



ISBW15 & WSC2024

NAPOLI, ITALY, JUNE 17TH TO JUNE 21ST, 2024

programme





2024 World Seagrass Conference & 15th International Seagrass Biology Workshop Seagrasses in the Anthropocene

Organizing Committee



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SZN, Italy



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Scientific Committee

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B. Jones – Project Seagrass, UK

L. Marin Guirao – IEO, Spain

K. McMahon – Edith Cowan Univ, Australia

I. Olivé – SZN, Italy

J.L. Olsen – RUG, The Netherlands

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C. Pergent – Corsica Univ, France

G. Procaccini – SZN, Italy

I. Provera – SZN, Italy

T. Reusch – Geomar, Germany

J. Stachowicz – UC Davis, USA

B. van Tussenbroek – UNAM, Mexico

S. Yaakub – InternBlue Carbon Inst,
Singapore

M. Waycott – The University of Adelaide,
Australia



2024 World Seagrass Conference & 15th International Seagrass Biology Workshop Seagrasses in the Anthropocene

Seagrasses in the Anthropocene

The 2024 World Seagrass Conference (WSC2024) & 15th International Seagrass Biology Workshop (ISBW15) will take place in Napoli, Italy, from June 17th to June 21st, 2024.

The theme of WSC2024 and ISBW15, Seagrasses in the Anthropocene, come from the knowledge that seagrass ecosystems are facing an accelerating human pressure at local and global scales. Environmental changes are transforming seagrass ecosystems into new configurations unlike anything observed before. Returning to past configurations is no longer an option.

The global challenge is to establish a new baseline, protect, restore, and rehabilitate the existing resource.

The key questions to address are:

To which extent species are resilient to environmental changes?

Which are the mechanisms behind that?

What can we do to ensure seagrass sustainability?

Which methodologies can we apply and/or further develop for keeping meadows functional?

How can we effectively combine socio-economic, cultural and management approaches with the basic science?

ISBW15 and WSC24 will strive to answer these questions with three themes:

- Theme 1 : Seagrass responses to environmental change
- Theme 2 : Seagrass community diversity and species interactions
- Theme 3 : Seagrass conservation, management and citizen science



2024 World Seagrass Conference & 15th International Seagrass Biology Workshop Seagrasses in the Anthropocene

Congress at S. Maria La Nova and Hotel Oriente (Day 1-3)



Workshops at
Univ. Parthenope,
Via Acton (Day 5)



Social events in Villa Comunale





2024 World Seagrass Conference &
15th International Seagrass Biology Workshop
Seagrasses in the Anthropocene

08.00 - 09.30 Registration at S. Maria la Nova

LIVE at the Baroque Church Room
STREAMING at Hotel Oriente

09.30 - 10.10 Welcome by G. Procaccini and R. Bassi (SZN President)

10.10 - 11.00 Opening Plenary
Seagrass science in an international cooperation and policy context: A game-changer opportunity not to miss
S. Aricò - International Science Council

11.00 - 11.40 COFFEE BREAK

11.40 - 12.10 Plenary theme 1
A return to the sea – adaptations of seagrasses across scales
T. Reusch - GEOMAR Kiel, Germany

PARALLEL SESSIONS

| | S.Maria la Nova Caputo room | S.Maria la Nova Baroque Church Room | Hotel Oriente |
|---------------|--------------------------------|---|---------------|
| 12.10 - 13.00 | SS05 Theme 1 | SS15 Theme 2 | SS11 Theme 3 |

13.00 - 14.30 LUNCH

| | | | |
|---------------|--------------|--------------|--------------|
| 14.30 - 16.50 | SS05 Theme 1 | SS15 Theme 2 | SS11 Theme 3 |
|---------------|--------------|--------------|--------------|

16.50 - 17.30 COFFEE BREAK

17.30 - 19.00 Posters of Scientific Sessions: SS05 - SS11 - SS15

S.Maria la Nova - Caputo room - Day 1

THEME 1 - Session #5

Seagrasses in 'the real world': resisting and recovering from multiple stressors

| | | | |
|---------------|----|------------------------|---|
| 12.10 - 12.25 | IT | K. McMahon | Overarching opening presentation |
| 12.25 - 12.37 | T | H. M. Nguyen | Signatures of rapid acclimation to ocean warming of the seagrass <i>Halophila stipulacea</i> in the Gulf of Aqaba |
| 12.37 - 12.49 | T | A. Bass | Marine heatwaves and light limitation independently alter the growth, productivity and leaf microbiome of the tropical seagrass <i>Halophila ovalis</i> |
| 12.49 - 13.01 | T | M. G. Garcia-Marquez | Effects of sunscreen exposure on <i>Posidonia oceanica</i> (L.) delile under an increased seawater temperature scenario |
| LUNCH | | | |
| 14.30 - 14.42 | T | R. S. Mueller | Influence of warming and disease on carbon metabolism and dissolved organic carbon fluxes in eelgrass (<i>Zostera marina</i>) communities. |
| 14.42 - 14.48 | FT | K. Csenteri | Dominance of heat vs. hypoosmotic stress in the tropical seagrass <i>Thalassia testudinum</i> . |
| 14.48 - 14.54 | FT | M. Lytle | Is tropical species <i>Halodule wrightii</i> persistence in temperate latitudes limited by seasonal alterations in water clarity and water temperature? |
| 14.54 - 15.06 | T | K. Rehlmeier | Subtidal eelgrass can tolerate high salinity fluctuations |
| 15.06 - 15.12 | FT | S. Vizzini | Expected beneficial effects of high CO ₂ on <i>Posidonia oceanica</i> are dampened by acute and chronic exposure to complex volcanic fluids in a shallow vent (Panarea Island, Aeolian Archipelago, Mediterranean Sea) |
| 15.12 - 15.18 | FT | E. Strain | Assessing the effects of anthropogenic stressors on the health and biodiversity of seagrass beds in southeast Tasmania |
| 15.18 - 15.24 | FT | I. Martinez Lopez | Insights of seagrass recovery capacity following green turtle grazing: a critical slowing down approach |
| 15.24 - 15.30 | FT | G. Bernard | Spread and impacts of Non-indigenous benthic ecosystem engineers within intertidal seagrass meadows in the context of global change |
| 15.30 - 15.42 | T | M. Jung | Light and hydrogen sulfides alter the fate of inorganic carbon in the seagrass <i>Halophila ovalis</i> |
| 15.42 - 15.48 | FT | M.D. Belando Torrentes | Eutrophication and global climate changes as drivers of marine ecosystem regime shifts: the case of the Mar Menor lagoon |
| 15.48 - 15.54 | FT | T. Banke | Identification of benthic light thresholds of <i>Zostera marina</i> transplants and implications for depth limits and restoration |
| 15.44 - 16.00 | FT | A. Riccardi | First insight into the circadian regulation of the <i>Zostera marina</i> transcriptome under experimentally controlled light conditions |
| 16.00 - 16.06 | FT | J. Rehage | Identifying critical thresholds and effects of land-based pollution from nutrients and pharmaceuticals on seagrass habitats and fauna |
| 16.06 - 16.18 | T | A. Blume | Comparison of multi- and single-stressor event effects on Bahamian seagrass extent and health using Earth Observation |
| 16.18 - 16.24 | FT | R. Zimmerman | Predicting Seagrass Responses to Multiple Stressors: A Theoretical Approach using GrassLight 3.0 |
| 16.24 - 16.36 | T | I. Zribi | Short-term effects of in situ nutrient enrichment and interactions between the seagrass <i>Cymodocea nodosa</i> and the filamentous green algae <i>Chaetomorpha linum</i> - (Talk moved to in SS03) |

