphy, C.**, Gouhier, T., Vollmer, S.

Host-microbial systems as glass cannons: Explaining microbiome stability in corals exposed to extrinsic perturbations

17:15–17:30

Masasa, M., Kushmaro, A., Shashar, N., Guttman, L.

Mono-specific algal diets shape microbial networking in the gut of the sea urchin *Tripneustes gratilla elatensis*

17:30–17:45

Connolly, S., Scott, J., Nguyen, B., Knowlton, N., Leray, M.

Estimating diversity and community similarity in genomic data



Salon Focke-Wolf

09:50–18:00

6B- From refugia to extreme coral habitats: What can we learn? And how can they aid future coral survival?

Chair:

Osman, E. O.
Santodomingo, N.
Schoepf, V.

09:50–10:05

Schoepf, V., Baumann, J., Barshis, D., Browne, N., Camp, E., Comeau, S., Cornwall, C., Guzman, H., Riegl, B., Rodolfo-Metalpa, R.

Coral reefs at the edge of environmental limits: A new conceptual framework to re-define marginal and extreme reef systems

10:05–10:20

Trevino-Balandra, E., Paz-García, D., Flores-Lopez, V., Fernández-Valverde, S. L., Balart-Paéz, E. F., Hellberg, M. E.

Beyond marginality: Transcriptomic insights between marginal and extreme environments in *Porites panamensis* near hydrothermal activity

10:20–10:35

Teixido, N., Alliouane, S., Carbonne, C., Caroselli, E., Comeau, S., Copley, R., Gattuso, J.-P., Goffredo, S., Mirasole, A., Meynadier, M., Palumbi, S. R., Sheets, E.

Newly discovered CO₂ vent supports a coral population persisting under high pCO₂ environments

11:00–11:15

Carbonne, C., Comeau, S., Plichon, K., Gattuso, J.-P., Teixido, N.

Parental exposure to natural CO₂ vents alters the response to low pH of a temperate coral early life stages.

11:15–11:30

Brandtneris, V., Ennis, R., Estep, A., Holstein, D., Smith, T.

Volcanic sediments structuring mesophotic coral ecosystems on Montserrat, British West Indies

11:30–11:45

McWhorter, J., Halloran, P., Mumby, P.

Under pressure; climate change at depth

- 11:45–12:00 **Carpenter, G.**, Chequer, A., Weber, S., Mass, T., Goodbody-Gringley, G.
Light and photoacclimatization drive distinct differences between shallow and mesophotic coral communities in Little Cayman, Cayman Islands
- 12:00–12:15 **Karisa, J.**
Spatio-temporal patterns of coral reef benthic communities in the Kiunga-Lamu Archipelago, Kenya - a marginal upwelling reef.
- 12:15–12:30 **Santodomingo, N.**, Waheed, Z., Syed Hussein, A. B., Rosedy, A., Perry, C., Sosdian, S., Rosen, B., Wood, E., Johnson, K.
#Reefugia: Turbid reefs in the Coral Triangle during the past 30 million years
- 16:15–16:30 **Blanckaert, A.**, Omanović, D., Fine, M., Grover, R., Ferrier-Pagès, C.
Desert dust deposition supplies essential bioelements to Red Sea corals
- 16:30–16:45 **Solomon, S.**, Schoepf, V.
 δ Trophic strategies ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) of three species of Caribbean corals across an extreme environmental gradient
- 16:45–17:00 **Johansen, J. L.**, Mitchell, M. D., Vaughan, G. O., Ripley, D. M., Shiels, H. A., Burt, J. A.
Fishes on the world's hottest coral reef: ecological and physiological adaptations for survival.
- 17:00–17:15 **Manzello, D.**, Aguilar, C., Kolodziej, G., Enochs, I.
Molecular mechanisms of coral holobiont heat tolerance on bleaching-resilient, marginal inshore patch reefs of the Florida Keys
- 17:15–17:30 **Bremer, R. A.**, Dennison, C. E., Wen, A. D., Thomas, S. C., Johnson-Sapp, K., Karp, R. F., Routt, B. J., Baker, A. C.
Cold temperature tolerance of the threatened Caribbean staghorn coral *Acropora cervicornis*: implications for assisted migration in Florida
- 17:30–17:45 **Stewart, H.**, Wright, J., Carrigan, M., Altieri, A., Kline, D., Araújo, R.
Coral forests: Nested coexisting mangrove-coral habitats
- 17:45–18:00 **Schwarz, A.**, Darling, E., Fortin, M.-J., McClanahan, T.
Expanding climate refugia for coral reefs: Using coral life histories to classify avoidance, resistance and recovery refugia

Kaisen Saal

09:50–10:20

7F- What can molecular approaches contribute to determining sublethal stressor effects on coral reefs and evaluating the effectiveness of management interventions?

Chair: Richmond, R.

09:50–10:05

Richmond, R., Nunn, B., Tisthammer, K.

Proteomics as a tool for accurately assessing specific stressor effects on corals and determining the effectiveness of management interventions

10:05–10:20

Bhattacharya, D., Williams, A., Shumaker, A., Stephens, T.

Peeling back the layers of coral holobiont multi-omics data

Kaisen Saal

11:00–16:30

7H- Where are coral reefs now and where are they headed: The status of coral reefs of the world in 2020

Chair: Obura, D.

11:00–11:15

Obura, D., Gudka, M., Samoilys, M., Osuka, K., Mbugua, J., Keith, D., Porter, S., Roche, R., van Hooidek, R., Ahamada, S., Araman, A., Karisa, J., Komakoma, J., Madi, M., Ravinia, I., Razafindrainibe, H., Yahya, S., Zivane, F.

Vulnerability to collapse of coral reef ecosystems in the Western Indian Ocean

11:15–11:30

Obura, D., **Cabada-Blanco, F.**, Pearce-Kelly, P., Pettersson, E., Polidoro, B.

Updating the extinction risk of corals in 2020

11:30–11:45

Donovan, M., Counsell, C., Donahue, M., Lecky, J., Conklin, E., Hawaii Monitoring and Reporting Collaborative, H.

Collaborative monitoring of Hawai'i coral reefs to understand status and trends and inform sustainable development goals

11:45–12:00

Reinicke, G. B., Abdelhamid, S., Claus, R., Ivkic, A., Höhn, J., Grenzdörffer, G., Zuschin, M.

Red Sea reefs in Sudan revisited - long-term monitoring sites reveal both, continuity and change

12:00–12:15

Gonzalez-Rivero, M., Kennedy, E., Wyatt, M., Vercelloni, J., Olsudong, D., Karanassos, C., Amir, H., Nand, Y., Johnson, J., Mangubhai, S., Kininmonth, S., Sykes, H., Golbuu, Y., Crossman, D., Logan, M., Jupiter, S., Rengjil, G., Mengersen,

K., Souter, D.

ReefCloud – integrated solutions for coral reef monitoring

16:15–16:30

Pedersen, N., Edwards, C., Petrovic, V., Runyan, H., Zglizcynski, B., Smith, J., Planes, S., Sandin, S.

A model of population growth in massive *Porites* across the Pacific



Hanse Saal - live

16:45–18:00

7J- How can innovative techniques to investigate calcification shed light into the past, present, future of coral reef organisms? / How do new insights into biomineralization help us understand reef calcification response to global climate change?

Chair:

Hathorne, E.
Mass, T.
Tambutté, S.
Venn, A.

16:45–17:00

Schmidt, S., **Hathorne, E.**, Schönfeld, J., Gosnell, K., Garbe-Schönberg, D.

Do massive *Porites* mirror the heavy metal concentration in the ambient seawater? - A culture study

17:00–17:15

Osinga, R., Wijgerde, T.

Seawater conditions differentially affect calcification in two species of Scleractinian corals, *Stylophora pistillata* and *Galaxea fascicularis*

17:15–17:30

Stuhr, M., Cameron, L. P., Reymond, C. E., Kollipara, L., de Beer, D., Sickmann, A., Westphal, H., Ries, J.

Coral proteomic responses, calcifying fluid pH and symbiont health give insights into adaptive physiology and calcification under ocean acidification

17:30–17:45

Venn, A., Tambutté, E., Tambutté, S.

Proton gradients across the coral calcifying cells under ocean acidification

17:45–18:00

Martinez Rugerio, I., Enriquez, S., Carricart-Ganivet, J. P., Iglesias-Prieto, R.

Moonlight cycles mediate the architecture of the coral skeleton

Saal Lloyd

11:00–12:30

10B- How do ecological processes affect the adaptation and evolution of coral reef organisms in the Anthropocene?

Chair:

Baums, I.
Eirin-Lopez, J. M.

11:00–11:15

Bonzi, L. C., Spinks, R. K., Donelson, J. M., Munday, P. L., Ravasi, T., Schunter, C.

Molecular mechanisms of transgenerational plasticity in a coral reef fish acclimating to global warming

11:15–11:30

Moore, B., Jolly, J., Izumiyama, M., Kawai, E., Ryu, T., Ravasi, T.

Impact of ocean warming on the development, metabolic rate, and transcriptome of larval clownfish

11:30–11:45

Brown, D., **Boville, E.**

Energetic model for the quantification of the effects of ocean acidification on coral calcification

11:45–12:00

Leiva, C., Pérez-Portela, R., Lemer, S.

Genomic signals of adaptation to ocean acidification, temperature, and low water quality in three coral species

12:00–12:15

Black, K., Rippe, J., Matz, M.

Environmental drivers of genetic adaptation in two coral species from Florida

12:15–12:30

Marzonie, M., Bay, L., Bourne, D., Matthews, S., Nielsen, J., Harrison, H.

Mild heatwaves increase acute heat tolerance in corals

Saal Lloyd

09:50–10:35

10F- What role do non-genetic mechanisms play in adaptation of reef inhabitants to climate change?

Chair:

Aranda, M.
Putnam, H.
Matz, M.

09:50–10:05

Putnam, H., FACE PUF Spawning Team, Hedouin, L.

Environment influences potential for epigenetically-mediated performance legacies across a generation in a reef building coral

10:05–10:20

Gomez-Campo, K., Sanchez, R., Martinez-Rugiero, I., Yang, X., Maher, T., Enríquez, S., Baums, I. B., Mackenzie, S. A., Iglesias-Prieto, R.

Induced phenotypic plasticity and methylome repatterning derived from changes in light regimes in *Acropora palmata*

10:20–10:35

Guerrero, L., Bay, R.

Epigenetic mechanisms of rapid acclimation in *Acropora nana*



Saal Lloyd

16:15–17:45

10H- Behavioural responses to environmental change: what are the underlying mechanisms, ecological significance, and future consequences?

Chair:

Brooker, R.

16:15–16:30

Goulet, T., McCauley, M.

Can polyp behavior protect a coral colony from climate change?

16:30–16:45

Froehlich, C. Y., Klanten, O. S., Heatwole, S., Hing, M., Dowton, M., Wong, M.

Coral-fish mutualisms may not withstand continued disturbances as coral-dwelling fish are slower to recovery than their corals

16:45–17:00

Semmler, R., Sanders, N., Graham, N., Baird, A., Caradonna, P., Keith, S.

Can foraging plasticity buffer effects of coral bleaching in butterflyfishes?

17:00–17:15

Ben-Ezra, S., Harpaz, R., Engert, F., Appelbaum, L., Levy, O.

Light pollution increases night activity and brain DNA damage in *Chromis viridis* fish

17:15–17:30

Gunn, R. L., Benkwitt, C. E., Graham, N. A., Hartley, I. R., Algar, A. C., Keith, S. A.

Nutrient disruption by a terrestrial invasive species drives reef fish territorial behaviour

17:30–17:45

Renfro, B.

I think we need to take a break: The effects of diver presence on herbivorous reef fish foraging behavior



Salon London

09:50–17:00

12A- Open Session: Conservation and management

Chair:

Bay, L.
Ferse, S.

	Schläppy, M.-L. Breckwoldt, A. Estradivari, E.
09:50–10:05	Kadison, E. , Nemeth, R., Matley, J., Jossart, J., Wetherbee, B., Shivji, M. Identifying adaptive management options for a Nassau grouper (<i>Epinephelus striatus</i>) spawning aggregation site using acoustic telemetry.
10:05–10:20	Christie, P. , Gerhardinger, L., Bell, H., Berndtson, D., Dalton, K., Kantner, B., Skrobe, M. Toward regional and global ocean learning networks
10:20–10:35	Giffin, A. , Tulloch, V., Connolly, R., Mangubhai, S., Atkinson, S., Saint Ange, C., Bryan-Brown, D., Brown, C. Prioritising cost-effective areas for management of coral reefs and mangroves that promote community resilience to cyclones
11:00–11:15	Nemeth, R. S. , Kadison, E., Brewer, R., Henderson, L., Green, D., Olsen, D., Smith, T. Application of an Ecosystem-Based Fisheries Management Approach: Road to Recovery for the Endangered Nassau Grouper
11:15–11:30	Nedelec, S. , Radford, A., Gatenby, P., Keesje Davidson, I., Velasquez, L., Travis, M., Chapman, K., McCloskey, K., Gordon, T., Illing, B., McCormick, M., Simpson, S. DO NOT DISTURB: Limiting motorboat disturbance could support reef resilience
11:30–11:45	Esch, M. , Jarneveich, C., Robertson, R., Rosas, C., Simoes, N., McClanahan, T., Harborne, A. Predicting the potential distribution of a new Caribbean invader using a species distribution model
11:45–12:00	Conklin, E. , Neuheimer, A., Toonen, R. Biophysical modeling predicts population structure across scales for eleven Hawaiian reef species
12:00–12:15	Costa, S. , Habtes, S., Willette, D., Nemeth, R. Evaluating the impact of non-native seagrass, <i>Halophila stipulacea</i>, on health and survival of economic reef fish yellowtail snapper, <i>Ocyurus chrysurus</i>
12:15–12:30	Judah, A. , MacNeil, M. A., Mouillot, D., Stuart-Smith, R., Edgar, G., Touchie, E., Loiseau, N., Villéger, S., Thuiller, W., Mouquet, N., Violle, C., McLean, M. Distribution, drivers, and protection of functionally distinct fishes on global tropical reefs
16:15–16:30	Bohn, J. , Schelske, O., Burt, J. Insuring coral reefs: Challenges and opportunities
16:30–16:45	Estradivari, E. , Agung, M. F., Adhuri, D. S., Ferse, S. C. A., Andradi-Brown, D. A., Campbell, S. J., Iqbal, M., Jonas, H. D., Lazuardi, M. E., Nanlohy, H., Pakiding, F.,

Pusparini, N. K. S., Ramadhana, H. C., Ruchimat, T., Santiadji, I. W. V., Timisela, N. R., Veverka, L., Ahmadi, G. N.

Marine conservation beyond MPAs: Towards the recognition of other effective area-based conservation measures (OECMs) in Indonesia

16:45–17:00

Amkieltiela, A., Handayani, C. N., Andradi-Brown, D. A., Estradivari, E., Ford, A. K., Beger, M., Hakim, A., Muenzel, D. K., Carter, E., Agung, F., Veverka, L., Iqbal, M., Lazuardi, M. E., Fauzi, M. N., Tranter, S. N., Ahmadi, G. N.

Indonesia's Marine Protection Progress Towards the International Goals

Salon London

17:00–17:45

12N- Communities of Practice- Do Learning Networks lead to better local management?

Chair: Not yet registered

17:00–17:15

Widodo, H., Suardana, N., Kasman, K.

Minimizing the competency gap for effective coral reefs management: lessons learnt from the Sunda Banda Seascape

17:15–17:30

Crandall, E., Gaither, M., Liggins, L., Bird, C., Toonen, R., Riginos, C.

The Diversity of the Indo-Pacific Network (DIPnet): Capacity-building for marine biodiversity science in the tropical Indo-Pacific

17:30–17:45

Djohani, R., Widodo, H., Gallardo, L.

Scaling up capacity and collaboration via peer learning networks: lessons learned from the Women Leaders Forum in the Coral Triangle region.

Hanse Saal - live

09:50–18:15

13F- How can we apply sexual propagation to restore resilient coral reefs at significant scales?

Chair: Harrison, P.
Petersen, D.
Bickel, A.

09:50–10:05

Harrison, P.

Mass Coral Larval Production and Supply for Large Scale Coral and Reef Restoration

10:05–10:20

Bickel, A., Chamberland, V., Latijnhouwers, K., Mendoza, S., Banaszak, A., Petersen, D., Miller, M.

Capacity Building and Technology Development for Large Scale Coral Restoration via Larval Propagation

- 10:20–10:35 **Randall, C.**, Page, C., Whitman, T., Jurriaans, S., Giuliano, C., Hoogenboom, M., Severati, A., Sims, C., Bickel, A., Miller, M., Webster, N., Abdul Wahab, M., Heyward, A., Negri, A.
Science to inform coral seeding: lessons learnt from five field trials on the Great Barrier Reef
- 11:00–11:15 **Gutting, A.**, Lillis, A., Nixon, E., Cook, S.
A comparison of coral recruit rearing methods: effects of settlement substrate type and rearing investment on coral recruit survival and growth
- 11:15–11:30 **Craggs, J.**, Guest, J., Davis, M., O'Neil, K., Sweet, M.
PROJECT CORAL – A synopsis of *ex situ* broadcast coral spawning research; potential applications to research and up-scaling reef restoration practises.
- 11:30–11:45 **Suzuki, G.**, Tanita, I., Tashiro, S., Suhara, Y., Komatu, T., Kanyama, T., Nakase, S., Sasaki, M.
Sustainable coral restoration by establishing *in situ* “artificial spawning hotspots” -1. Enhancement of larval supply utilizing “larval cradle”-
- 11:45–12:00 **O'Neil, K.**, Serafin, R., Williams, E., Lewis, C., Neely, K., Patterson, J., Craggs, J.
Beyond the Bank: Repeated broadcast spawning in an *ex situ* population of the threatened Atlantic pillar coral, *Dendrogyra cylindrus*.
- 12:00–12:15 **Nakamura, S.**, Tamura, K., Suzuki, G., Yonezawa, Y., Kanyama, T., Nakase, S., Yamazaki, M.
Sustainable coral restoration by establishing *in situ* “artificial spawning hotspots” -2. Protection of adult corals against serious disturbances-
- 12:15–12:30 **Henry, J.**, O'Neil, K., Pilnick, A., Patterson, J.
First steps towards folding *ex situ* reared sexually propagated corals into restoration programs: experimental results and considerations
- 16:15–16:30 **Latijnhouwers, K.**, Ter Horst, L., Schneider, J., Van Duijnhoven, J., Miller, M., Vermeij, M., Chamberland, V.
Feeding of coral settlers in large *in situ* mesocosms greatly increases their long-term survival
- 16:30–16:45 **Williamson, O.**, Allen, C., Hardy, K., Dennison, C., Miller, M., Williams, D., Cuning, R., Baker, A.
Starting them young: Ecophysiological benefits and trade-offs of manipulating algal symbiont communities in threatened Caribbean coral recruits
- 16:45–17:00 **Geertsma, R.**, Tim, W., Latijnhouwers, K., Chamberland, V.
Onset of zooplanktivory and optimal water flow rates for prey capture in newly settled polyps of ten Caribbean coral species

- 17:00–17:15 **Yus, J.**, Noriega, J., Lovrich, E., Levenstein, M. A., Nixon, E., Quinlan, Z. A., Wegley Kelly, L., Bennett, M.-J., Vermeij, M. J. A., Marhaver, K. L., Espinosa-Marzal, R. M., Wagoner Johnson, A. J.
Promoting coral larval settlement using natural hydraulic lime substrates with inorganic additives.
- 17:15–17:30 **van der Steeg, E.**, Humanes, A., Bythell, J., Edwards, A., Miller, M., Guest, J.
Longer nursery duration improves growth and survivorship of coral juveniles: implications for selective breeding interventions
- 17:30–17:45 **Chavanich, S.**, Viyakarn, V., Lin, C., Fujita, T., Iwao, K., Omori, M.
Using sexual propagation technique to restore a resilient reef in Thailand: possibility for a larger scale ?
- 17:45–18:00 **Pilnick, A.**, O'Neil, K., Patterson, J.
Developing intensive aquaculture of the long-spined sea urchin *Diadema antillarum* as a tool for coral reef restoration
- 18:00–18:15 Levenstein, M. A., Tichy, L., Quinlan, Z. A., Tholen, H., Vermeij, M. J. A., Marhaver, K. L., **Wagoner Johnson, A. J.**
Coral Larvae Exhibit Material Composition- and Texture-Based Settlement Preferences



Salon Scharoun

- 16:15–17:45**
15F- How has mass coral bleaching changed through time and how is it expected to progress into the future: Tools, products, and analyses. / Can evolution rescue corals from the effects of climate change?
Chair: Cantin, N.
Eakin, M.
- 16:15–16:30 **Bay, L.**, Cresswell, A., Haller-Bull, V., Nielsen, J., Morris, L., Quigley, K., Ortiz, J.
A changing climate for coral reef management and adaptive restoration
- 16:30–16:45 **Bay, R.**, Guerrero, L.
Genomic basis of bleaching tolerance across the genus *Acropora*
- 16:45–17:00 **Rivera-Sosa, A.**, Fox, H., Bonelli, A. G., Muñiz-Castillo, A. I., Darling, E., Donner, S. D., Asner, G.
A global review of coral bleaching field surveys methods
- 17:00–17:15 **Eakin, C. M.**, Devotta, D. A., Connolly, S. R., Liu, G., Geiger, E. F., Heron, S. F., De La Cour, J. L., Skirving, W. J., Spady, B., Manzello, D. P.
How the Climate-Driven 2014-17 Global-Scale Coral Bleaching Event Became the Most Damaging Ever Recorded

17:15–17:30

Mellin, C., Brown, S., Heron, S., Fordham, D.

Global projections of risk of future coral bleaching from next-generation climate models

17:30–17:45

Lachs, L., Donner, S., Mumby, P., Gouezo, M., Bythell, J., East, H., Edwards, A., Golbuu, Y., Humanes, A., Guest, J.

Are thermal refugia safe-havens for coral reefs under mass bleaching

Wednesday, July 6, 2022

Salon Scharoun

14:50–17:45

1B- Lessons from the past: how do coral reefs respond to paleo-environmental and oceanographic changes over different spatio-temporal scales?

Chair:

Vila-Concejo, A.
Webster, J.

14:50–15:05

Islas-Domínguez, E., Blanchon, P., Medina-Valmaseda, A. E.

Fringing reef development at Mahahual, southeast Yucatan: testing the hurricane control hypothesis

15:05–15:20

Gischler, E., Hudson, H., Pisera, A., Stocchi, P., Eisenhauer, A.

The Belize barrier and atoll reefs revisited: new data on Holocene reef accretion and the impact of sea level, subsidence, and climate

15:20–15:35

Vila-Concejo, A., Hamylton, S., Webster, J., Duce, S., Fellowes, T.

Holocene sand apron development in the Southern Great Barrier Reef

15:35–15:50

Hallmann, N., Camoin, G., Eisenhauer, A., Samankassou, E., Vella, C., Botella, A., Milne, G. A., Fleury, J., Fietzke, J., Goepfert, T.

How did Mid-Late Holocene reefs respond to slow-rate, low-amplitude sea-level changes?

15:50–16:05

Yamazaki, A., Kobayashi, W., Garas, K., Watanabe, T.

The response of coral reef development to climate conditions on Holocene uplifted terraces in Kikai Island, Japan

16:30–16:45

Godbold, A., Hohmann, N., Jarochovska, E., Wolfgang, K., Bottjer, D. J.

Patch-reef development within rubble beds found in the Upper Triassic Dachstein platform of the Northern Calcareous Alps in Austria

16:45–17:00

Felis, T., Mudelsee, M.

Pacing of Red Sea deep water formation events during the last centuries from a coral oxygen isotope record

17:00–17:15

Portilho-Ramos, R., Titschack, J., Wienberg, C., Hebbeln, D.

Negligible effect of temperature changes on cold-water coral development over the last 20.000 years

17:15–17:30	Arndt, I. , Coenen, D., Fursman, M., Evans, D., Renema, W., Müller, W. 'My, how you've grown!' - quantifying environmentally driven growth rate changes in fossil giant clams using daily-resolved geochemistry
17:30–17:45	Brachert, T. , Corrège, T., Reuter, M., Wroczyn, C., Londeix, L., Perrin, C., Spreter, P. Calcification rates of reef corals from the Neogene and Quaternary (23 to 0 Ma) - why were they so low?
	Salon Danzig
14:50–18:15	2B- How can we use phylogenetic tools to better understand biodiversity, evolutionary patterns, and processes? Chair: Huang, D. Wörheide, G.
14:50–15:05	Gösser, F. , Mittelbach, P., Tollrian, R., Schweinsberg, M. Does a coral community fit in two liter water? An environmental DNA metabarcoding approach for the reefs of Koh Phangan, Thailand.
15:05–15:20	Daraghmeh, N. , Marasco, R., Aylagas, E., Pearman, J., Villalobos, R., Solà, J., Wild, C., Daffonchio, D., Carvalho, S. Combining DNA metabarcoding and co-occurrence network analysis to unravel bacterial-metazoan diversity and interactions in Red Sea coral reefs
15:20–15:35	Quek, R. , Jain, S., Arrigoni, R., Benzoni, F., Carvajal, J., Kitahara, M. V., Richards, Z., Rouse, G., Vaga, C., Wilson, N., Huang, D. Phylogenomics of stony corals via target enrichment
15:35–15:50	Hoeksema, B. , Cairns, S. World List of Scleractinia (WoRMS): the role of phylogeny reconstructions
15:50–16:05	Frade, P. , Goodbody-Gringley, G., Latijnhouwers, K., Hoey, J., Arrigoni, R., Benzoni, F., Muir, P., Bongaerts, P. Widespread introgressive hybridization in the Caribbean coral genus <i>Madracis</i>
16:30–16:45	Vimercati, S. , Terraneo, T. I., Arrigoni, R., Abdulla Eweida, A., Rodrigue, M., Benzoni, F. Diversity of the stony coral family Agariciidae from the Saudi Arabian Red Sea
16:45–17:00	Combosch, D. , Rios, K., Fernandez, J., Rios, D., Primov, K., Burdick, D. Barcoding and phylogenetic analyses of reef-building <i>Porites</i> corals in Micronesia

- 17:00–17:15 **Gómez-Corrales, M.**, Medina, M., Prada, C.
Coral cryptic lineages segregate across a depth cline on the Caribbean
- 17:15–17:30 **McFadden, C. S.**, Lane, A., Erickson, K., Benayahu, Y.
Molecular operational taxonomic units reveal biogeographic distributions and regional endemism in zooxanthellate soft corals
- 17:30–17:45 **Turnham, K.**, Wham, D., Sampayo, E., LaJeunesse, T.
High partner fidelity in coral-dinoflagellate mutualisms maintained for millions of years across the Indo-Pacific
- 17:45–18:00 **Parkinson, J.**, Hume, B., Baumgarten, S., Avila-Magana, V., Medina, M., Voolstra, C., LaJeunesse, T.
Genomic evidence for punctuated equilibrium as the mode of coral symbiont evolution
- 18:00–18:15 **Wörheide, G.**
Towards resolving the crown-of-thorns sea star (*Acanthaster 'planci'*) species complex, and a new species from the Red Sea

Salon Danzig

09:50–12:30

2E- What are the Patterns, Causes and Consequences of Intraspecific Variation in Marine Larval Dispersal and Population Connectivity?

Chair:

Berumen, M.

09:50–10:05

Townsend, A.

Island Scale Genetic Diversity and Connectivity of the Octocoral, *Heliopora coerulea* on Guam

10:05–10:20

Gordon, J., Wareham-Hayes, V., Rogers, A., Howell, K., Taylor, M.

Population structure of deep-sea octocoral *Acanella arbuscula* (Isididae) across the North Atlantic, using SNPs generated from UCE sequencing

10:20–10:35

Rodriguez Moreno, M., López Victoria, M., Zapata, F. A., Bernardi, G., Salas, E., Feldheim, K., Devloo-Delva, F., Maes, G., Van Herwerden, L.

Genetic structure and connectivity of an island endemic reef fish in the Eastern Tropical Pacific Marine Corridor

11:00–11:15

Torrado, H., Primov, K., Rios, D., Combosch, D.