S.Maria la Nova - Baroque Church room - Day 1

THEME 2 - Session #15

Recurring and emerging topics in the Anthropocene (open session)

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|---------------|----|---------------------------------------|--|
| 12:10 - 12:25 | IT | I. Olivé | General view on recurring and emerging topics for seagrasses in the Anthropocene |
| 12:25 - 12:37 | T | E. Thomsen | Threats of poor water quality to seagrass are widespread across the British Isles |
| 12:37 - 12:43 | FT | B. Boshoff | Estimating the presence and diversity of microplastics in south african seagrass meadows |
| 12:43 - 12:49 | FT | F. Rossi | Can <i>Posidonia oceanica</i> meadows change the propagation of anthropogenic noise and protect animals from this emergent pollutant? |
| 12:49 - 12:55 | FT | N. Agawin | Accumulation of sunscreen components and the state of conservation of <i>Posidonia oceanica</i> seagrass meadows in a major coastal tourist destination in the Mediterranean Sea |
| 12:55 - 13:01 | FT | M. C. Lima (talk given by co-authors) | Oil spill effects on seagrass ecosystems: A systematic review |
| LUNCH | | | |
| 14.30 - 14.42 | T | C. Bostrom | Are macroalgal mats a threat to seagrass meadows? A field survey in a complex archipelago seascape |
| 14.42 - 14.48 | FT | L. Marín-Guirao | The green macroalga <i>Caulerpa prolifera</i> constrains the natural recovery of seagrass meadows after eutrophication-induced coastal lagoon collapse |

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|---------------|----|--|--|
| 14.48- 14.54 | FT | D. Oliva | Allelopathic metabolites, caulerpin and caulerpenyne: their impact on <i>Posidonia oceanica</i> |
| 14.54 - 15.00 | FT | B. Martínez-Daranas | Developing the potential of <i>Thalassia testudinum</i> in the health sector in Cuba following the NAGOYA protocol and the biodiversity conservation - (Talk moved to in SS13) |
| 15.00 - 15.06 | FT | L. Human | <i>Zostera capensis</i> : Nature based solution or band aid for chemical pollution in the Anthropocene? |
| 15.06 - 15.18 | T | M. Gullstrom | Seascape configuration and connectivity shapes blue carbon stock dynamics in coastal seagrass landscapes |
| 15.18 - 15.32 | T | B. Lusk | Developing a seagrass Blue Carbon project while supporting shellfish aquaculture stakeholders |
| 15.32 - 15.38 | FT | T. Dolch | Carbon storage potential of intertidal seagrass beds in the northern Wadden Sea - grain size matters |
| 15.38 - 15.44 | FT | M. Parry | Carbon variability in UK seagrass meadows: protecting meadows for carbon benefits. |
| 15.44 - 15.50 | FT | F. Rendina (talk given by co-authors) | Unexplored carbon pools and fluxes in <i>Posidonia oceanica</i> : From primary production to necromass |
| 15.50 - 15.56 | FT | L.K. Reynolds (talk given by co-authors) | Seagrass species impacts on decomposition and sediment carbon stock |
| 15.56 - 16.08 | T | F. Tomas | Unprecedented extended reproductive behaviour of seagrass (<i>Posidonia oceanica</i>) after a major heatwave |
| 16.08 - 16.20 | T | C. Chercham | A new approach for spatio-temporal seagrass predictions at regional scales: coupling and adapting a probabilistic model of seagrass resilience and a regional ocean model |
| 16.20 - 16.32 | T | A. Scarpato | The Ecological Beach model: towards a Mediterranean network for combining a more sustainable tourism with <i>Posidonia</i> banquette conservation |
| 16.32 - 16.44 | T | S. Bates | Economic valuation of restored eelgrass at the Virginia coast reserve |

Hotel Oriente room - Day 1

THEME 3 - Session #11 *Seagrass observing and monitoring for the future*

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|---------------|----|--------------------|---|
| 12.10 - 12.25 | IT | L. Mtwana Nordlund | Seagrass is an Essential Ocean Variable (EOV) |
| 12.25 - 12.37 | T | J. Krause | Diverging trends of coastal ecosystem extent and condition: global seagrass monitoring highlights the need for coordinated data collection at multiple scales |
| 12.37 - 12.49 | T | R. James | Using deep learning and aerial imagery to identify ecosystem resilience indicators from temporal and spatial patterns of seagrass meadows |
| 12.49 - 13.01 | T | L. Smart | Mapping the variability in seagrass carbon stocks across the Caribbean |

LUNCH

| | | | |
|---------------|----|----------------------|--|
| 14.30 - 14.42 | T | K. McMahon | Two decades of seagrass monitoring data show global decline with warming and regionally specific drivers |
| 14.42 - 14.54 | T | E. Ross | Investigating the use of environmental DNA for biomonitoring on Scottish seagrass beds |
| 14.54 - 15.06 | T | S. Ries | Establishing genetic monitoring of seagrass - an example from Sweden |
| 15.06 - 15.18 | T | K. Rising | Comparing expert opinion to the published literature for current and future practice in seagrass monitoring |
| 15.18 - 15.30 | T | J. Fourqurean | Caribbean carbon accounting in seagrass (CariCAS) - a regional network for the assessment of seagrass carbon stocks |
| 15.30 - 15.36 | FT | G. Rizzuto | Paleo-records and growth performance of three <i>Posidonia oceanica</i> barrier reefs in the central Mediterranean Sea |
| 15.36 - 15.42 | FT | F. Scarcelli | Evaluating the ecological status of <i>Posidonia oceanica</i> meadows in Calabria (Soth Italy): a critical analysis of the PREI index overestimation |
| 15.42 - 15.48 | FT | A. P. Ruiz Beltran | Mapping temperate seagrass distribution by usinf LIDAR bathymetry and ptical satellite imagery: Furneaux island in Tasmania, Australia |
| 15.48 - 15.54 | FT | A. Anton | Temporal population dynamics of exotic macroalgae in <i>Posidonia oceanica</i> meadows using a two decade time-series |
| 15.54 - 16.00 | FT | K. Rose | Keeping our eyes on seagrass: A two prong approach to addressing seagrass loss in Florida, USA |
| 16.00 - 16.06 | FT | B.F.R. Davies | A Sentinel Watching Over Intertidal Seagrass Phenology |
| 16.06 - 16.12 | FT | M. H. Rio | Seagrass monitoring from space: on-going activities at the European Space Agency |
| 16.12 - 16.18 | FT | S. Christofilakos | Spatially explicit uncertainty in Marine Remote Sensing and how to use it for model optimization |
| 16.18 - 16.24 | FT | J. Samper-Villarreal | Long-term monitoring reveals a Caribbean seagrass meadow on the verge of collapse |
| 16.24 - 16.30 | FT | M. Hessler-Lewis | Seagrass methods videos as a path towards development of standardized protocols for seagrass Essential Ocean Variables |
| 16.30 - 16.36 | FT | V. Gerakaris | Greek <i>Posidonia</i> ecosystems at risk: investigating habitat loss and conservation priorities |
| 16.36 - 16.42 | FT | J. Pryor | The significance of seagrass in the Gerringun traditional use marine resource agreement area (TUMRA): Exploring Aboriginal custodianship, blue carbon, and collaborative research partnerships |