Intra- and interspecific comparisons of population connectivity and population structure of corals around Guam

11:15–11:30	Kochzius, M. , Benjamin, D. M., De Pauw, A., Dissanayake, K., Hui, M., Huyghe, F., Ng'endo Ikinya, W. A., Nuryanto, A., Otwoma, L., Ratsimbazafy, H. A., van der Ven, R., Van Nieuwenhove, A. Connectivity of Indian Ocean coral reefs
11:30–11:45	Kawahigashi, K. Reproductive behavior of <i>Gomphosus varius</i> (Labridae) in relation to current patterns at a spawning aggregation site: Implications for larval dispersal
11:45–12:00	Limer, B. , Bloomberg, J., Holstein, D. The influence of eddies on coral larval retention in the Flower Garden Banks
12:00–12:15	Ong, J. H. , Tay, Y. C., Quek, R., Afiq-Rosli, L., Chang, J. J. M., Pwa, K. H. V., Chan, W. W. R., Huang, D. Spatial conservation prioritisation based on coral reef genetic connectivity in an urbanised seascape
12:15–12:30	Harrison, H. , Bode, M., Williamson, D., Berumen, M., Jones, G. A connectivity portfolio effect stabilizes marine reserve performance



Kaisen Saal

09:50–16:05

Chair:

3A- Open Session: Ecosystem functions and services

Haas, A.
Wild, C.
Woodhead, A.

09:50–10:05	Alvarez-Filip, L. , González-Barrios, F. J., Pérez-Cervantes, E., Molina-Hernandez, A., Estrada-Saldívar, N. An emerging coral disease outbreak decimated Caribbean coral populations and reshaped reef functionality
10:05–10:20	Pellowe, K. E. , Lade, S. J. Reef ecosystem service bundles reveal priority areas for marine conservation
10:20–10:35	Budd, K. , Brandt, M., Sikkil, P., Nemeth, R. Impacts of stony coral tissue loss disease (SCTLD) on the persistence of a keystone reef fish species
11:00–11:15	Briand, J. , Guzman, H., Sunday, J. Understanding the drivers of functional trait diversity and composition change on the Bocas del Toro coral reefs

11:15–11:30	Madin, J. The functional geometry of coral reefs
11:30–11:45	Tietbohl, M., Berumen, M. Multi-method insights into the feeding ecology of browsing herbivorous reef fishes
11:45–12:00	Chow, C., Bolton, C., Boutros, N., Brambilla, V., Fontoura, L., Hoey, A., Madin, J., Pizarro, O., Torres-Pulliza, D., Woods, R., Zawada, K., Barbosa, M., Dornelas, M. Coral settlement and recruitment relationships with reef fish foraging and trait diversity
12:00–12:15	McAndrews, R., Bejarano, S., Ferse, S. Functional vulnerability on Fijian coral reefs: a trait-based assessment the impact of spearfishing selectivity on herbivory and sediment removal
12:15–12:30	Brandl, S. Ecosystem functioning on coral reefs: cryptobenthic fishes, context-dependency, and shifting baselines
14:50–15:05	Dunne, A., Coker, D., Tietbohl, M., Ellis, J., Berumen, M., Jones, B. Macroalgae habitats as a subsidy of fish and nutrition for coral reefs
15:05–15:20	Sandin, S. A., 100 Island Challenge team Successional ecology on coral reefs - perspectives from across the tropics
15:20–15:35	McLean, M., MacNeil, A., Mouquet, N., Langlois, J., Arif, S., Loiseau, N., Guilhaumon, F., Mouillot, D. Modelling the drivers and futures of coral reef ecosystem services
15:35–15:50	Seguin, R., Mouillot, D., Cinner, J., Stuart-Smith, R., Maire, E., Graham, N., McLean, M., Laurent, V., Loiseau, N. Towards a productivity-based management of tropical reefs in the Anthropocene
15:50–16:05	Spalding, M., Burke, L. Understanding the distribution of coral reef values globally



Kaisen Saal

16:30–17:00

3E- How will ecosystem services from coral reefs change?

Chair:

Woodhead, A.

16:30–16:45 **Woodhead, A.**, Graham, N., Robinson, J., Norstrom, A., Bodin, N., Marie, S., Balett, M.-C., Hicks, C.

Fishers perceptions of ecosystem service change associated with climate-disturbed coral reefs

16:45–17:00 **Carlot, J.**, Vousdoukas, M., Rovere, A., Lenihan, H. S., Kayal, M., Karambas, T., Adjero, M., Harris, D., Hedouin, L., Parravicini, V.

Coral structural complexity loss highly threatens the coastline



Borgward Saal

09:50–18:15

4A- Open Session: Microbial ecology, holobionts and model organisms

Chair: Schupp, P.
Voolstra, C.

09:50–10:05 **Renicke, C.**, Cleves, P. A., Ling, L., Paul, M. R., Swinhoe, N., Mason, B., Pringle, J. R.

Teaching an old sea anemone new tricks: Genetic tools to exploit the potential of Aiptasia to study core aspects of cnidarian-dinoflagellate symbioses

10:05–10:20 **Wegley Kelly, L.**, Nelson, C., Haas, A.

Metabolic functions of microbes in coral reef waters

10:20–10:35 **Mueller, B.**, Arts, M. G., Haas, A. F., Achlatis, M., van der Zande, R. M., Busch, K., Hentschel, U., de Goeij, J. M.

Friend or Foe? – Do sponge holobionts promote or buffer against the microbialization of reefs?

11:00–11:15 **Wuitchik, D.**, Aichelmann, H., Atherton, K., Kriefall, N., Tremonte, C., Davies, S.

Symbiotic state influences the transcriptional responses to thermal extremes in facultatively symbiotic corals

11:15–11:30 **Menzies, J.**, Konciute, M., Moret, A., Cui, G., Pernice, M., Aranda, M.

Inhibition of uric acid synthesis alters the state of the Cnidarian-Alga Symbiosis

11:30–11:45 **Krediet, C.**, MacVittie, S., Cuyler, E., Rose, B., Hall, E.

Using a model anemone to study holobiont-level responses to thermal and pH stress

11:45–12:00 **Rubio-Portillo, E.**, Martin-Cuadrado, A. B., Rohwer, F., Antón, J.

Virulence as a side effect of interspecies interaction in *Vibrio* coral pathogens

12:00–12:15 **Walker, B.**, Aeby, G., Baker, A., Garg, N., Hawthorne, A., Meyer, J., Neely, K., Paul, V., Traylor-Knowles, N., Voss, J., Williams, G., Woodley, C., Work, T.

The stony coral tissue loss disease resistance research consortium: a holistic approach to understanding disease resistance in *Orbicella faveolata*

12:15–12:30

Baker, D., McIlroy, S., Wong, J.

Microbial ecology, holobionts and model organisms

14:50–15:05

Buckley, S., Walker, B., Dennison, C., Baker, A.

Spatiotemporal mapping of *Orbicella faveolata* algal symbiont communities and their associations with SCTLD susceptibility

15:05–15:20

Coy, S., Utama, B., Deshmukh, H., Lévesque, A., Zeigler Allen, L., Nagasaki, K., Spurlin, J., Kiryu, Y., Perry, N., Kim, J., Lwigale, P., Work, T., MS Correa, A.

Visualization of viral biomarkers in Symbiodiniaceae associated with stony coral tissue loss disease-affected and apparently healthy corals

15:20–15:35

Bonacolta, A., del Campo, J.

Beyond the zooxanthellae, a multifaceted approach to explore coral associated microeukaryotes

15:35–15:50

Schmidt, C., Stühr, M., Raposo, D., Pochon, X., Davy, S.

Menthol-induced bleaching as a tool for rearing aposymbiotic foraminifera for symbiosis investigations

15:50–16:05

Cauvin, A., Carne, L., Marhaver, K., Vermeij, M., Locatelli, N., Baums, I., Paul, V. J., Meyer, J. L.

Microbiome of the pillar coral *Dendrogyra cylindrus* is predominantly composed of unclassified and endosymbiotic bacteria

16:30–16:45

Bestrom, N., Apprill, A., Trotz, M., Brandt, M.

Evaluating the impacts of water quality on disease in the endangered coral species, *Acropora palmata*, in the U.S. Virgin Islands

16:45–17:00

Higazy, N., Aeby, G., Beji, M., Range, P., Goergen, E., Padierna, M., Saadaoui, I., Eltai, N., Ben Hamadou, R.

Spatial and Seasonal Microbiome Dynamics and Associated Antibacterial Activity in the Scleractinian Coral, *Platygyra daedalea*, in the Arabian Gulf

17:00–17:15

Klinges, J. G., Koch, H., Baker, L., Bartels, E., Vega Thurber, R., Muller, E.

Characterizing the acquisition of *Aquarickettsia rohweri*, a common bacterial parasite of Caribbean *Acropora*, from conspecifics and the environment

17:15–17:30

Hochart, C., Paolis, L., Ruscheweyh, H.-J., Forcioli, D., Tara Pacific Consortium and Tara Pacific Coordinators, Sunagawa, S., Galand, P.

Cross Pacific ecogenomics of the main coral bacterial symbiont *Endozoicomonadaceae*

17:30–17:45

Ruggeri, M., Bedgood, S., Machuca, C., Kenkel, C.

Population genetics and symbiont specificity of the cnidarian-algal model, *Exaiptasia diaphana*

17:45–18:00

McCauley, M., Goulet, T. L., Chiarello, M., Jackson, C. R., Loesgen, S.

A systematic meta-analysis of Cnidarian microbiomes reveals insights into the structure, specificity, and fidelity of marine associations.

18:00–18:15

Nadir, E., Lotan, T., Benayahu, Y.

***Xenia umbellata* (Octocorallia) is a new model organism for studying coral regeneration**



Salon Scharoun

09:50–12:30

5A- Open Session: Cold-water and temperate reefs

Chair:

Richter, C.

09:50–10:05

Ben-ayad, H., Buhl-Mortensen, L., Houssa, R., Rhinane, H., Djimera, L., Mohamed Moctar, S. M.

Lophelia-reefs and mounds off Morocco and Mauritania: Habitats, associated fauna and health status

10:05–10:20

Buhl-Mortensen, L., Chierici, M., Houssa, R., Cervantes, D., Mahu, E., Nyadjro, E., Idrissi, M., M'bengue, B., Dia, A., Olsen, M., Mas, C.

Coral-reefs off North and West Africa – Environmental settings

10:20–10:35

Hulver, A. M., Carbonne, C., Teixido, N., Comeau, S., Gattuso, J.-P., Grottoli, A.

Acclimation potential of Mediterranean corals to pH levels expected later this century

11:00–11:15

Hicks, T., Shamberger, K., Roark, E. B., Baco-Taylor, A., Miller, K.

Characterizing the Seawater Biogeochemistry of Deep-Sea Coral Reefs Across the Hawaiian-Emperor Seamount Chain

11:15–11:30

Beck, K. K., Schmidt-Grieb, G. M., Held, C., Nehrke, G., Steinhofel, G., Laudien, J., Richter, C., Wall, M.

Ontogenetic differences in the response of the cold-water coral *Caryophyllia huiyensis* to ocean acidification, warming and food availability

11:30–11:45

Wall, M., Beck, K., Garcia-Herrera, N., Schmidt-Grieb, G. M., Laudien, J., Höfer, J., Försterra, G., Woll, M., Graeve, M., Richter, C.

Trophic ecology and energetic trade-offs revealed by lipid biomarkers in contrasting phenotypes of the cold-water coral *Desmophyllum dianthus*

11:45–12:00

Laudien, J., Abele, D., Meyer, S., Castrillón-Cifuentes, A. L., Försterra, G., Häussermann, V., Richter, C.

**The effect of oxygen- and sulphide-stress on the cold-water coral
*Desmophyllum dianthus***

12:00–12:15

Fifer, J., Candelario, K., Gan, Y., Huzar, A., Aichelman, H., Epps, A., Osterberg, J., Ahuja, V., Bussiere, G., Feng, J., Karadimitriou, N., Bahr, K., Baums, I., McAlister, J., Rotjan, R., Davies, S.

Investigating connectivity and thermal tolerance across the extensive range of the temperate coral *Astrangia poculata*

12:15–12:30

Moctar, S., **Buhl-Mortensen, L.**, El Vadhel, H., Kide, S., Kutti, T., Sarre, A., Chierici, M., Niang, M., Johansen, Y., Cervantes, D., Mas, C.

Cold-water coral reefs in the Mauritania/Senegal region



Salon Scharoun

12:30–12:45

5B- What is the different impact of climate change in temperate reefs relative to tropical regions?

Chair:

Teixido, N.

12:30–12:45

Godefroid, M., Hédouin, L., Bo, M., Bramanti, L., Consortium, U. T. P., Danis, B., Gouveia, A., Guillaumot, C., Mercière, A., Otero-Ferrer, F., Romans, P., Thoma, M., Zeimes, T., Dubois, P.

Tropical black corals have higher thermal sensitivity than temperate ones



Saal Lloyd

09:50–11:45

7B- How can autonomous data-driven robotics be used to improve cost effectiveness and spatial/temporal scaling of reef assessments?

Chair:

Dempsey, A.

09:50–10:05

Jamieson, S., Becker, C., Apprill, A., Mooney, A., Girdhar, Y.

Rapid and Comprehensive Coral Reef Monitoring through Autonomous Underwater Vehicles and Semantic Mapping of the Reef Benthos

10:05–10:20

Suan, A., Franceschini, S., Madin, E.

Machine learning and UAS remote sensing: using novel technologies for rapid classification and monitoring of coral reefs structure

10:20–10:35

Franceschini, S., Meier, A., Suan, A., Stokes, K., Roy, S., Madin, E.

An object detection model for global identification of reef halos using high-resolution satellite imagery

11:00–11:15

Pavoni, G., Corsini, M., Pedersen, N., Edwards, C., Sandin, S., Cignoni, P.

Using TagLab, a semi-automatic annotation tool for fast and accurate analysis of benthic species

11:15–11:30

Bruggemann, J. H., Ducretet, M., Guilhaumon, F., Cagnato, M., Amy, M., Guillerault, N., Vigliola, L., Elise, S.

Automated quantification of parrotfish grazing function using acoustic monitoring

11:30–11:45

Parsons, M., Lin, T.-H., Mooney, A., Erbe, C., Juanes, F., Lammers, M., Li, S., Linke, S., Looby, A., Nedelec, S., Van Opzeeland, I., Radford, C., Rice, A., Sayigh, L., Stanley, J., Urban, E., Di Iorio, L.

GLUBS - A Global Library of Underwater Biological Sound



Saal Lloyd

11:45–18:15

7G- What can we learn about the biology of coral reef organisms from 'omics-based analyses?

Chair:

Baums, I.
Voolstra, C.

11:45–12:00

Voolstra, C. R., Barshis, D. J., Valenzuela, J. J., Baliga, N., Bay, L., Baums, I. B.

Global Search: Elucidating signatures of thermal tolerance for conservation of coral reefs using short-term standardized heat stress assays (CBASS)

12:00–12:15

Conn, T., Baums, I.

Patterns of Somatic Mutation Accumulation in *Acropora palmata*

12:15–12:30

Nagarajan, A. P., Salazar, O. R., Lastra, M. A.

New high-quality genomes and full-length transcripts of *Aiptasia* to benefit the coral community

14:50–15:05

Chiles, E., Bhattacharya, D., Su, X.

Identifying heat stress correlated metabolites in reef building corals using polar LCMS based metabolomics

15:05–15:20

Aichelman, H., Wuitchik, D., Huzar, A., Atherton, K., Kriefall, N., Davies, S.

Do facultative coral hosts buffer their symbionts in response to thermal extremes?

15:20–15:35

Krueger, T., Barylyuk, K., Lilley, K., Knowles, H., Atatüre, M., Sweet, M., Waller, R.

From lists to function - Spatial proteomics as a tool to map the protein cellular landscape of Symbiodiniaceae

- 15:35–15:50 **Oakley, C. A.**, Nitschke, M., Camp, E., Kahlke, T., Ros, M., Leggat, B., Davy, S., Suggett, D.
Multi-omic gene expression under thermal stress in three symbiont genera: identifying the core bleaching response
- 15:50–16:05 **Salazar, O. R.**, Prasanna N., A., Cui, G., Bay, L. K., van Oppen, M. J. H., Webster, N. S., Aranda, M.
The coral *Acropora loripes* genome reveals an alternative pathway for cysteine biosynthesis in animals
- 16:30–16:45 **Lock, C.**, Bentlage, B., Raymundo, L.
Calcium homeostasis disruption initiates rapid growth after micro-fragmentation in the scleractinian coral *Porites lobata*
- 16:45–17:00 **Chille, E.**, Misri, D., Stephens, T., Strand, E., Putnam, H., Bhattacharya, D.
Gene expression analysis of triploid and diploid cauliflower coral (*Pocillopora acuta*) reveals signals of natural selection on polyploid lineages
- 17:00–17:15 **Jaafar, S. N.**, Maznan, N. A., Chun Hong, T.
Oxidative stress and protein changes: Understanding cellular response mechanism in *Scleractinian coral Acropora digitifera*
- 17:15–17:30 **Rubin, E.**, Ushijima, B., Abey, G., Hase, C., Paul, V., Meyer, J.
Metagenomic analysis of bacterial microbiomes associated with SCTLD lesions from *Montastraea cavernosa*
- 17:30–17:45 **Cui, G.**, Konciute, M., Ling, L., Esau, L., Raina, J.-B., Han, B., Salazar, O., Persnell, J., Rädcker, N., Zhong, H., Menzies, J., Cleves, P., Liew, Y. J., Krediet, C., Lapacek, V., Czesielski, M., Guagliardo, P., Bougoure, J., Pernice, M., Hirt, H., Voolstra, C., Weis, V., Pringle, J., Aranda, M.
A sea anemone cell atlas illuminates the molecular mechanisms underlying Darwin's paradox
- 17:45–18:00 **Mohamed, A.**, Ochsenkühn, M., Abrego, D., Amin, S. A.
Rhodobacteraceae dominate the microbiome and metabolism of corals infected with white syndrome
- 18:00–18:15 **Schmeltzer, E.**, Gaulke, C., Thurber, A., Correa, A., Sharpton, T., Vega Thurber, R.
Spatiotemporal variability of coral virus communities in Moorea French Polynesia with comparison of 5 high-throughput metagenomic preparation methods

Kaisen Saal

17:00–17:45

9C- How will anthropogenic stressors influence the roles of consumer-derived nutrients on coral reefs?

Chair:

Schiettekatte, N.

17:00–17:15

Schiettekatte, N.

The role of fish feces in coral reef nutrient-cycling

17:15–17:30

Munsterman, K., Hesselbarth, M., Allgeier, J.

Estimating the effects of inter- and intraspecific variation in consumer behavior on primary production

17:30–17:45

Benkwitt, C., Wilson, S., Graham, N.

Influence of seabird nutrient subsidies on coral reef biodiversity, ecosystem function, and resilience

Salon London

16:30–18:15

9D- Is ocean deoxygenation a key factor regulating global decline of coral reefs?

Chair:

Altieri, A.
Correa, A.
Johnson, M.
Kuhl, M.

16:30–16:45

Johnson, M., Swaminathan, S., Nixon, E., Paul, V., Altieri, A.

Reef-building corals exhibit high tolerance to severe deoxygenation

16:45–17:00

Altieri, A., Johnson, M., Lucey, N., Leray, M., Scott, J., Rodriguez, L., Wied, W.

Coral bleaching and microbial shifts during a hypoxic event on a Caribbean coral reef

17:00–17:15

Strehlow, B., Schuster, A., Eckford-Soper, L., McAllen, R., Francis, W., Canfield, D.

Understanding anoxic tolerance in marine sponges and their symbiotic microbes

17:15–17:30

Howard, R., Schul, M., Rodriguez Bravo, L., Altieri, A., Meyer, J.

Shifts in the coral microbiome in response to *in situ* experimental deoxygenation

17:30–17:45

Silveira, C., Rohwer, F.

Effects of hypoxia on phage-bacteria-coral symbioses

17:45–18:00

Swaminathan, S. D., Johnson, M., Meyer, J., Paul, V., Altieri, A.

Resilience of the *Acropora cervicornis* microbiome to hypoxia and host physiological stress

18:00–18:15

Pontes, E., Langdon, C.

Hypoxia tolerance assessment of multiple scleractinian species through the calculation of Critical Oxygen Partial Pressure (PO₂ crit)



Salon London

14:50–16:05

9G- Thinking outside the reef: how do open-ocean processes influence coral reefs now and in the future?

Chair:

Davis, K.
Shamberger, K.

14:50–15:05

Davis, K., Reid, E.

Internal wave influence from the forereef to the backreef.

15:05–15:20

Wyatt, A., Leichter, J., Toth, L., Miyajima, T., Aronson, R., Nagata, T.

The interacting roles of mesoscale dynamics and internal waves in coral reef thermal refuges

15:20–15:35

Palacios-Narvaez, S., Villalobos, R., Kalampokis, A., Carvalho, S., Jones, B. H.

Sea surface temperature variability between 2014-2019 in the Red Sea during the third massive coral-bleaching event based on *in situ* temperature data.

15:35–15:50

Fox, M., Guillaume-Castel, R., Edwards, C., Glanz, J., Gove, J., Green, M., Juhlin, E., Smith, J., Williams, G.

Ocean currents magnify upwelling and deliver pelagic subsidies to reef-building corals during El Niño heatwaves

15:50–16:05

Skinner, C., Mill, A. C., Fox, M. D., Newman, S. P., Zhu, Y., Kuhl, A., Polunin, N. V.

Offshore pelagic subsidies dominate carbon inputs to coral reef predators

Kaisen Saal

17:45–18:00

9J- What do we know about cyclone impacts on reefs and how can it help target where to take conservation action?

Chair: Gonzalez Rivero, M.
Madin, J.
Puotinen, M.

17:45–18:00

Puotinen, M.

How well can we predict where cyclone waves harm and help coral reefs: now and in a warming climate?

Salon London

09:50–12:45

9K- Beyond single-species experiments: how do marine populations, communities, and ecosystems respond to global change? / How do organismal responses scale to ecosystem processes?

Chair: Doo, S.
Silbiger, N.

09:50–10:05

Swain, T., Lax, S., Gilbert, J., Backman, V., Marcelino, L.

Phylogeny-informed analysis of coral-Symbiodiniaceae interaction networks to assess bleaching-susceptibility and symbiont thermotolerance

10:05–10:20

Gonzalez, R., **Barrios, L. M.**, Navas-S, G. R.

Effects of ocean acidification on bleaching, survival, and calcification of *Porites porites* and *P. astreoides* near Cartagena, Colombia

10:20–10:35

Casey, J. M., Parravicini, V.

Assembling a comprehensive coral reef food web to model trophic interactions in a changing world

11:00–11:15

Kerlin, J., Barnas, D., Silbiger, N.

Effects of submarine groundwater discharge and coral-coral interactions on common coral species, *Porites rus*

11:15–11:30

Jorissen, H., Zeff, M., Barnas, D., Kerlin, J. R., McClintock, R., Donahue, M. J., Nelson, C. E., Silbiger, N.

Influence of submarine groundwater discharge on the physiology, community composition and microbial diversity of early successional reef communities

- 11:30–11:45 **Plazas Gomez, R. A.**, Fujitani, M.
Effect of wastewater and water quality changes on the functional structure of reef fish assemblages: a systematic review and meta-analysis
- 11:45–12:00 **Doo, S. S.**, Edmunds, P., Carpenter, R.
Temporal scaling of coral reef community metabolism under ocean acidification scenarios
- 12:00–12:15 **Lange, I. D.**, Perry, C. T., Stühr, M.
Collapse and early recovery of reef community structure and carbonate production following mass coral bleaching in the Chagos Archipelago
- 12:15–12:30 **Bakker, A.**, Purkis, S., Gleason, A., Dempsey, A., Faisal, M.
Modelling and Mapping Local-to-Regional Scale Coral Reef Health and Resilience in the South Pacific
- 12:30–12:45 **Schönberg, C.**, Tribollet, A., Wisshak, M., Carreiro-Silva, M., Hei Fang, J. K.
Coral reef monitoring, management and restoration: unless both sides of the carbonate budget are understood, we fly (dive) blind and risk failure

Salon Focke-Wolf

09:50–18:15

10E- What phenotype, genotype, and environmental factors underlie coral vulnerability and resilience to thermal stress and bleaching?

Chair:

Grottoli, A.
Hulver, A. M.

09:50–10:05

Grottoli, A., Vega Thurber, R., van Woesik, R., Toonen, R., Warner, M., McLachlan, R., Schmeltzer, E., Price, J., Dobson, K., Bahr, K., Barott, K., Barshis, D., Baums, I., Baumann, J., Castillo, K., Chapron, L., Coffroth, M. A., Combosch, D., Cuning, R., Correa, A., DeCarlo, T., Donahue, M., Felis, T., Ferrier-Pagès, C., Hagedorn, M., Hedouin, L., Hench, J., Hoadley, K., Iglesias-Prieto, R., Kemp, D., Kenkel, C., Kline, D., Kuffner, I., Matthews, J., Mayfield, A., Medina, M., Meyer, C., Oster, C., Padilla-Gamino, J., Palumbi, S., Putnam, H., Sawall, Y., Voolstra, C., Weis, V., Wu, H.

Increasing comparability among coral bleaching experiments and maximizing sample utility across studies

10:05–10:20

Rodrigues, L. J., Jaffe, M., Brown, T., Kreitman, G., Padilla-Gamino, J.

Allocation of carbon and nitrogen for egg development in two coral species after natural and experimental bleaching events

10:20–10:35

Bouwmeester, J., Daly, J., Zuchowicz, N., Lager, C., Henley, E. M., Quinn, M., Hagedorn, M.

Coral spawning and reproductive physiology in a changing climate: the role of temperature, photosynthetic active radiation, and ultraviolet radiation

- 11:00–11:15 **Harris, C.**, Bean, N., Baker, A., Gates, R., Drury, C.
Stable symbiont communities persist in parents, gametes, and larvae of *Montipora capitata* across historical bleaching phenotypes
- 11:15–11:30 **Backstrom, C.**, Brown, T., Rodrigues, L., Padilla-Gamiño, J.
Tracking heavy metals in tissue, skeleton, and gametes during bleaching stress and recovery in the Hawaiian reef building coral *Montipora capitata*
- 11:30–11:45 **Conti-Jerpe, I.**, Thompson, P., Wong, C. W. M., Oliveira, N., Duprey, N., Moynihan, M., Baker, D.
The tradeoffs of niche partitioning across nutritional symbioses
- 11:45–12:00 **Fujimura, A.**, Mitarai, S.
Enhanced hydrogen peroxide flux in corals by high water flow mitigating coral bleaching
- 12:00–12:15 **Osborne, C. C.**, Fogarty, N. D., Baums, I. B.
Gene expression analyses indicate hybrid vigor in the Caribbean *Acropora* hybrid “*Acropora prolifera*”
- 12:15–12:30 **Klepac, C.**, Petrik, C., Muller, E.
Phenotypic and genotypic responses of restoration *Acropora cervicornis* under long-term and rapid thermal stress
- 14:50–15:05 **Al-Mutairi, Y.**, Langdon, C.
Genotypic variability within Staghorn coral, *Acropora cervicornis*, under combined thermal and UVR Stress on coral survival
- 15:05–15:20 **Dilworth, J.**, Million, W., Ruggeri, M., Hall, E. R., Dungan, A., Muller, E., Kenkel, C. D.
Transcriptomic Signatures of Physiological Response to Climate Change Stressors in a Threatened Coral
- 15:20–15:35 **Jung, E. M. U.**, Stat, M., Thomas, L., Koziol, A., Schoepf, V.
Bleaching resilience and recovery capacity of northwest Australian coral reefs - the role of coral host and symbionts
- 15:35–15:50 **Keister, E.**, Warner, M., LaJeunesse, T., Fitt, W., Kemp, D.
Resilience mechanisms of coral populations in thermally fluctuating reef environments in Palau and the Florida Keys
- 15:50–16:05 **Page, C.**, Leggat, B., Heron, S., Fordyce, A., Ainsworth, T.
Resilience from the physical environment: high flow conditions mitigate the onset of physiological stress in corals exposed to bleaching temperatures

- 16:30–16:45 **Blanco Pimentel, M.**, Calle Triviño, J., Cortés Useche, C., Galvan, V., Harms, E., Morikawa, M.
Iberostar Climate Change Simulator: Defining bleaching thresholds of Caribbean corals for resilient reef restoration in the private sector
- 16:45–17:00 **Karp, R.**, Dennison, C., Wen, A., Cunning, R., Baker, A.
Testing the relative ability of twelve Caribbean coral species to shuffle symbionts following bleaching in a controlled experiment
- 17:00–17:15 **Wen, A.**, Karp, R., Yeager, E., Dennison, C., Baker, A.
Assessing change in thermotolerance following manipulation of algal symbiont communities (Family Symbiodiniaceae) in five species of Caribbean coral
- 17:15–17:30 **Rocha de Souza, M.**, Bruce, J., Conklin, E., Cros, A., Drury, C., Jury, C., Toonen, R.
Investigating the contribution of symbiont community on coral holobiont performance under long-term experimental warming and acidification
- 17:30–17:45 **Nielsen, J.**, Quigley, K., Cooke, I., Strugnell, J., Suggett, D., Bay, L.
Effects of symbiont community and environmental history on acute heat tolerance in two common coral species across the Great Barrier Reef
- 17:45–18:00 **Galindo-Martínez, C. T.**, Weber, M., Avila-Magaña, V., Enríquez, S., Kitano, H., Medina, M., Iglesias-Prieto, R.
The role of the endolithic alga during coral bleaching recovery.
- 18:00–18:15 **Roger, L.**, Russo, J., Jinkerson, R. E., Giraldo, J.-P., Lewinski, N. A.
Nanoceria alleviates thermally-induced oxidative stress in Symbiodiniaceae (*Breviolum minutum*)

09:50–11:45

13C- Creating coral reefs waiting: Can we harness heterogeneity in phenotypic-stress response to optimize coral reef restoration?/ How can we leverage advances in evolutionary ecology to maximize adaptive potential of restored coral populations?