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08.30 - 09.00 Plenary theme 2
Darwin's Entangled Bank: interactions among seagrass, its associated animals, and the microbiome in a changing ocean
J.J. Stachowicz - UC Davis, USA

PARALLEL SESSIONS

| | S.Maria la Nova Baroque Church room | Hotel Oriente | S.Maria la Nova Caputo room |
|----------------------------|---|---------------|--------------------------------|
| 09.00 - 11.00 | SS02 Theme 1 | SS07 Theme 2 | SS09 Theme 3 |
| 11.00 - 11.40 COFFEE BREAK | | | |
| 11.40 - 13.00 | SS02 Theme 1 | SS07 Theme 2 | SS12 Theme 3 |
| 13.00 - 14.30 LUNCH | | | |
| 14.30 - 15.25 | SS04 Theme 1 | SS08 Theme 2 | SS12 Theme 3 |
| 15.25 - 16.30 | | | SS13 Theme 3 |
| 16.30 - 17.00 COFFEE BREAK | | | |
| 17.00 - 18.30 | Posters of Scientific Sessions: SS02 - SS04 - SS07 - SS08 - SS09 - SS12 - SS13 | | |

THEME 1 - Session #2

Large scale approaches to seagrass ecology: integrating diverse approaches to produce a global view of seagrass ecosystems

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|---------------|----|-------------------|--|
| 9.00 - 9.15 | IT | J. Stachowicz | Large scale approaches to seagrass ecology: integrating diverse approaches to produce a global view of seagrass ecosystems |
| 9.15 - 9.27 | T | S. von der Heyden | An overview of Project SeaStore in South Africa: trans-disciplinary approaches to seagrass conservation and restoration |
| 9.27 - 9.39 | T | L. Aoki | Quantifying intertidal eelgrass exposure to thermal stress along a latitudinal gradient |
| 9.39 - 9.51 | T | C. Roelfsema | Spatial Dynamics of Seagrass between 2004-2023 in Moreton Bay Australia, Provide Consideration For Global Scale Mapping of Seagrass. |
| 9.51 - 10.03 | T | D. Harvell | Integrating Local Biotic and Continental Scale Environmental Drivers of Eelgrass Health and Resilience |
| 10.03 - 10.15 | T | F. Tuya | "Diving" into the macroecology of seagrasses: testing some rules |
| 10.15 - 10.27 | T | R. Unsworth | The interrelationship between seagrass ecosystem services |
| 10.27 - 10.39 | T | F. Cesbron | Exploring the resilience of <i>Zostera noltei</i> meadows in Cul-de-Loup cove (Normandy, France): a multidisciplinary investigation to grasp their ecological preferences amid a changing or declining context |
| 10.39 - 10.45 | FT | T. Alcoverro | A call for nimble approaches to address inevitable surprises in seagrass ecosystems |
| 10.45 - 10.51 | FT | C. Nolan | Identification and characterization of flowering genes in <i>Zostera marina</i> |
| 10.51 - 10.57 | FT | G. Rowlands | Mapping and assessing the national carbon stocks and seagrass habitat in Seychelles |

COFFEE BREAK

| | | | |
|---------------|----|-------------------|--|
| 11.40 - 11.52 | T | A. Carter | Diverse approaches to produce an integrated large scale view of seagrass ecosystems |
| 11.52 - 12.04 | T | T. Yamakita | 15 years changes of eight seagrass beds of Japan: loss of southern limit of eelgrass, earthquake, typhoon impact, decline in shallow water |
| 12.04 - 12.16 | T | K. Kuusemäe | A process-based modelling approach to assessing live above and below ground biomass: A non-intrusive way to compliment coverage monitoring. |
| 12.16 - 12.22 | FT | R. Clement | Overcoming barriers to seagrass restoration |
| 12.22 - 12.28 | FT | I. Mazarrasa | Inferring seagrass meadows Blue Carbon stocks from space |
| 12.28 - 12.34 | FT | M. Roca | Monitoring the Seagrass Queen of the Mediterranean: Sentinel-2 for Cloud-Based Image Processing and Blue Carbon Assessment |
| 12.34 - 12.40 | FT | M. Bernal | Go large or go small? Testing the predictive importance of environmental variables for genotypic richness in eelgrass meadows |
| 12.40 - 12.46 | FT | N. Pineiro-Juncal | The role of seagrass meadows as carbon and pollutants sinks and sediment biodiversity hotspots: a metaanalysis of studies that presented paired control data |
| 12.46 - 12.52 | FT | N. Hoad | Social-environmental drivers of change in Indo-Pacific seagrass meadows |

LUNCH

Session #4 - Seagrass genetics in the Anthropocene ecosystems: From impacts to solutions

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|---------------|----|---------------------------------------|---|
| 14.30 - 14.42 | T | X. Zhang | There may be more seagrass species than we think: the case of the <i>Zostera japonica</i> species complex |
| 14.42 - 14.54 | T | K. Watson | Transcriptomic and photophysiological responses to thermal stress in environmentally diverse seagrass populations |
| 14.54 - 15.06 | T | C. Rumberger | Forecasting Maladaptation of the Seagrass <i>Zostera marina</i> to Future Climates in the Baltic Sea |
| 15.06 - 15.18 | T | K. DuBois | Eelgrass population genomics informs meadow and epifaunal community response to rapid warming in the gulf of maine |
| 15.18 - 15.24 | FT | A. Frouws | The sex life of seagrasses: A global synthesis of patterns in clonality and population genetic diversity in seagrasses |
| 15.24 - 15.30 | FT | A. Moreira Saporiti | A comprehensive assessment of flowering in <i>Zostera marina</i> : linking environment, phenology, and gene expression |
| 15.30 - 15.36 | FT | L. Sgambelluri | Temporal mating system variation and its effects on seed size in the eelgrass, <i>Zostera marina</i> : Implications for population maintenance and resilience |
| 15.36 - 15.42 | FT | J. Dierick | Extreme variation in the reproductive strategy of <i>Enhalus acoroides</i> across islands in Southeast Asia and the Western Pacific |
| 15.42 - 15.48 | FT | B. Briones Ortiz | Modes of Evolution in the Annual and Perennial Life Histories of <i>Zostera marina</i> (Eelgrass) |
| 15.48 - 15.54 | FT | P. Larkin | Assessing the relationship between sulfide intrusion, genetic diversity, and clone size in <i>Halodule wrightii</i> |
| 15.54 - 16.00 | FT | V. Litsi-Mizan | Exploring genetic diversity and connectivity of eastern mediteranean seagrass (<i>Posidonia oceanica</i>) meadows |
| 16.00 - 16.30 | | Discussion panel on seagrass genetics | |