Chair:

Baums, I.
Davies, S.
Kleypas, J.
Kuffner, I. B.
Parkinson, J.
Rodrigues, L. J.

09:50–10:05

Nietzer, S., Moeller, M., Hume, B., Voolstra, C., Schupp, P.

Symbiotic flexibility in early life stages of corals could allow rapid adaptation to a warming climate: a promising tool for reef restoration

10:05–10:20

Eaton, K., Banister, R., Klepac, C., Petrik, C., Hall, E., Muller, E.

Exposing *Orbicella faveolata* to projected ocean conditions and disease suggests genetic diversity is critical for resilient-reef restoration

10:20–10:35

Kiel, P., Formel, N., Jankulak, M., Baker, A., Cuning, R., Gilliam, D., Kenkel, C., Langdon, C., Lirman, D., Lustic, C., Maxwell, K., Moulding, A., Moura, A., Muller, E., Schopmeyer, S., Winters, S., Enochs, I.

***Acropora cervicornis* Data Coordination Hub, an open-access tool for aligning datasets and evaluating genotype-specific performance**

11:00–11:15

Johnson-Sapp, K., Wen, A. D. E., Yeager, E., Karp, R. F., Bremer, R., O'Banion, J., Mendoza-Routt, B., D'Alessandro, M., Bartels, E., Hanson, G., Moura, A., Reckenbeil, B., Lirman, D., Muller, E., Gilliam, D., Levy, J., Maxwell, K., Moulding, A., Cuning, R., Baker, A. C.

Exploiting Local Variation in Thermal Tolerance to Trial Managed Relocation of Corals and Build Climate Resilience in SE Florida

11:15–11:30

Kuffner, I., Kaufman, L., Baums, I., Grottoli, A., Kleypas, J., Banaszak, A.

Coral-reef restoration and *Kintsugi*, the art of repairing cracked pottery

11:30–11:45

Chapron, L., Kuffner, I., Stathakopoulos, A., Bartlett, L., Lyons, E., Grottoli, A. G.

Biological processes impacting the persistence of the threatened *Acropora palmata* coral in Dry Tortugas National Park

Hanse Saal - live

14:50–18:30

13G- What methods and techniques can scale-up coral reef restoration?

Chair:

Bayraktarov, E.
Vardi, T.
Kube, N.

14:50–15:05

Miller, M., McGonigle, M., Haus, B., Severati, A., Rojas, C., Nguyen, M., Bickel, A.

Toward improved retention of unattached coral seeding units

15:05–15:20

Hughes, K., Caruso, C., Hancock, J., Drury, C.

The Value of Integrating Community Groups into *Restore with Resilience* Efforts

15:20–15:35

Simpson, S., Lamont, T., Nedelec, S., McCormick, M., Meekan, M., Radford, A.

Choral reef conservation: Turning bioacoustics knowledge into practical solutions to protect, monitor and restore reef communities

15:35–15:50

Griffin, S., Nemeth, M., Rodriguez, P., Irizarry, E., Flynn, K., Ruiz, H.

Turning Restoration Sites into Nurseries Using Cuttings from Outplants to Exponentially Increase the Restoration Footprint and the Number of Corals

15:50–16:05

McGonigle, M., Bickel, A., Petersen, D.

Cost-Efficiency and Scalability of Larval Propagation Technologies through Engineering

16:30–16:45

Unsworth, J., Hesley, D., D'Alessandro, M., Carrick, J., Kaufman, M., Rivas, N., Lirman, D.

Novel methods to increase scalability and foster colony development of restored *Acropora cervicornis*

16:45–17:00

Merck, D., Petrik, C., Manfroy, A., Muller, E.

Increasing exsitu coral nursery productivity by optimizing seawater temperature

17:00–17:15

Hauser, C., Bilalis, P., Albalawi, H., Khan, Z., Valle-Pérez, A., Alrashoudi, A., Ponce de León, E. H.

3D Printing and Fabrication for Sustainable and Eco-Friendly Coral Restoration

17:15–17:30

Ricardo, G., Doropoulos, C., Babcock, R., Mumby, P.

Is fertilisation success of small outplanted coral patches even achievable? Density-dependent effects of fecund adult colonies on coral reproduction.

17:30–17:45

Röpke, L. K., Brefeld, D., Soltmann, U., Randall, C. J., Negri, A. P., Kunzmann, A.

Antifouling coatings can reduce algal growth in coral aquaculture

17:45–18:00	Fujiwara, S. , Kezuka, D., Hagiwara, K., Ishimori, H., Tabata, H. Effect of substratum structural complexity of coral seedlings on the settlement and post-settlement survivorship of coral settlers
18:00–18:15	Oren, A. Printing 3D coral models that fish like
18:15–18:30	Bayraktarov, E. , Saunders, M., Frias-Torres, S. Motivations, success, and cost of coral reef restoration



Hanse Saal - live

11:45–12:45	13H- Can coral climate resilience be enhanced via assisted evolution? Chair: Aranda, M. Guest, J.
11:45–12:00	Guest, J. , Humanes, A., Bythell, J., Edwards, A., Palmowski, P., Lachs, L., Wass, E., van der Steeg, E., Golbuu, Y., Martinez, H. Can novel conservation interventions help coral reefs survive the climate crisis?
12:00–12:15	Humanes, A. , van der Steeg, E., Martinez, H., Lachs, L., Golbuu, Y., Bythell, J., Edwards, A., Guest, J. Within population selective breeding in <i>Acropora digitifera</i>: evidence for heat tolerance maternal effects on early life history stages
12:15–12:30	Cantin, N. , Stephenson, S., Drury, C., Majerova, E., Roper, C., van Oppen, M. Pre-conditioning three generations of <i>Pocillopora acuta</i> to explore mechanisms underpinning coral acclimation to climate change stress
12:30–12:45	Scharfenstein, H. , Alvarez-Roa, C., Peplow, L., Buerger, P., Yan Chan, W., van Oppen, M. Expanding the suite of heat-evolved Symbiodiniaceae through experimental evolution under increased temperatures

Thursday, July 7, 2022



Salon London

16:15–17:00

1A- Open Session: Reef environments and climate of the past

Chair:

DeLong, K.
Felis, T.
Godbold, A.

16:15–16:30

Anagnostou, E., Corbera, G., Lo Iacono, C., Standish, C., Foster, G., Frank, M.

Are there nutrient thresholds for cold water coral proliferation?

16:30–16:45

Fursman, M., Warter, V., Janse, M., Renema, W., Spötl, C., Evans, D., Arndt, I., Müller, W.

***Tridacna* sclerochemistry at daily resolution from a controlled aquarium environment– records of habitat change, induced seasonality and growth effects**

16:45–17:00

Maxwell, K., Westphal, H., Rovere, A., Guinto, M., Garas, K.

Emergent coral reef terraces in west Luzon, Philippines as paleo sea-level indicators since the Plio-Pleistocene



Borgward Saal

14:50–15:50

2B- How can we use phylogenetic tools to better understand biodiversity, evolutionary patterns, and processes?

Chair:

Huang, D.
Wörheide, G.

14:50–15:05

Bronstein, O., Kroh, A., Byrne, M.

Implication of range overlap along the pacific tropical-temperate transition zone - genomic lessons from the genus *Tripneustes*

15:05–15:20

Trew, H., Segura-Garcia, I., Chaves-Fonnegra, A., Valles, H.

Population structure and genetic connectivity of the excavating sponge *Cliona delitrix* in a small Caribbean island

15:20–15:35

Coulmance, F., Akkaynak, D., Le Poul, Y., McMillan, W. O., **Puebla, O.**

Fine-mapping of colour pattern variation in the Caribbean hamlets provides insights into the genomic bases of phenotypic diversification

15:35–15:50

Cord, I., **Floeter, S. R.**

Biogeography, connectivity and evolution of the Atlantic oceanic islands

Borgward Saal

09:50–12:15

2C- How is coral reproduction and dispersal affected by the environment?

Chair:

Padilla-Gamino, J.
Shlesinger, T.
Loya, Y.

09:50–10:05

Rapuano, H., Shlesinger, T., Roth, L., Bronstein, O., Loya, Y.

Do reef corals ‘remember’ their age?

10:05–10:20

Marhaver, K. L., Vermeij, M. J.

Decoding reproductive timing and fertilization biology in *Dendrogyra*, *Dichocoenia*, and other gonochoric Caribbean corals

10:20–10:35

Guillaume, M. M. M., Hoarau, G., Bruggemann, J. H., Kudenov, J.

“Big bang” reproduction in the lined fireworm *Pherecardia* aff. *striata* at Reunion Island, southwestern Indian Ocean

11:00–11:15

Galanto, N., Sartor, C., Moscato, V., Lemer, S.

Effects of Elevated Temperature on Reproduction and Larval Settlement in *Leptastrea purpurea*

11:15–11:30

Roth, L., Shlesinger, T., Loya, Y.

Sexual reproductive patterns of fire corals at the Gulf of Eilat/ Aqaba

11:30–11:45

Ben Hamadou, R., Bouwmeester, J., Burt, J. A., Goergen, E. A., Al-Jamali, F., Padierna, M. L., Range, P.

Environmental drivers of spatial biodiversity and biogeography of coral reef communities in the southwestern Arabian/Persian Gulf

11:45–12:00

Merabet, S., Sarhan, K., Khalifa, R., Range, P., Khalifa, R., Work, T., Aljamali, F., Bouwmeester, J., Goergen, E., Padierna, M., Moosa, I., Ben Hamadou, R.

Investigating coral growth anomalies on the coral reefs of Qatar

12:00–12:15

Liberman, R., Shlesinger, T., Loya, Y., Benayahu, Y.

Can “going deeper” be a viable refuge for corals?

Borgward Saal

12:15–12:30

2F- Coralline algae: what are their global contributions to coral reefs now and in future oceans?

Chair: Nugues, M., Perpignan

12:15–12:30

Sneed, J., Campbell, J., Looby, A., Paul, V.

Climate change conditions differentially impact CCA species with implications for coral recruitment.

Salon Focke-Wolf

09:50–15:35

3F- What are the roles of nutrients in coral reef survival?

Chair: Davis, K.
Fox, M.
Wiedenmann, J.
Williams, G.

09:50–10:05

Polunin, N. V. C., Zhu, Y.

Understanding the dominant production sources of oceanic coral reefs

10:05–10:20

Williams, G., Gove, J., Fox, M., Davies, A., Green, M., Turner, J.

Regional gradients in upwelling drive tropical island benthic seascapes

10:20–10:35

Richardson, L., Heenan, A., Williams, I., Green, M., Delargy, A., Neubauer, P., Williams, G.

Depth zonation in reef fish traits and their biophysical drivers

11:00–11:15

Chei, E., Conti-Jerpe, I., Pons, L., Baker, D.

Trophic plasticity of subtropical corals in response to seasonal fluxes

11:15–11:30

Roche, R., Heenan, A., Taylor, B., Schwarz, J., Fox, M., Williams, G., Southworth, L., Turner, J.

The effect of small-scale variation in primary production on reef fish productivity

11:30–11:45

Hoekema, L., Dogruer, G., Becking, L., Francisca, R.-L., Meesters, E.

Spatiotemporal risk characterization of seawater quality on Bonaire's nearshore reefs

11:45–12:00

Crehan, O., Davy, S., Grover, R., Ferrier-Pagés, C.

12:00–12:15	The effect of temperature and nutrient depletion on the uptake and assimilation of nitrogen compounds in the scleractinian coral <i>Stylophora pistillata</i> Stévenne, C., Grover, R., Ferrier-Pagès, C., Plumier, J.-C., Roberty, S. Deciphering the expression and regulation of nitrate reductase by Symbiodiniaceae from different coral species
14:50–15:05	Mardones, M. L., D'Angelo, C., Wiedenmann, J. Effect of nutrient depletion on symbiotic corals
15:05–15:20	Oberle, F., Storlazzi, C. D., Prouty, N. G., Cheriton, O. M., Swarzenski, P. W. How coastal groundwater discharge and reef circulation produce zones of coral stress
15:20–15:35	Wiedenmann, J., Bollati, E., D'Angelo, C., Alderdice, R., Ziegler, M., Pratchett, M. Fluorescent host pigments as indicators of nutrient stress in symbiotic corals
	Salon Focke-Wolf
15:35–15:50	3G- Budgetary breakdown: Can reef geo-ecological functions persist in the Anthropocene? Chair: Lange, I. D. Alvarez-Filip, L.
15:35–15:50	Molina-Hernandez, A., González-Barrios, J., Perry, C. T., Álvarez-Filip, L. Two decades of carbonate budget change on Mexican Caribbean reefs: are these reefs being locked into low net budget states?
16:15–16:30	Webb, A., van Hooidonk, R., Besemer, N., Kolodziej, G., Manzello, D., Enochs, I. Incorporating site-specific climate projections and coral adaptive capacity into future trajectories of reef habitat persistence on a Floridian reef
16:30–16:45	Ghilardi, M., McLean, M., Salter, M. A., Parravicini, V., Ferse, S. C. A., Rixen, T., Wild, C., Perry, C. T., Wilson, R. W., Stuart-Smith, R. D., Edgar, G. J., Mouillot, D., Bejarano, S. Global patterns and drivers of reef fish carbonate excretion
16:45–17:00	Perry, C. Where's the sediment in the carbonate budget calculation? : constraining reef-derived sediment generation rates for budget estimates.
17:00–17:15	Bayley, D. Climate-driven declines in the physical structure of isolated coral reefs

Hanse Saal - live

09:50–17:15

4H- Beyond diversity: What can we learn from exploring microbial function in coral reef holobionts?

Chair:

Peixoto, R.
Pogoreutz, C.

09:50–10:05

Ochsenkühn, M., Abrego, D., Mohamed, A., Amin, S.

Steroid exchanges putatively drive coral-*Endozoicomonas* symbiosis

10:05–10:20

Maire, J., Tandon, K., van de Meene, A., Damjanovic, K., Blackall, L., van Oppen, M.

Deciphering the role of tissue-associated Endozoicomonadaceae aggregates in the coral *Pocillopora acuta*

10:20–10:35

Damasceno, T., Vilela, C., Peixoto, R.

Insight into cazymes produced by coral-associated bacteria

11:00–11:15

Tilstra, A., Roth, F., El-Khaled, Y., Pogoreutz, C., Rädcker, N., Voolstra, C., Wild, C.

Relative abundance of nitrogen cycling microbes in coral holobionts reflects environmental nitrate availability

11:15–11:30

Xiang, N., Rädcker, N., Pogoreutz, C., Cárdenas, A., Meibom, A., Wild, C., Gärdes, A., Voolstra, C.

Role of the cnidarian-algal symbiosis in structuring denitrifying bacterial communities

11:30–11:45

Pogoreutz, C., Rädcker, N., Meibom, A.

Assessing the symbiotic interplay of photosynthesis and osmoregulation in *Aiptasia*

11:45–12:00

Ziegler, M., Howells, E., Hauße, T., Pogoreutz, C., Burt, J., Voolstra, C.

Bacterial communities of early life stages of corals predict their heat tolerance

12:00–12:15

Little, M., Rojas, M. I., Roach, T. N., George, E. E., Arts, M. G., Wegley Kelly, L., Rohwer, F.

Prophages in host-associated microbes: the most abundant symbiosis on earth and its relevance in marine holobionts

12:15–12:30

Keller-Costa, T., Lago-Lestón, A., Saraiva, J. P., Toscan, R., Silva, S. G., Gonçalves, J., Cox, C. J., Kyrpides, N., Nunes da Rocha, U., Costa, R.

Functional signatures of the microbiomes of octocorals in health and disease

14:50–15:05

Klein, A., Sturm, A., Eckert, R., Walker, B., Voss, J.

Stony coral tissue loss disease susceptibility and resistance: Genomic and

15:05–15:20	microbiome factors in <i>Orbicella faveolate</i> Roach, T. Integrating multi-omics tools and microbiome manipulation for coral reef restoration
15:20–15:35	Meyer, J., Ushijima, B., Tittl, J., Schul, M., Reed, S., Paul, V. Comparative genomics of stony coral-associated bacteria: what makes a good probiotic strain?
15:35–15:50	Tittl, J., Ushijima, B., Schul, M., Howard, R., Aeby, G., Paul, V. J., Meyer, J. L. A survey of healthy Caribbean coral microbiomes: The search for beneficial microbes for coral conservation
16:15–16:30	Moreira Cardoso, P., Villela, H., Rosado, J. G., Rosado, P., Vilela, C., Buitrago, M. A., Duarte, G., Assis, J., Hill, L., Borges, R., Thomas, T., Peixoto, R. Coral Probiotics: Localization and Mechanisms of Host-Microbiome Interaction
16:30–16:45	Delgadillo, N., Gonçalves Raimundo, I., Villela, H., Garcias-Bonet, N., Santoro, E., Cardoso, P., Osman, E., Barno, A., Duarte Rosado, J. G., Benzoni, F., Berumen, M., Voolstra, C. R., Peixoto, R. From the lab to the real world: Testing the <i>in situ</i> application of a probiotic consortium in <i>Pocillopora verrucosa</i> in the central Red Sea.
16:45–17:00	Santoro, E., Borges, R., Espinoza, J., Freire, M., Messias, C., Villela, H., Leandro, P., Villela, C., Rosado, J. G., Cardoso, P., Rosado, P., Assis, J., Duarte, G., Perna, G., Rosado, A., Macrae, A., Dupont, C., Nelson, K., Sweet, M., Voolstra, C., Peixoto, R. Coral microbiome manipulation elicits metabolic and genetic restructuring to mitigate heat stress and evade mortality
17:00–17:15	Andrade Rodríguez, N., Huerlimann, R., Brunner, R., Cooke, I., Grinblat, M., Ravasi, T., Miller, D. Does gene expression of antimicrobial peptides shape the composition of the microbiome during development in <i>Acropora digitifera</i>?



Saal Lloyd

14:50–15:50	6A- Open Session: Unexplored and unexpected reefs
Chair:	Osinga, R. Wörheide, G.
14:50–15:05	Carlton, R., Dempsey, A., Faisal, M., Purkis, S. Exploring the Extremes- Unexpected findings from the world's largest coral reef surveying effort
15:05–15:20	Nolan, M. K. B., Marchese, F., Kheireddine, M., Chimienti, G., Purkis, S., Isotta Terraneo, T., Rodrigue, M., Eweida, A. A., Jones, B., Benzoni, F. MaxEnt modelling as a tool to inform discovery of deep-sea coral ecosystems

15:20–15:35

Heard, J., Wyatt, A.

Validating eDNA metabarcoding as a low-cost alternative to underwater visual censuses of mesophotic fish diversity in the Coral Triangle

15:35–15:50

Ben-Zvi, O., Lindemann, Y., Eyal, G., Loya, Y.

Coral fluorescence: a prey-lure in deep habitats



Saal Lloyd

09:50–12:30

7E- What are the genetic and cellular mechanisms underlying cnidarian-dinoflagellate symbiosis and its breakdown during bleaching?

Chair:

Barott, K.
Cleves, P. A.

09:50–10:05

Tortorelli, G., Davy, S. K., van Oppen, M. J. H., McFadden, G. I.

Dissecting the molecular basis of recognition between Symbiodiniaceae and cnidarians

10:05–10:20

Cui, G., Mi, J., Moret, A., Hung, S.-H., Al-Babili, S., **Aranda, M.**

Frenemies - Nutrient competition is the general mechanism underlying the cnidarian-Symbiodiniaceae symbiosis

10:20–10:35

Ashley, I., Gorman, L., Rosset, S., Oakley, C., Grossman, A., Suggett, D., Weis, V., Davy, S.

The characterisation of the phosphatidylinositol signalling pathway in the cnidarian-dinoflagellate symbiosis.

11:00–11:15

Hambleton, E.

Mechanisms of symbiont-produced lipid exchange powering animal-algal symbiosis

11:15–11:30

Ingersoll, M. V., Desai, N., Davies, S., Gilmore, T.

Interactions between symbiosis, innate immunity, and nutrition in cnidarians

11:30–11:45

Martinez, S., Grover, R., Ferrier Pages, C.

The role of heterotrophy in the host-symbiont interactions of *Stylophora pistillata*

11:45–12:00

Cotinat, P., Fricano, C., Toullec, G., Röttinger, E., Barnay-Verdier, S., Furla, P.

Intrinsically High Capacity of Animal Cells From a Symbiotic Cnidarian to Deal

With Pro-Oxidative Conditions

12:00–12:15

Majerova, E., Carey, F., Drury, C.

Molecular pathways in coral acclimatization to heat stress

12:15–12:30

Cleves, P., Tinoco, A., Krediet, C., Renicke, C., Bay, L., Pringle, J.

Using Transcriptomics and Reverse Genetics to Understand Mechanisms of Cnidarian-dinoflagellate Bleaching



Salon Scharoun

11:00–12:15

8A- Open Session: Human relations to reefs

Chair:

Ferse, S.

11:00–11:15

Dajka, J.-C., Woodhead, A. J., Norström, A. V., Graham, N. A. J., Riechers, M., Nyström, M.

Red and green loops help uncover missing feedbacks in a coral reef social-ecological system

11:15–11:30

Heckendorn, K., Aswani, S., Sauer, W., Bernard, A., daSilva, I.

Towards a better understanding of small-scale fishing decisions and their social and ecological consequences in Pemba Bay, Mozambique

11:30–11:45

Rojas, C., Cinner, J., Gelcich, S.

Behavioral Spillovers and Public Goods Conservation

11:45–12:00

Jacob-Lozano, F., Toderasc, R., Murdini, J., Amiel, A., Colognoli, M., Sutarjana, I. M., Detournay, O.

Fisheries' dynamics around a restored reef: a case study from Hatamin island (Seraya Besar, Indonesia)

12:00–12:15

Maitz, P.

The Lady Musgrave Reef as a model, an artistic perspective



Salon Scharoun

12:15–12:45

8B- How can social sciences contribute to equal exchanges between different ways of thinking and doing coral protection and rehabilitation?

Chair:

Ferse, S.

12:15–12:30

Jones, E.

What does it mean to say coral reefs have value?

12:30–12:45

Thomas, S.

Art for Impact and Restoration, changing public perception to marine restoration



Salon Danzig

09:50–17:15

9A- Open Session: Global and local impacts

Chair:

Mezger, S.
Vollstedt, S.
Voolstra, C.
Wild, C.

09:50–10:05

Uthicke, S., Patel, F., Gomez Cabrera, M., Doyle, J.

eDNA as a new coral reef monitoring tool: Genetic detection of larvae and post-settlement individuals of Crown-of-Thorns seastar outbreaks

10:05–10:20

Benaim, G. A., **Schmidt, L.-M.**, Kroh, A., Bronstein, O.

Global trends of echinoid mass mortalities – insights from *Echinocardium* from the Eastern Mediterranean Sea

10:20–10:35

Duarte, G., Dias Müller Villela, H., Deocleciano, M., Silva, D., Barno, A., Cardoso, P., Leite Spindola Vilela, C., Rosado, P., Simões Martins, C., Alejandra Chacón, M., P. Santoro, E., Blasquez, D., Szpilman, M., A. Rocha, L., Sweet, M., Silva Peixoto, R.

First records of hydrocoral mass mortality in the southwestern Atlantic: heat waves as a major threat to turbid zone coral refugia.

11:00–11:15

Walker, B., Williams, G., Aeby, G., Maynard, J., Whittall, D., **Sharkey, R.**

Spatiotemporal environmental drivers of stony coral tissue loss disease (SCTLD) in an endemic region.

11:15–11:30

Steckbauer, A., Klein, S. G., Duarte, C. M.

Meta-analysis reveals additive impacts of deoxygenation and acidification on marine biota - but does this apply to coral reefs?

11:30–11:45

Nordborg, M., Brinkman, D., Agustí, S., Negri, A.

Combined effects of heavy fuel oil and UV radiation across multiple life stages of coral

11:45–12:00

Stambler, N.

Biological changes in open-ocean and their influence on the coral reef.

12:00–12:15

Carreiro, A., Eckert, R., Shilling, E., Klein, A., Combs, I., Voss, J.

Assessment of nutrient enrichment effects on stony coral tissue loss disease progression and microbial communities in *Montastraea cavernosa* corals

- 12:15–12:30 **Marques, J.**, Adler, O., Gafni, A., Levy, O., Bar Zeev, E.
Impacts of desalination brine waste on a hard coral: new insights and future perspectives
- 14:50–15:05 **Ayalon, I.**, Avisar, D., Levy, O.
Artificial Light at Night (ALAN) alternating corals physiology lifestyle
- 15:05–15:20 **Karkarey, R.**, Maire, E., Keith, S.
Compensatory dynamics regulate mesopredatory coral reef fish community stability under global change.
- 15:20–15:35 **Law, M. T.**, Huang, D.
Light limitation and coral mortality in urbanised reef communities due to sea-level rise
- 15:35–15:50 **Klein, S.**, Geraldi, N., Anton, A., Schmidt-Roach, S., Ziegler, M., Cziesielski, M., Martin, C., Rådecker, N., Frölicher, T., Mumby, P., Pandolfi, J., Suggett, D., Voolstra, C., Aranda, M., Duarte, C.
Projecting coral responses to intensifying marine heatwaves under ocean acidification
- 16:15–16:30 **Couce, E.**, Cowburn, B., Clare, D., Bluemel, J.
Global coral reef diversity forecasts for warmer, more acidic seas
- 16:30–16:45 **Jury, C.**, Bahr, K., Barba, E., Brainard, R., Cros, A., Dobson, K., Graham, A., McLachlan, R., Nelson, C., Price, J., Rocha de Souza, M., Shizuru, L., Smith, C., Sparagon, W., Squair, C., Timmers, M., Tran, T., Vicente, J., Webb, M., Yamase, N., Grottoli, A., Toonen, R.
Experimental reef communities persist under mitigated future ocean acidification and warming
- 16:45–17:00 **Greene, A.**, Leggatt, W., Moriarty, T., Ainsworth, T. D., Nijagal, B., Falinski, K., Sogin, E. M., Caldwell, J. M., Heron, S. F., Donahue, M. J.
Coral metabolomes exhibit contamination by anthropogenic products and show potential as tools for prescriptive management
- 17:00–17:15 **Kenyon, T.**, Doropoulos, C., Dove, S., Webb, G. E., Harris, D., Newman, S., Mumby, P. J.
Turning rubble to reef: Quantifying rubble mobilisation and binding dynamics to assess recovery potential of disturbed reefs

Saal Lloyd

16:15–17:00

10A- Open Session: Organismal physiology, adaptation and acclimation

Chair:

Aranda, M., Thuwal
de Goeij, J.
Schoepf, V.