Hotel Oriente - Day 2

THEME 2 - Session #07 Macro-micro interactions in seagrass ecosystems

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|---------------|----|----------------------|--|
| 9.00 - 9.15 | IT | U. Cardini | Nested seagrass ecosystems: insights from nitrification in a seagrass-sponge-microbes association |
| 9.15 - 9.27 | T | M. Bengtsson | Diatoms shape the <i>Zostera marina</i> leaf surface microbiome during early microbial colonization |
| 9.27 - 9.39 | T | J. Petersen | Plants and animals share sulfur-oxidizing symbionts in seagrass meadows |
| 9.39 - 9.51 | T | K. Elgetti Brodersen | Diazotrophy in the seagrass rhizosphere - the potential role of rhizobia? |
| 9.51 - 10.03 | T | A. Malcolm-McKay | Microbial driven CO ₂ /CH ₄ gas flux of the intertidal seagrass <i>Zostera noltei</i> |
| 10.03 - 10.15 | T | M. Andskog | Seagrass beds as a source of methane: a novel pathway and the effects of nutrient enrichment |
| 10.15 - 10.27 | T | N. Soto | The effect of anaerobic remineralization of the seagrass <i>Halophila stipulacea</i> on porewater biogeochemistry in the Gulf of Aqaba |
| 10.27 - 10.39 | FT | G. Zapata | Deciphering the habitat of shallow chemosynthetic fauna in seagrass sediments: biogeochemical changes across short spatial gradients |
| 10.39 - 10.45 | FT | R. Esposito | The cyanobacterial assemblages in <i>Posidonia oceanica</i> leaf stratum: a functional approach |
| 10.45 - 10.51 | FT | K. Kesy | Microbiome dynamics in restored seagrass meadows: implications for ecosystem recovery |
| 10.51 - 10.57 | FT | A. Blanckaert | Seagrass - lucinid clams interactions and their role in DMSP cycling |

COFFEE BREAK

| | | | |
|---------------|----|--------------------|---|
| 11.40 - 11.52 | T | E. Marzinelli | Experimental manipulation of host-associated microbes to understand their effect on seagrass performance |
| 11.52 - 12.04 | T | R. Jongen | The role of belowground microbes in mediating heat stress in seagrasses |
| 12.04 - 12.10 | FT | J. van de Water | Protective ecosystem services of seagrass meadows - supporting One Health through Nature-based Solutions |
| 12.10 - 12.16 | FT | J. Cramp | Quantifying blue carbon storage in Plymouth Sound seagrass beds to support development of a Carbon Code |
| 12.16 - 12.22 | FT | A. Tauran | Are macrozoobenthic communities associated with <i>Zostera noltei</i> meadows resistant to environmental changes? |
| 12.22 - 12.28 | FT | B. Mallet | Exchange of benthic components across a diverse <i>Zostera nolteii</i> meadow within a deteriorating or evolving ecosystem |
| 12.28 - 12.34 | FT | B. van Tussenbroek | Using mutualistic interactions as a non-invasive management strategy of green turtle feeding sites |
| 12.34 - 12.40 | FT | S. Ruhmkorff | Mechanistic functioning in epi- and infaunal bivalve-seagrass communities |
| 12.40 - 12.46 | FT | S. Fuentes | Facilitation or competition between <i>Thalassia testudinum</i> and <i>Caulerpa paspaloides</i> in a seagrass meadow? |
| 12.46 - 12.52 | FT | S. Zribi | Characterisation of a surviving population of <i>Pinna nobilis</i> in tiger <i>Posidonia meadows</i> in the AMCP of the Kerkennah Archipelago |

LUNCH

Session #8 - Seagrass Microbe Interactions – Harnessing the Microbiome

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|---------------|----|--------------------------|--|
| 14.30 - 14.45 | T | G. Chaput | Partners for Life-Understanding Microbiome Assembly and Function Throughout Eelgrass Development and Establishment |
| 14.45 - 14.57 | T | H.J. van Duijnhoven | Use of probiotics to stimulate the success of seagrass restoration |
| 14.57 - 15.09 | T | K. Zabinski | Eelgrass resistance to a marine heat wave correlates with having flexible leaf microbiomes while maintaining root microbiome composition |
| 15.09 - 15.21 | T | P. Gribben | Role of rhizosphere microbiota in controlling seagrass response to environmental stressors |
| 15.21 - 15.33 | T | X. Reynes | Study of the influence of microbiomes on seed germination and development in the seagrass <i>Cymodocea nodosa</i> |
| 15.33 - 15.45 | T | D. M. Brache-Smith | The composition and functional potential of growth promoting bacteria within the seagrass rhizosphere |
| 15.45 - 15.51 | FT | A. Rotini | Exploring the epiphytic bacterial and fungal communities associated with the <i>Posidonia oceanica</i> in a changing environment |
| 15.51 - 15.57 | FT | A. Brauer | Seed and sediment microbiomes influence the germination of seagrass seeds |
| 15.57 - 16.03 | FT | V. Kolatkova | A call for global collaboration in uncovering the diversity and pathogenic potential of phytomyxid parasites in seagrass meadows |
| 16.03 - 16.09 | FT | M. do Amaral Camara Lima | Carbon stocks and microbial communities from a Welsh <i>Zostera noltii</i> meadow |
| 16.09 - 16.30 | | General Discussion | |