16:15–16:30

Rivera-Ortega, J., Thomé, P. E., Jordán-Dalhgren, E.

Pseudodiploria strigosa immune response to a white syndrome

16:30–16:45

Osman, E. O., Low-Decarie, E., Santoro, E. P., Garcias-Bonet, N., Aranda, M., Smith, D. J., Voolstra, C. R., Peixoto, R.

Standardized thermal performance curves as a tool to investigate the thermal threshold of corals in the central Red Sea

16:45–17:00

Piciooreanu, C., Taylor Parkins, S. K., Novoa, A., Martinez, F., Murthy, S., Kühl, M.

Modelling of photon, mass and heat transfer in multilayered coral tissue

Kaisen Saal

09:50–12:30

10G- What role does phenotypic plasticity play in acclimatization or adaptation to environmental change?

Chair:

Davies, S.
Kenkel, C.

09:50–10:05

Million, W., Ruggeri, M., O'Donnell, S., Bartels, E., Krediet, C., **Kenkel, C.**

Evidence for adaptive morphological plasticity in the Caribbean coral, *Acropora cervicornis*

10:05–10:20

Furla, P., Porro, B., Zamoum, T., Tara Pacific Consortium

Contrasting Phenotypic Plasticity of Scleractinian Corals: a Multi-marker Approach within Pacific Ocean Natural Populations

10:20–10:35

Elder, H., Million, W., Bartels, E., Krediet, C., Lee, S., Kenkel, C.

The role of phenotypic plasticity in *Acropora palmata* survival in a restoration context

11:00–11:15

Moscato, V., Combosch, D., **Lemer, S.**

Coral color reflects divergent thermal stress responses

- 11:15–11:30 Raharinirina, N., Acevedo-Trejos, E., Wild, C., **Merico, A.**
Mechanisms driving symbiont shuffling in corals
- 11:30–11:45 **Roberty, S.**, Vega de Luna, F., Pierangelini, M., Levy, O., Plumier, J.-C., Cardol, P.
Shallow and mesophotic *S. pistillata* share regulatory strategies of photosynthetic electron transport but differ in their sensitivity to light
- 11:45–12:00 **Yeager, E.**, Wen, A., Karp, R., Johnson-Sapp, K., Hardy, K., Williamson, O., Dennison, C., Baker, A.
Measuring symbiont expulsion rates in Caribbean reef corals: A non-invasive approach to studying coral-algal symbiosis
- 12:00–12:15 **Love, C.**, Stuhr, M., Radice, V., Fox, M., Fine, M., Valentine, D.
Measuring Coral Feeding in a Changing Ocean: A Metabolic Framework Using Fatty Acids
- 12:15–12:30 **DAlessandro, M.**, Hesley, D., Unsworth, J., Lirman, D.
Beefing Up Corals for the Reef: Is Nutritional Status Predictive of Outplanting Success?



Salon London

09:50–12:30

11A- Open Session: Resilience, phase shifts and novel ecosystems

Chair:

de Goeij, J.
Schoepf, V.
Schupp, P.
Becking, L.

09:50–10:05

Schupp, P., Reverter, M., Rohde, S., Helber, S., Nietzer, S.

Bioactive invertebrate compounds as a possible factor promoting phase shifts to coral reefs dominated by alternate organisms.

10:05–10:20

Rempel, H., Barton, E., O'Rourke, T., Lamore, R., Vanderbloomer, P., Adam, T., Burkepile, D., Bodwin, K., Ruttenberg, B.

Ecological drivers, healing rates, and thresholds for recovery of parrotfish predation on coral communities across the Greater Caribbean

10:20–10:35

Lubarsky, K., Zgliczynski, B., Amir, H., Pedersen, N., Alcantar, E., Ibrahim, N., Abdulla, A. S., Angeela, A., Basheer, A., Edwards, C., Ismail, M. A., Najeeb, A., Naseem, A., Nishan, A., Petrovic, V., Shiraz, A. Z., Sullivan, C., Zahir, H., Ahusan, M., Estep, A., Naeem, S., Sandin, S.

Recovery and resilience of Maldivian coral reefs in the face of ongoing disturbance

11:00–11:15

Brambilla, V., Madin, J., Boutros, N., Pizarro, O., Torres-Pulliza, D., Williams, S., Zawada, K., Dornelas, M.

The hidden environmental variability of coral reefs: linking structural traits of reefs to light niches

11:15–11:30

Caselle, J., Koehn, K., Carlson, P., Ladd, M.

Herbivorous Fish and Coral Recovery in Response to a Shipwreck Removal and Associated Alteration of Benthic Habitat

11:30–11:45

Rosado, J. G., Daraghme, N., Justo, M. S., Cadiz, R., Langner, U., Cardoso, P., Curdia, J., Benzoni, F., Berumen, M., Carvalho, S.

The Red Sea coral reef cryptobiome: How do nearby benthic communities influence biodiversity of the hidden majority?

11:45–12:00

Birkeland, C., Fenner, D., Coward, G., Lawrence, A., Green, A., Vaeoso, M.

Resilience of American Samoan corals to irregular or infrequent disturbances

12:00–12:15

Pombo-Ayora, L., Coker, D., Carvalho, S., Short, G., Berumen, M. L.

Morphological and ecological trait diversity reveal sensitivity of herbivorous fish assemblages to coral reef benthic conditions

12:15–12:30

Becking, L., Aji, L., Marine Lake Monitoring Team, Maas, D., de Leeuw, C., Purwanto, P., Martinez, S., Tapilatu, R., Ahmad, A.

Marine Time Machine: Trajectories of change for tropical marine biodiversity in the Anthropocene



Salon London

14:50–15:50

11D- hat are the biological and fishery consequences of losing coral reef complexity that is critical for fish populations?

Chair:

Donovan, M., Tempe
Harborne, A.
Kochan, D.

14:50–15:05

Kochan, D., González-Rivero, M., Esch, M., Fidler, R., Mitchell, M., Harborne, A.

Using three-dimensional reef models to understand small-scale herbivorous fish foraging and the potential impacts of structure loss

15:05–15:20

Lilkendey, J., Zhang, J., Meares, M., Sabetian, A.

Stereo-video elicits energy-distance trade-offs in foraging surgeonfishes on a degraded coral reef

15:20–15:35

Zill, J., Tritsch, J., Porter, A., Donahue, M.

Size-driven consequences of elevated moray eel densities on prey habitat usage on heavily fished reefs

15:35–15:50

Harborne, A., Kochan, D., Zuercher, R., Esch, M., Fidler, R., Mitchell, M., Butkowski, D., González-Rivero, M.

Winners and losers of reef flattening: A trait-based assessment of coral reef fishes



Kaisen Saal

14:50–15:35

13B- Can Coral Reef Restoration Increase Coastal Protection?

Chair:

Storlazzi, C.
Viehman, S.

14:50–15:05

Viehman, S., Storlazzi, C., Famikhalili, R., Cheriton, O., Nemeth, M., Cumming, K.

Coral restoration design to reduce wave-driven flooding of tropical coastlines

15:05–15:20

Geldard, J., Lowe, R., Draper, S., Ghisalberti, M., Westera, S., Ellwood, G., Cuttler, M., Smith, D., McArdle, A.

Quantifying the Effectiveness of a Coral Reef Restoration Approach for Wave Attenuation

15:20–15:35

Storlazzi, C., Reguero, B., Cumming, K., Cole, A., Shope, J., Viehman, S., Gaido, C., Beck, M.

Rigorously Valuing the Coastal Hazard Risk Reduction Provided by Coral Reef Restoration in Florida and Puerto Rico



Kaisen Saal

16:15–17:00

13D- Effectiveness of regional coral reef restoration approaches- what can we learn from the Caribbean and Eastern Tropical Pacific?

Chair:

Bayraktarov, E.
Cortés-Useche, C.

16:15–16:30

Mele, D., Carne, L., Vaughan, D., Brandt, M.

A comparison of micro-fragmenting propagation techniques for the endangered stony coral species, *Acropora palmata*

16:30–16:45

Cobleigh, K., Bestrom, N., Arrington, B., Quetel, J., Mele, D., Dade, L., Brandt, M.

Testing the effect of multispecies outplanting on coral growth and survival in the face of multiple stressors

16:45–17:00

Cortés-Useche, C., Reyes-Gamboa, W., Cabrera-Pérez, J. L., Calle-Triviño, J.,

Cerón-Flores, A., Raigoza-Figueras, R., Yathiraj, R., Arias-González, J. E., Blanco Pimentel, M., Galvan, V., Harms, E., Morikawa, M.

Towards restoration of the biodiversity of coral reef fish assemblages in the Mexican Caribbean

Borgward Saal

16:15–17:00

14- Open Session: Outreach and education

Chair:

Calvert, M.
Jantzen, C.
Wild, C.

16:15–16:30

Bambic, B., Karutz, C., Won, A. S.

Virtual Reality of Coral Reefs: Exploring Psychological Distance after Two Immersive Virtual Experiences

16:30–16:45

Hesley, D., Kaufman, M., Joos, A., Lirman, D.

Citizen Science for Social Change: Evaluating the Impact of Coral Restoration as a Vehicle for Public Stewardship

16:45–17:00

Woo, S.

Building Relationships Between Hawai'i's Coral Reefs, Local People, and Visitors

Friday, July 8, 2022



Salon Focke-Wolf

10:50–14:00	1C- Look forward to the past: What role does historical data play in the future of coral reefs? Chair: Dillon, E. Ivkic, A. O'Dea, A.
10:50–11:05	Cramer, K., Donovan, M., Jackson, J., Greenstein, B., Korpanty, C., Cook, G., McClenachan, L., Pandolfi, J. Reconstructing long-term change in Caribbean coral communities to inform management and conservation
11:05–11:20	Prada, C. Caribbean reef building coral populations from multiple species have rebounded in the last 80,000 year
11:20–11:35	Johnson, K., Summerfield, R., Santodomingo, N., Bertini, L., Hendy, E., Bayley, D. Museum collections as historical records of reef coral calcification, growth, and bioerosion
11:35–11:50	Summerfield, R., Hendy, E., Johnson, K., Bayley, D. How central Indian Ocean coral communities have responded to cold and warm water stress events since the late 19th C
12:30–12:45	O'Dea, A., De Gracia, B., Lueders-Dumont, J., Lin, C.-H. Major shifts in taxonomic composition but not gross ecological function in Caribbean coral reef fish communities since the mid-Holocene
12:45–13:00	Lueders-Dumont, J., O'Dea, A. Nitrogen isotopes reveal modern Caribbean reefs have less complex trophic pathways than their mid-Holocene counterparts
13:00–13:15	Cybulski, J., Conti-Jerpe, I., Corley, A., Duprey, N., McIlroy, S., Yasuhara, M., Thibodeau, B., Baker, D. Improving historical reconstructions with modern analogs: using stable isotopes to track nutrient assimilation into the coral skeleton
13:15–13:30	Dillon, E., McCauley, D., O'Dea, A. How does productivity shape pre-exploitation shark baselines and resilience on coral reefs over millennia? A preliminary exploration
13:30–13:45	Ivkic, A., Klaus, R., Kroh, A., Mansour, A. M., Reinicke, G. B., Riegl, B., Zuschin, M.

Lessons from Egyptian Eemian reefs

13:45–14:00

Emms, M., Maisano Delser, P., Robitzsch, V., Alpermann, T., Kiflawi, M., Manica, A.

Sticking it out when the going gets tough: in-situ Red Sea coral reef refugia maintained a coral reef fish species during the Last Glacial Maximum



Salon Scharoun

10:50–11:50

3D- How do metabolic processes underpin the health and function of reef ecosystems?

Chair:

de Goeij, J.

10:50–11:05

Sweet, M., Burian, A., Reverter, M.

Metabolomic profiling reveals rapid juvenile plasticity in response to acute heat stress in comparison to adult coral colonies

11:05–11:20

Rosset, S. L., Ashley, I. A., Oakley, C. A., Grossman, A. R., Suggett, D. J., Weis, V. M., Davy, S. K.

Oxylipin-mediated signalling in the cnidarian-Symbiodiniaceae symbiosis

11:20–11:35

Olander, A., Lawson, C., Raina, J.-B., Ueland, M., Suggett, D.

A Novel in Situ Approach for Examining the Form and Functional Potential of Biogenic Volatile Organic Compounds (BVOs) Emitted by Benthic Reef Taxa

11:35–11:50

Kellermann, M. Y., Petersen, L.-E., Fiegel, L. J., Nietzer, S., Ahlers, N., Abele, D., Bickmeyer, U., Schupp, P. J.

Towards a mechanistic understanding of coral recruitment: Light-dependent settlement of *Leptastrea purpurea* larvae triggered by a single bacterial cue



Saal Lloyd

13:30–14:00

4A- Open Session: Microbial ecology, holobionts and model organisms

Chair:

Voolstra, C.
Schupp, P.

13:30–13:45

Folkers, M., Hentz, F., Varotti, C., Frankenbach, S., Serôdio, J., Frommlet, J.

Horizontal acquisition of symbionts by bleached *Exaiptasia* anemones from endolithic *Symbiodiniaceae* populations

13:45–14:00

Doering, T., Maire, J., Chan, W. Y., Blackall, L. L., van Oppen, M. J. H.

Determining the appropriate model to develop a ROS and RNS-scavenging bacterial probiotic aimed at mitigating coral thermal stress

Kaisen Saal

10:50–14:00

7D- Scaling up: what lessons can we learn across larger scales for understanding coral reefs?

Chair: Not yet registered

10:50–11:05

Madin, E., Precoda, K., Roelfsema, C., Suan, A.

Global conservation potential in coral reef halos: Consistency over space, time, and ecosystems worldwide

11:05–11:20

Asbury, M., Couch, C., Oliver, T., Madin, J.

A synopsis of fine scale habitat complexity across the main Hawaiian Islands

11:20–11:35

Dornelas, M. A.