THEME 3 - Session #09

Novel approaches to assist seagrasses in a changing environment

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|---------------|----|-------------------|--|
| 9.00 - 9.15 | IT | J. Pazzaglia | Thinking outside the box: Emerging tools for assisting seagrass resilience in a Changing World |
| 9.15 - 9.27 | T | C. Pansch-Hattich | Can microclimates foster enhanced resilience to climate change in seagrass? |
| 9.27 - 9.39 | T | I. Provera | Non-invasive assisted evolution strategies on <i>Posidonia oceanica</i> seedlings |
| 9.39 - 9.51 | T | M. Jahnke | Navigating the changing seascape: Epigenetic and microbiome responses in eelgrass meadows |
| 9.51 - 10.03 | T | J. Lefcheck | Bring on the HEAT: Helping Eelgrass Adapt to Temperature through Assisted Migration |
| 10.03 - 10.15 | T | R. Pieraccini | Strigolactone and gibberelic acid promote germination of <i>Zostera marina</i> seeds |
| 10.15 - 10.21 | FT | P. Stipcich | Thermo-priming vs acclimation: investigating the resistance of <i>Posidonia oceanica</i> seedlings to heat waves |
| 10.21 - 10.27 | FT | N. Said | Understanding seagrass temperature tolerance to aid in seagrass resilience and restoration efforts |
| 10.27 - 10.33 | FT | J. Jarvis | Evaluating and enhancing eelgrass resiliency and restoration potential in a changing climate |
| 10.33 - 10.39 | FT | M. Teichberg | Development of axenic cultures of <i>Zostera marina</i> from seeds and their potential use to propagate new plants through somatic embryogenesis |
| 10.39 - 10.45 | FT | J. Willim | Accelerated growth and low mortality of juvenile <i>Zostera marina</i> plants under an extreme Baltic heat wave |

COFFEE BREAK

Session #12 - Securing resilient and just seagrass social-ecological systems

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|---------------|----|---------------------|--|
| 11.55 - 12.07 | T | A. Lafratta | Securing a future for seagrass ecosystems in SE Asia - enhancing knowledge of seagrass ecosystem services (Blue Carbon) to incentivise conservation and community benefits |
| 12.07 - 12.19 | T | C. Septiani | Socio-ecological modelling on seagrass ecosystems in Sangihe Islands, Indonesia |
| 12.25 - 12.37 | T | M. Dahl | Developing carbon emission factors to support seagrass Blue Carbon conservation and restoration projects |
| 12.37 - 12.43 | FT | A. Dharwisyah David | Sustenance and more: the diverse role of intertidal gleaning in the livelihood of women in coastal communities |
| 12.43 - 12.49 | FT | A. Mendzil | Seagrass security: assessing the role of fisheries supporting and provisioning services in UK's temperate seagrass (<i>Zostera marina</i>) meadows |
| 12.49 - 12.55 | FT | J. Ooi | Overcoming seagrass blindness: seruan setu - secret gardens of the sea gamelan performance for greater seagrass recognition in Malaysia |

LUNCH

| | | | |
|---------------|----|--------------|--|
| 14.30 - 14.42 | T | N. Foster | The cultural value of seagrass to humanity from historical to contemporary uses |
| 14.42 - 14.54 | T | R. Groom | Songlines and Seagrass: Cultural and biodiversity dimensions govern seagrass protection in the Gulf of Carpentaria, Australia. |
| 14.54 - 15.00 | FT | M. Daughtery | Simple Alterations to Traditional Mooring Configurations to create the Striling Advanced Mooring System |
| 15.00 - 15.06 | FT | S. Costa | Exploring the Nexus of Seagrass Ecosystems, Angler Dependency, and Conservation Concerns |
| 15.06 - 15.12 | FT | S. Baez | Seagrass inclusion into climate policies |

Session #13 - Toward better understandings and conservation of Tropical Asian Seagrasses: Succeeding the will of Prof. Miguel D. Fortes (1947-2023)

| | | | |
|---------------|----|----------------------|--|
| 15.25 - 15.37 | IT | M. Nakaoka | Seagrass research and conservation in south east Asia: sirmike's outstanding achievement and contribution |
| 15.37 - 15.49 | T | B. Jones | Building capacity key to filling gaps in our understanding of seagrass ecosystem services. |
| 15.49 - 16.01 | T | E. DSouza | Advancing our understanding multi-species inter-tidal seagrass meadows in the Andaman and Nicobar archipelago, India |
| 16.01 - 16.13 | T | J. B. Abroguena | Seagrass meadows as seabird's habitats in the southern Red Sea coasts of Saudi Arabia |
| 16.13 - 16.19 | FT | A. Prathep | Drastic changes to the seagrass meadows in Thailand (Video presentation) |
| 16.19 - 16.25 | FT | M. A. Kusumaningtyas | Variation of Seagrass Community Structure and Carbon Stock in the Berau Marine Protected Area with response to land-use change (Video presentation) |
| 16.25 - 16.31 | FT | B. Martínez-Daranas | Developing the potential of <i>Thalassia testudinum</i> in the health sector in Cuba following the NAGOYA protocol and the biodiversity conservation |
| 16.31 - 16.41 | | General Discussion | |



2024 World Seagrass Conference &
 15th International Seagrass Biology Workshop
 Seagrasses in the Anthropocene

LIVE at the Baroque Church Room
 STREAMING at Hotel Oriente

08.30 - 09.00 Plenary theme 3
Seagrass conservation, management and citizen science
J. Uku - Kenya Marine and Fisheries Research Institute, Kenya

PARALLEL SESSIONS

| | Hotel Oriente | S.Maria la Nova Caputo room | S.Maria la Nova Baroque Church room |
|---------------|---|-----------------------------|-------------------------------------|
| 09.00 - 11.00 | SS01 Theme 1 | SS03 Theme 2 | SS14 Theme 3 |
| 11.00 - 11.40 | COFFEE BREAK | | |
| 11.40 - 13.00 | SS01 Theme 1 | SS03 Theme 2 | SS14 Theme 3 |
| 13.00 - 14.30 | LUNCH | | |
| 14.30 - 16.30 | SS06 Theme 1 | SS10 Theme 2 | SS14 Theme 3 |
| 16.30 - 17.00 | COFFEE BREAK | | |
| 17.00 - 18.30 | Posters of Scientific Sessions: SS01 - SS03 - SS06 - SS10 - SS14 | | |

Hotel Oriente - Day 3

THEME 1 - Session #1

Global Change and Consumer Effects - Seagrass Resilience in the Anthropocene

| | | | |
|---------------|----|----------------|---|
| 9.00 - 9.15 | IT | M. Christianen | Seagrass ecosystem multifunctionality under the rise of a flagship marine mega-herbivore |
| 9.15 - 9.27 | T | F. Smulders | Temperature and herbivory drive seagrass recovery potential across the Western North Atlantic |
| 9.27 - 9.39 | T | A. Scott | Megaherbivory is a major force driving seagrass structure on the Great Barrier Reef |
| 9.39 - 9.51 | T | E. Infantes | Mesopredator impact on seagrass: Emerging challenges in coastal management |
| 9.51 - 10.03 | T | S. Caronni | New threats for <i>Posidonia oceanica</i> in a changing environment. The strange case of <i>Caulerpa prolifera</i> along the coasts of Sardinia |
| 10.03 - 10.15 | T | A. Arona | Warming may decrease seagrass resistance to herbivory; a review and meta-analysis |
| 10.15 - 10.27 | T | S. Manuel | Sea Turtle grazing threatens seagrass resilience in Bermuda |
| 10.27 - 10.39 | T | S. Strydom | Implications of fragmented seagrass meadows for fish communities in a World Heritage Area |
| 10.39 - 10.45 | FT | X. Gao | Assessing the influence of natural and anthropogenic-driven environmental changes on the trophic ecology of seagrass-associated macrofauna in Hong Kong |
| 10.45 - 10.51 | FT | R. Mofokeng | 90 years of research on <i>Zostera capensis</i> : Foundational science to conservation and resilience |
| 10.51 - 10.57 | FT | L. Alvaro | Changing foundation species in the Chesapeake Bay: implications for faunal communities of two dominant seagrass species |

COFFEE BREAK

| | | | |
|---------------|----|-----------------------|--|
| 11.40 - 11.52 | T | N. Esteban | Bioturbation as a driver of tropical and temperate seagrass meadows |
| 11.52 - 12.04 | T | W.R. James | Widespread seagrass loss leads to ecosystem-scale decrease in trophic function |
| 12.04 - 12.16 | T | E. Tamarit | Impacts of climate warming on fish assemblages in <i>Zostera marina</i> beds of the Swedish West Coast |
| 12.28 - 12.40 | T | K. Gagnon | Century-scale changes in Norwegian eelgrass meadows: insights from a long-term time series |
| 12.40 - 12.46 | FT | G. Badlowski | Mesoconsumer trophic linkages across reef-seagrass seascapes within Sanctuary Preservation Areas in the Florida Keys |
| 12.46 - 12.52 | FT | A. Kalosaka | Influence of Temperature on the seagrass <i>Posidonia oceanica</i> in the South Tyrrhenian Sea |
| 12.52 - 12.58 | FT | A. Grech | Seagrass biophysical model of the Torres Strait |
| 12.58 - 13.04 | FT | D.A Bohorquez Puentes | Incidence of herbivory of the invasive crab <i>Percnon gibbesi</i> on the endemic Mediterranean seagrass <i>Posidonia oceanica</i> |

LUNCH

Session #6 - Ocean acidification research in seagrass ecosystems: From impacts to solutions

| | | | |
|---------------|--------------------|--------------------------------------|--|
| 14.30 - 14.45 | IT | N. Teixido | Insights into the responses of the seagrass <i>Posidonia oceanica</i> to ocean acidification at CO ₂ vent systems along the coast of Ischia (Naples, Italy) |
| 14.45 - 14.57 | T | J. Kaldy | Exploring CO ₂ (aq) limitation in temperate seagrass species: interspecific variability and biomass dependency |
| 14.57 - 15.09 | T | B. Celebi Ergin | Impact of ocean carbonation on photoprotection mechanisms in eelgrass (<i>Zostera marina</i> L.) |
| 15.09 - 15.21 | T | G. Hernan (talk given by co-authors) | Meta-analysis on the Effects of Increased CO ₂ in Defense Strategies Against Herbivory in Seagrasses |
| 15.21 - 15.33 | T | F. Bulleri | The role of seagrass meadows as ocean acidification refugia in warming seas |
| 15.33 - 15.45 | T | M. Buchbinder | Ocean acidification and nutrient effects on <i>Zostera marina</i> consumption by an invasive amphipod, <i>Ampithoe valida</i> , in San Francisco Bay, California, USA. |
| 15.45 - 15.51 | FT | A. Mirasole | Will ocean acidification enhance fish herbivory on <i>Posidonia oceanica</i> meadows? |
| 15.51 - 15.57 | FT | A. Ricart | Spatial and temporal variations in seawater carbonate chemistry in a seagrass-dominated coastal shallow embayment |
| 15.57 - 16.03 | FT | V. Costa | Unraveling the effect of ocean acidification on seagrass decomposition and macroinvertebrate colonization: evidence from a shallow CO ₂ volcanic vent |
| 16.03 - 16.09 | FT | E. Casoli | Effects of ocean acidification on polychaetes settlement in <i>Posidonia oceanica</i> meadows occurring in CO ₂ vents off Ischia island (Italy) |
| 16.09 - 16.15 | FT | V. Esposito | <i>Posidonia oceanica</i> meadows as refugia from ocean acidification for peracarid crustaceans settled in different microhabitats |
| 16.15 - 16.30 | General Discussion | | |

THEME 2 - Session #03

Seagrass trait-based ecology applied to seagrass responses to environmental change, biodiversity, ecosystem services, and conservation.

| | | | |
|---------------|----|--------------------------|---|
| 9.00 - 9.15 | IT | A. Moreira-Saporiti | A trait-based framework for seagrass ecology: Trends and prospects |
| 9.15 - 9.21 | FT | S. Beer | Photorespiration in <i>Zostera marina</i> : Ecological Implications |
| 9.21 - 9.33 | T | I. Hendriks | Unraveling the influence of seagrass species on associated biodiversity: A comprehensive meta-analysis |
| 9.33 - 9.45 | T | A. Boyé | Long-term monitoring of <i>Zostera marina</i> in the intertidal : phenotypic variations, environmental drivers and consequences for macrofaunal diversity |
| 9.45 - 9.57 | T | A. Chagas da Costa Neves | Using optical traits to assess seagrass and estuarine biodiversity in the European Atlantic coast |
| 9.57 - 10.09 | T | R. Lammerant | A functional perspective on the factors underpinning carbon storage in macrophyte communities |
| 10.09 - 10.21 | T | S. Liu | Nutrient loading weakens seagrass blue carbon potential by stimulating seagrass detritus carbon emission |
| 10.21 - 10.27 | FT | Y. WU | Nutrient loading decreases the refractory dissolved organic carbon to the carbon pool in tropical seagrass beds |
| 10.27 - 10.33 | FT | Z. Jiang | Effects of herbivore on seagrass, epiphyte and sediment carbon sequestration in tropical seagrass bed |
| 10.33 - 10.45 | T | P. Astruch | Uneven flowering occurrences of <i>Posidonia oceanica</i> along the Mediterranean Sea: insights from the 2022 event |
| 10.45 - 10.51 | FT | C.A. Garcia Escudero | Strong summer marine heatwaves fuel flowering of seagrass (<i>Posidonia oceanica</i>) in the Eastern Mediterranean Sea |

COFFEE BREAK

| | | | |
|---------------|----|-----------------------------------|--|
| 11.40 - 11.52 | T | C. Bourdier | Effects of the intensity of a heat wave on two seagrass species : an experimental approach |
| 11.52 - 12.58 | FT | M. Kaminer | Declines in local Mediterranean temperate seagrasses in parallel to the expansion of the tropical invasive <i>Halophila stipulacea</i> in Limassol, Cyprus- confirmation of predicted trends |
| 12.58 - 12.04 | FT | R. Rao (talk given by co-authors) | Trait-based responses to environment determines seagrass community assembly in intertidal mixed meadows of the Andaman Islands |
| 12.04 - 12.10 | FT | L. Pfeifer | Seagrass cell wall glycoproteins act as adaptor molecules in response to salinity stress |
| 12.10 - 12.22 | T | M. Cambridge | Leaf biomechanics and hydrodynamic forces determine seagrass species distribution along a wave gradient |
| 12.22 - 12.28 | FT | C. Lin | Intraspecific trait variation pattern of <i>Halodule uninervis</i> in tropical Queensland, Australia |
| 12.28 - 12.34 | FT | M. Gonzalez | Quantifying the structural complexity of <i>Zostera marina</i> meadows |
| 12.34 - 12.40 | FT | N. Al-Mansoori | Temporal and spatial variability of Seagrass meadows in the world's hottest sea: The Arabian Gulf. |
| 12.40 - 12.46 | FT | Y. Tomio | Intraspecies and interspecies variations of primary production and benthic macrofauna across a gradient of two Zosteraceae species in Venice lagoon |
| 12.46 - 12.52 | FT | E. Andrews | Shining a light on the drivers of seagrass phenotypic variation to enhance restoration success |
| 12.52 - 13.04 | T | I. Zribi | Short-term effects of in situ nutrient enrichment and interactions between the seagrass <i>Cymodocea nodosa</i> and the filamentous green algae <i>Chaetomorpha linum</i> |