Mapping neighbourhoods: spatial distribution of Scleractinian corals on a reef

11:35–11:50

Thompson, D., Cole, J., Morgan, K., Killam, D., Roach, T., Santoro, E., Duhaime, M., King, S., Peixoto, R., Watkins, J., Trzybinski, J., Hackett, J., Muller, E., Sullivan, C., Sandin, S., Crocker, L., Grambihler, R.

“Scaling up” solutions for reef remediation and restoration in the Biosphere 2 Ocean mesocosm

12:30–12:45

Schürholz, D., Chennu, A.

Digitizing the coral reef with dense taxonomic maps through machine learning of underwater spectral images

12:45–13:00

Zapata Ramírez, P. A., Vasquez, R., Zuluaga, C., Osorio, A. F., Urdaneta, S., Fitzsimmons, C., Quintero, J., Cano, M.

Building a Colombian interdisciplinary network for coral reef characterization using modern technologies

13:00–13:15

Purkis, S., Gleason, A., Bakker, A., Dempsey, A., Carlton, R., Faisal, M.

High-Resolution Habitat and Bathymetry Maps for 65,000 km² of Earth's Remotest Coral Reefs

13:15–13:30

Bos, J., Pinsky, M.

Predicting fine-scale climate on tropical coral reefs

13:30–13:45

Meier, A., Franceschini, S., Suan, A., Madin, E.

Synergizing Remote Technologies to Assess the Association Between a Predator Community and Coral Reef Halo Presence

13:45–14:00

Fox, H., Green, R., Rivera-Sosa, A., Gleason, A., Purkis, S., Randazzo Eisemann, A., Rivera, A., Colton, M.

Can the Allen Coral Atlas indicate adaptive capacity of coral reefs?



Hanse Saal on-site

12:30–14:00

10A- Open Session: Organismal physiology, adaptation and acclimation

Chair:

Aranda, M., Thuwal
de Goeij, J.
Schoepf, V.

12:30–12:45

Richards Dona, A., Evertsen, J., Johnsen, G.

Lack of kleptoplast photoacclimation and the role of parapodia in the sacoglossan sea slug *Plakobranthus ocellatus*

12:45–13:00

Rich, W., Schönherr, S., Carvalho, S., Berumen, M.

Size structure and physiological condition of *Stylophora pistillata* across reef flat zones of the central Red Sea

13:00–13:15

Millar, Z., Kecheliev, D., Horricks, R., Lumsden, J.

Regeneration variability in *Ricordea florida*

13:15–13:30

Rädecker, N., Pogoreutz, C., Voolstra, C. R., Meibom, A.

Resource competition regulates the cnidarian-algal symbiosis

13:30–13:45

McMahon, S., Munday, P., Ravasi, T., Donelson, J.

The effects of marine heatwaves on the physiology of a coral reef snapper

13:45–14:00

Arossa, S., Barozzi, A., Callegari, M., Klein, S. G., Parry, A. J., Hung, S.-H., Steckbauer, A., Aranda, M., Daffonchio, D., Duarte, C. M.

The Internal Microenvironment of the Symbiotic Jellyfish *Cassiopea* sp. From the Red Sea



Hanse Saal on-site

10:50–11:50

10G- What role does phenotypic plasticity play in acclimatization or adaptation to environmental change?

Chair:

Davies, S.
Kenkel, C.

10:50–11:05

Hackerott, S., Virdis, F., Eirin-Lopez, J.

Relationships between epigenetic modifications and phenotypic plasticity of *Acropora cervicornis* across spatial and temporal environmental variation

11:05–11:20

Gallery, D., Rippe, J. P., Matz, M.

Environment trumps genetics: Cryptic lineages share gene regulatory mechanisms to acclimatize to environmental variation in two Caribbean corals

11:20–11:35

Brown, K., Mello-Athayde, M., Sampayo, E., Chai, A., Dove, S., **Barott, K.**

Environmental memory gained from exposure to extreme diel pCO₂ variability promotes coral cellular acid-base homeostasis

11:35–11:50

Aichelman, H. E., Benson, B. E., Castillo, K. D., Baumann, J., Nieves, O. C., Pereslete, A. M., Rippe, J., Stanizzi, D. A., Tsang, L. C., **Davies, S. W.**

Genetic drivers of coral response to diel thermal variability



Salon Danzig

13:30–14:00

11E- How can multi-taxon studies help us understand ecosystem dynamics under climate change?

Chair:

Beger, M.
Nakamura, Y.
Sommer, B.

13:30–13:45

Sommer, B., Beger, M., Obuchi, M., Mizuyama, M., Kawamura, I., Kise, H., Reimer, J., Pandolfi, J.

Multi-taxon study reveals complex interplay of biotic and abiotic drivers of ecosystem dynamics along tropical-to-temperate transition zones

13:45–14:00

Stuart-Smith, R., Mellin, C., Bates, A., Edgar, G.

Changing habitats, species reshuffling and ecological generalism in the world's reef fish communities



Salon Danzig

10:50–11:50

12D- From Thinking to Doing: What Does It Actually Take to Practice Ecosystem Based Management in Coral Reef Fisheries?

Chair:

Cruz-Motta, J., Mayagüez
Rankin, T.

10:50–11:05

Moland, E., Nillos-Kleiven, P. J., Elamin, S. M., Elamin, E. M., Mohamed, A. S., Elhag, A. M., Khalafalla, M., Mukhtar, M. A., Kleiven, A. R., Kolding, J., Olsen, E., Elbashier, D. A. Y., Ahmed, M. A. M., Abaker, K. Y. I., Yahya, O. A. M.

Building a fisheries-independent baseline for coral reef fish targeted in the

artisanal reef fishery in Sudan's Red Sea State

11:05–11:20

Kleiven, P., Elamin, S. M., Elamin, J. E. M., Saleh, A. M., Iragi, M. A., Olsen, E., Kleiven, A. R., Kolding, J., Axelsen, B. E., Johannessen, T., Moland, E.

Where are the big fish at? Relative length distributions of commercially targeted reef fish species in Sudan using fishery-independent data

11:20–11:35

Rankin, T., Arnold, W., Cruz-Motta, J. J., Cruz-Rivera, E., Garcia-Moliner, G., Habtes, S., Lopez-Mercer, M. d. M., McCarthy, K., Ortiz, A., Seara, T., Stephenson, S., Tzadik, O., Williams, S.

Putting EBFM into Action for the U.S. Caribbean EEZ

11:35–11:50

Cruz-Motta, J., Williams, S., Seara, T., Arnold, W., Garcia-Moliner, G., Tzadik, O., Rankin, T., Ortiz, A., McCarthy, K., Lopez-Mercer, M., Faletti, M., Stephenson, S., Habtes, S., Cruz-Rivera, E.

Quantitative models to describe coral reef fisheries systems in the U.S. Caribbean as a necessary step to inform Fishery Ecosystem Plans.



Salon Danzig

12:30–13:30

12F- How can successful local reef management and restoration efforts be scaled up to achieve meaningful conservation results?

Chair:

Banaszak, A.
Bood, N.
McField, M.

12:30–12:45

McField, M.

Lessons from the Mesoamerican Reef: What's next when collaborative science and adaptive management still aren't achieving the desired results?

12:45–13:00

Calle Triviño, J., Blanco, M., Cortés Useche, C., Galvan, V., Harms, E., Morikawa, M.

Scaling reef restoration with Iberostar's Wave of Change: leveraging existing capacity to explore commonalities in situ and land based nurseries

13:00–13:15

Bieri, T., Hum, K., Conklin, E., Falinski, K., Carr, R., Braun, R., Bertolotti, L., Bowman, J., Geselbracht, L., Bergh, C., Secaira, F., Rogers, M., Roberts, E., Way, M.

Replicating the Mexico reef insurance model in the U.S. – findings and recommendations based on a feasibility study

13:15–13:30

Glue, M., Duffy, H.

Scaling up MPAs, species conservation and policy engagement in Cambodia through community-led management and government collaboration.



Borgward Saal

10:50–14:00

13A- Open Session: Interventions and restoration

Chair:

Ferse, S.
Osinga, R.

10:50–11:05

Moulding, A., Ross, L., Escovar-Fadul, X., Shaver, E., Kramer, P., Viehman, S.

Use of a Coral Restoration Database for Tracking Coral Nursery Propagation and Restoration

11:05–11:20

Hagedorn, M., Page, C., O'Neil, K., **Flores, D.**, Tichy, L., Conn, T., Chamberland, V., Lager, C., Zuchowicz, N., Lohr, K., Blackburn, H., Vardi, T., Moore, J., Moore, T., Baums, I., Vermeij, M., Marhaver, K.

Assisted gene flow using cryopreserved sperm in critically endangered coral

11:20–11:35

Roberts, H., Andersen, B., Maria Secco de Oliveira, F., Schrameyer, V.

ReCoral by Ørsted™ – winds of change for coral reef restoration

11:35–11:50

Hein, M., Vardi, T., Shaver, E., Pioch, S., Boström-Einarsson, L., Ahmed, M., Grimsditch, G., McLeod, I., Staub, F.

Coral restoration as a strategy to improve ecosystem services: international guidelines and perspectives from UNEP and ICRI

12:30–12:45

Santiago, P., Velazquez, J., Sanchez, J., Nevarez, J., Fonseca, J., Suleiman, S., Mercado, A.

Effect of fireworm corallivory in the performace of *Acropora cervicornis* restored populations

12:45–13:00

Brooker, R., Barneche, D., Gilmour, J., Parsons, M., Pygas, D., Thomas, L., Meekan, M.

Reef Song: an ecosystem-based approach to enhancing reef resilience and restoration

13:00–13:15

Klinges, J. G., **Craig, Z.**, Clark, A., Villoch, M., Manfroy, A., Merck, D., Muller, E.

The effect of coral prophylactic treatments on the microbiomes of *Orbicella faveolata* and *Acropora palmata*

13:15–13:30

Mas, G., Serrano, E., Bolivar, M., Ribes, M., Coma, R.

Pruning of dead branches as a new restoration technique to improve the population viability of the Mediterranean gorgonian *Eunicella singularis*

13:30–13:45

Schmidt-Roach, S., Klaus, R., Al-Suwailem, A. M., Prieto, A. R., Hauser, C. A. E., Duarte, C. M., Aranda, M.

Novel infrastructure for coral gardening and its implementation in the world's largest reefscaping project, Shushah Island, Saudi Arabia

13:45–14:00

Welly, M., Djohani, R., Mansell, P.

Enhancing Capacity for Coral Restoration in Indonesia by Implementing Scientifically Based Standards and Protocols.



Saal Lloyd

10:50–13:30

14- Open Session: Outreach and education

Chair:

Calvert, M., London
Jantzen, C., Bremen
Wild, C.

10:50–11:05

Wetzell, L.

Climate Change Curriculum for Higher Education in the U.S. Affiliated Pacific Islands: iBooks

11:05–11:20

Rigot, E., Tribouillois, D., Foncy, J., Barbareau, G., Zanon, C., Libourel, J., Larré, J.-M., Domart-Coulon, I., Castelin, M., Duru, P., Bramanti, L., Lartaud, F., Planes, S., Malaquin, L., Vieu, C.

Advanced 3D technologies applied to coral skeletons structures for generating an open science archive « *Corallum fabrika* »

11:20–11:35

Buchanan-Dunlop, J.

Bringing coral to the classroom: using VR and live-streaming to engage children across the world

11:35–11:50

Heemsoth, A., Thompson, E.

The Importance of Educating Youth to Inspire the Next Generation of Coral Reef Stewards

12:30–12:45

Thompson, L., Carlton, R., Heemsoth, A.

What works? Lessons learned from ten years communicating coral reef science around the world.

12:45–13:00

Danser, N.

Engaging, Educating, and Empowering the Future

13:00–13:15

Lahl, R., Havlik, P., Höfling, C., Loreit, F., Merkt, M., Roßmanith, E., Voigt, L., Wagner, E.

Changing perspectives in coral reef exhibits to improve knowledge transfer—insights into an innovative and flexible exhibition module

13:15–13:30

Jantzen, C., Rising, K., Ney, L., Löschke, S.

Teaching coral reef ecology: how a science comic can engage kids worldwide

Salon London

10:50–11:50

15A- Open Session: New theories and future projections

Chair: Chennu, A., Bremen
Kennedy, E., Cape Cleveland
Robinson, J., Lancaster

10:50–11:05

Bähr, S., Laetz, E. M. J., Van der Meij, S. E. T., Benzoni, F.

A spark in the dark – first insights into red fluorescence in coral dwelling gall crabs

11:05–11:20

Ruiz-Moreno, A., Emslie, M. J., Connolly, S. R.

Bayesian estimation of community dynamics parameters reveals largely individualistic dynamics in a high-diverse reef fish assemblage

11:20–11:35

Meekan, M., Lester, E.

A mechanism for top-down control of crown-of-thorns outbreaks in coral reef ecosystems

11:35–11:50

Maire, E., Graham, N., MacNeil, A., Robinson, J., Bodin, N., Hicks, C.

Disentangling key drivers of nutrient concentrations in coral reef fish to achieve food and nutrition security

Salon London

12:30–13:30

15B- How will tropical fisheries respond to climate changes on coral reefs?

Chair: Robinson, J., Lancaster

12:30–12:45

Robinson, J., Daring, E., Maire, E., Hamilton, M., MacNeil, A., Hicks, C., Graham, N.

Nutrient productivity of coral reef fisheries

12:45–13:00

Innes-Gold, A., Carvalho, P., Correa-Garcia, S., Marcoux, S., McManus, L., Oleson, K., Stokes, K., Madin, E.

Modeling the effects of climate change and management strategy on nearshore fisheries in Hawai'i

13:00–13:15

Moule, T., Richardson, L., Robinson, J., Williams, G.

The impact of a mass coral bleaching event on reef fish assemblage size spectra

13:15–13:30

Hamilton, M., Robinson, J., Benkwitt, C., Wilson, S., MacNeil, A., Ebrahim, A.,

Graham, N.

Climate impacts alter fisheries productivity and turnover on coral reefs



Salon London

13:30–14:00

15E- Will coral reef islands survive 21st century sea-level rise?

Chair:

Kappelmann, Y., Bremen

13:30–13:45

Kappelmann, Y., Westphal, H., Kneer, D., Mann, T.

Reef island formation in the Indonesian Archipelago