LUNCH

Session #10 - Bird's Eye views of Seagrassscapes

| | | | |
|---------------|----|---------------------|---|
| 14.30 - 14.45 | IT | S. Schill | Multi-scale remote sensing techniques for mapping seagrass extent |
| 14.45 - 14.57 | T | L. Tamborrino | How hyper-spectral imaging of <i>Posidonia oceanica</i> combined with artificial intelligence can be used to increase the speed and scale of carbon stock assessments |
| 14.57 - 15.09 | T | J. Rodemann | Development of an upscaled submerged aquatic vegetation leaf cover model for long-term time series analysis in Florida Bay |
| 15.09 - 15.21 | T | M. Coppola | Addressing seagrass seascape multiscale responses to water quality in a subtropical estuarine lagoon |
| 15.21 - 15.33 | T | R. Connolly | Advanced seagrass monitoring using automated image processing on underwater drones |
| 15.33 - 15.45 | T | L. Barille | Remote sensing <i>Zostera noltei</i> 's epiphytes with hyperspectral imaging |
| 15.45 - 15.57 | T | F. Garcia-Gonzales | Merging scales and methodologies: from underwater tow cameras to Sentinel-2 imagery to assess seagrass distribution |
| 15.57 - 16.09 | T | S. Barry | High resolution mapping reveals hotspots of propeller scarring intensity and characterizes a range of scarring types |
| 16.09 - 16.15 | FT | K. Magalhaes | The lost meadows of Brazil: how a 97% decline in a 900 hectare seagrass meadow went unnoticed |
| 16.15 - 16.22 | FT | J. Martinez Garrido | A novel approach to monitor the depth limits of <i>Posidonia oceanica</i> meadows: seascape analysis using high-resolution underwater orthomosaics |
| 16.22 - 16.45 | | General Discussion | |

THEME 3 - Session #14
Seagrass restoration

| | | | |
|---------------|----|-------------------|---|
| 9.00 - 9.15 | IT | Session conveners | Successes, challenges and next frontiers in seagrass restoration in the face of the anthropocene |
| 9.15 - 9.26 | T | A. Verges | Combining citizen science, seahorse re-introductions and seascape restoration initiatives to accelerate the recovery of an endangered seagrass (<i>Posidonia australis</i>) |
| 9.26 - 9.38 | T | A. Newman | LIFE Restoration of <i>Zostera marina</i> along the UK Southern Coast |
| 9.38 - 9.50 | T | A. Thorhaug | Comparison of Western Atlantic subtropical/tropical pilot seagrass program results for seagrass restoration (Video recorded) |
| 9.50 - 10.02 | T | B. La Porta | Best practices for the planning, implementation, and monitoring of <i>Posidonia oceanica</i> restoration |
| 10.02 - 10.14 | T | E. Jackson | Seed-based seagrass restoration: the challenges and advantages of scaling in the great barrier reef world heritage area |
| 10.14 - 10.20 | FT | A. Deguette | Physiological responses of <i>Zostera marina</i> and <i>Cymodocea nodosa</i> to different transplantation methods |
| 10.20 - 10.26 | FT | A. Sousa | <i>Zostera noltei</i> sexual reproduction phenology and seed storage optimization: insights for intertidal seagrass seed-based restoration |
| 10.26 - 10.32 | FT | A. Pansini | How long will restored <i>Posidonia oceanica</i> take to achieve reference conditions since transplanting? |
| 10.32 - 10.38 | FT | A. Boulenger | Assessment of different transplantation methods for <i>Posidonia oceanica</i> meadows restoration by means of physiological parameters and photogrammetric-based techniques |
| 10.38 - 10.44 | FT | B. Belloni | Restoring <i>Posidonia oceanica</i> seagrass meadows using seeds: the opportunity of 2022 mass flowering in northwestern Mediterranean Sea |
| 10.44 - 10.50 | FT | C. Perscky | Thriving together: A multi-habitat approach for coastal restoration using oysters and seagrass in Mosquito Lagoon |
| 10.50 - 10.56 | FT | T. Bacci | Recurring patterns in long term response of <i>Posidonia oceanica</i> transplantation at population and plant level |
| 10.56 - 11.02 | FT | S. Acunto | The use of biodegradable geomats for the restoration of <i>Posidonia oceanica</i> meadows of Ligurian and Tyrrhenian seas |

COFFEE BREAK

| | | | |
|---------------|----|-------------|--|
| 11.40 - 11.52 | T | G. Pergent | Comparison and optimization of <i>Posidonia oceanica</i> meadows strengthening protocols |
| 11.52 - 12.04 | T | J. Bieri | Virginia coast reserve seagrass blue carbon project: why here? why now? |
| 12.04 - 12.16 | T | L. Govers | Restoring the largest intertidal seagrass meadow in the world |
| 12.16 - 12.22 | FT | D. Ventura | 3D Point clouds and object-based image analysis for seagrass restoration mapping and monitoring |
| 12.22 - 12.28 | FT | D. Bruno | Functional response of the fish assemblage to <i>Posidonia oceanica</i> restoration |
| 12.28 - 12.34 | FT | D. Chin | Help from near or far? considering spatial scales of interaction when using infaunal bivalve facilitation in seagrass restoration |
| 12.34 - 12.40 | FT | E. Fox | A trans-national comparison of <i>Zostera noltii</i> transplants |
| 12.40 - 12.46 | FT | E. McCosker | Recovering lost habitat and ecosystem function through large-scale restoration of the endangered seagrass <i>Posidonia australis</i> |
| 12.46 - 13.02 | FT | G. Ferretto | Testing habitat suitability for seagrass restoration to inform future efforts in southwestern Australia |

LUNCH

| | | | |
|---------------|----|---------------------|---|
| 14.30 - 14.42 | T | M. Ward | Lessons learned from thirty years of U.S. west coast eelgrass restoration |
| 14.42 - 14.54 | T | M. Scardi | Long-term evolution of shoot density in <i>Posidonia oceanica</i> transplants |
| 14.54 - 15.06 | T | R.C. Steinfurth | Success and failures, the road to a best-practice guideline for restoration of <i>Zostera marina</i> in Danish waters |
| 15.06 - 15.18 | T | S. Bandeira | Seagrass restoration in Mozambique, setting the stage and existing tangible metrics |
| 15.18 - 15.24 | FT | J. Silva | Physiological stress in <i>Zostera marina</i> & <i>Zostera noltei</i> transplantation: effects of season and donor site selection |
| 15.24 - 15.30 | FT | J. Kenworthy | The application of a nature based restoration approach for tropical Atlantic seagrass meadows |
| 15.30 - 15.36 | FT | J. Castro-Fernandez | Early signs of recovery of the nursery function in a restored <i>Posidonia oceanica</i> meadow |
| 15.36 - 15.42 | FT | K. O'Toole | Meadows from a random forest: analysis of <i>Zostera marina</i> habitat and the potential for restoration in Peconic bay (Long Island, NY, USA) |
| 15.42 - 15.48 | FT | K. Cheung | Integrated approaches to restore Hong Kong's seagrass beds |
| 15.48 - 15.54 | FT | L. Callahan | Fine scale site assessment for seagrass restoration |
| 15.54 - 16.00 | FT | M. Rubio Bernal | Long-term nutrient and carbohydrate dynamics in <i>Posidonia oceanica</i> transplants (talk given by co-authors) |

| | | | |
|---------------|----|----------------|---|
| 16.00 - 16.06 | FT | M. van Katwijk | Donor populations for restoration |
| 16.06 - 16.12 | FT | M. Penna | The restoration of <i>Posidonia oceanica</i> (L. Delile) and <i>Cymodocea nodosa</i> (Ucria) Ascherson, 1870 meadows as part of the marine ecosystem restoration project. |
| 16.12 - 16.18 | FT | M. Attrill | Assessing the viability of monetising seagrass carbon sequestration to support meadow restoration |
| 16.18 - 16.24 | FT | P. Moksens | Sand capping to break feedback mechanisms and promote the return of seagrass |
| 16.24 - 16.30 | FT | R. Austin | Seeds for snapper: scaling up seagrass restoration using community power |
| 16.30 - 16.36 | FT | R. Cronau | Combining co-introduction with patch-size optimization as a novel strategy to maximize seagrass restoration |

IT: Introductory Talk · T: Talk · FT: Flash Talk



2024 World Seagrass Conference & 15th International Seagrass Biology Workshop Seagrasses in the Anthropocene

Field Trips will mainly concentrate on the Marine Protected Areas, Archaeological and National Parks present in the Gulf of Napoli. Each Field Trip will give the opportunity to explore nature and to taste the cultural and historical heritage of the area.

The MPA Regno di Nettuno (Field Trips 1 and 2) includes the islands of Ischia, Procida and Vivara, and was established in 2008 to specially protect the vast *Posidonia oceanica* meadows surrounding the three islands, covering more than 20 Km² of sea bottom. The island of Ischia also features shallow volcanic CO₂ vents systems, involving also *P. oceanica* meadows.

The MPA Parco Sommerso di Baia (Field Trip 3 and 8), within the Gulf of Pozzuoli, was established in 2000. It is a unique marine archaeological park representing the only submersed archaeological site in all Europe. It is possible to snorkel and spot Roman ruins, such as a ninfeo, villas, thermal and harbour structures with statues and mosaics, at a few metres depth.

The MPA Parco Sommerso di Gaiola (Field Trip 4) was established in 2000 and represents the only park located within the urban context of the city of Naples, including both marine and ancient Roman archaeological structures.

The MPA of Punta Campanella (Field Trip 5), established in 1999 on the southern coast of the Gulf, includes most of the Sorrento Peninsula facing the island of Capri and it is rich in marine caves due to its calcareous and karstic nature and features dense *P. oceanica* patches.

The Archaeological Park of Ercolano (Field Trip 6) was officially established in 2016, while the Archaeological area is part of the UNESCO World Heritage Sites from 1997, together with the nearby Pompei and Oplonti.

The National Park of Vesuvio (Field Trip 7) was officially established in 1995, to protect plant and animal species and to defend and value one of the most famous and still active volcanos of the world.

GENERAL INFORMATION

All field trips are expected to return to Napoli by 5 pm.

Tips: The air temperature in June 2023 ranged between 18.8°C and max 26°C.

Nevertheless, it can be warmer! For snorkelers, average seawater temperature in June is about 23.0 °C, in the Gulf of Napoli. It is up to you to bring a thin wet suit, besides mask and snorkel.



2024 World Seagrass Conference & 15th International Seagrass Biology Workshop Seagrasses in the Anthropocene

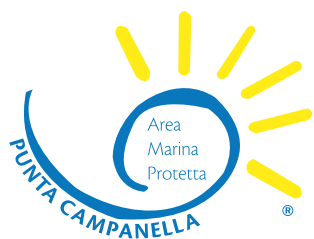
Workshops

| | |
|---------------|--|
| 08.00 - 09.30 | University Parthenope |
| 09.00 - 11.00 | Contemporary workshop WS02, WS04, WS05 |
| 11.00 - 11.40 | COFFEE BREAK |
| 11.40 - 13.00 | Contemporary workshop WS03, WS06, WS10 |
| 13.00 - 14.30 | LUNCH |
| 14.30 - 16.00 | Contemporary workshop WS01, WS07, WS08, WS09 |
| 16.00 - 17.00 | Side events / WSA Meeting |
| 17.00 - 17.30 | ISBW15 and WSC2024 - Closing session |
| 19.30 | Social event at DaDoM Museum (SZN) |

Workshops details

| Time | # | Organizer | Title |
|---------------|---------------------|-----------------------------------|--|
| 9.00 - 11.00 | WS02 | L. Mtwana Nordlund J. Lefcheck | Seagrass futures (2 Groups) |
| | WS04 | Judy O'Neil K.M. Laumann | Stakeholder engagement: Broaden the impact of your research |
| | WS05 | W. Dennison | Science communication: Communicate better and expand your reach |
| 11.00 - 11.40 | COFFEE BREAK | | |
| 11.40 - 13.00 | WS03 | C. Conacher | Global, Regional and Local Constraints and Opportunities for Seagrass Management |
| | WS06 | K.M. Laumann | Avoiding Parachute Science: Working with, rather than alongside, communities |
| | WS10 | W. O'Brien | Ideas for scaling up seagrass restoration |
| 13.00 - 14.30 | LUNCH | | |
| 14.30 - 16.00 | WS01 | W.R. James | Hypervolume modelling: a multivariate tool for seagrass ecosystem assessments |
| | WS07 | C. Roelfsema | A new global seagrass map through community led remote sensing and field validation |
| | WS08 | C.B. de los Santos | Consolidation and sharing of seagrass trait data |
| | WS09 | J. Uku | Advancements in seagrass restoration for climate resilience in the western Indian ocean and Africa |

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