



MoTEC 2025

July 20-25, The Queen Mary Hotel, Long Beach, CA

International Organizing Committee

Partha Basu
Department of Chemistry and Chemical Biology
Indiana University/Purdue University, Indianapolis
Indianapolis,

Ulrike Kappler
School of Chemistry and Molecular Biosciences
University of Queensland
Brisbane, Australia

Silke Leimkühler
Institute of Molecular Enzymology
University of Potsdam
Potsdam, Germany

Ralf Mendel
Institute for Plant Biology
Technical University of Braunschweig
Braunschweig, Germany

Maria João Romão
Department of Biochemistry
New University of Lisbon
Caparica, Portugal

Günter Schwarz
Institute of Biochemistry
University of Cologne
Köln, Germany

Sharon Burgmayer
Department of Chemistry
Bryn Mawr University
Bryn Mawr, PA

Martin Kirk
Department of Chemistry
University of New Mexico
Albuquerque, NM

Axel Magalon
Bacterial Chemistry Laboratory
CNRS Marseille
Marseille, France

José J.G. Moura
Department of Chemistry
New University of Lisbon
Caparica, Portugal

Frank Sargent
Biosciences Institute
Newcastle University
Newcastle, UK

Local Organizing Committee

Russ Hille, Department of Biochemistry, University of California, Riverside (Chair)

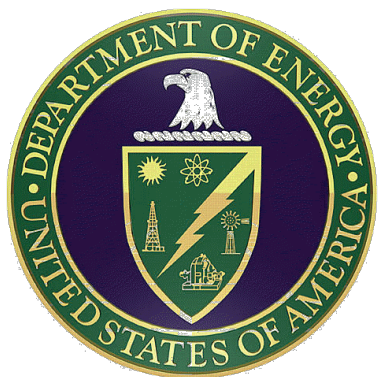
Eunsuk Kim, Department of Chemistry, Brown University

Cedric Owens, Schmid College of Science and Technology, Chapman University

Chad Saltikov, Dept Microbiology & Environmental Toxicology, University of California, Santa Cruz

Jarett Wilcoxon, Department of Chemistry and Biochemistry, University of Wisconsin-Milwaukee

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MoTEC 2025 Code of Conduct

The MoTEC 2025 meeting falls under the aegis of the University of California system generally and its Riverside campus specifically.

The University of California, Riverside (UCR) Standards of Conduct govern the behavior of all students, faculty, and staff at the university:

- **Respect:** Treat others with respect and consideration
- **Collaboration:** Be collaborative and encourage participation
- **Diversity:** Value a diversity of views and opinions
- **Communication:** Communicate openly and respectfully
- **Professionalism:** Behave in a professional manner
- **Safety:** Be mindful of your surroundings and the safety of others
- **Reporting:** Report any dangerous situations or people in distress to UCR staff

The UCR Standards of Conduct apply to both academic and non-academic conduct. They also apply to conduct that occurs off campus if it:

- Affects the health, safety, or security of the university community
- Involves university academic work, records, or documents
- Compromises university neighbor relations

The UCR Standards of Conduct are adapted from the University of California Policies Applying to Campus Activities, Organizations, and Students (PACAOS), which can be found at <https://www.ucop.edu/student-equity-affairs/policies/pacaos.html>.

Program Sunday July 20, 2024

12:00-18:00	Check-in and Registration <i>Hotel Lobby, A Deck (Level 3)</i>
18:00-20:00	Dinner
20:00-21:00	Session I Russ Hille, Chair
20:00-20:15	Introductory Remarks – Russ Hille
20:15-21:00	Anne-Kathrin Duhme-Klair University of York, UK
21:00-23:00	Opening Reception

Program Monday, July 21, 2024

7:30-8:30	Breakfast
8:30-10:30	Session II (Sharon Burgmayer, Chair)
8:30-8:55	Ulrike Kappler, University of Queensland
8:55-9:00	Q&A
9:00-9:25	Barbara Schoepp-Cothenet, CNRS Marseilles
9:25-9:30	Q&A
9:30-9:55	Günter Schwarz, University of Cologne
9:55-10:00	Q&A
10:00-10:25	Bernd Clement, University of Kiel
10:25-10:30	Q&A
10:30-11:00	Coffee Break
11:00-12:30	Session III (Jarett Wilcoxon, Chair)
	<i>1.5 hr for flash talks</i>
12:30-14:00	Lunch
14:00-15:00	Session IV (Ralf Mendel, Chair)
14:00-14:25	Graham George, University of Saskatchewan
14:25-14:30	Q&A
14:30-14:55	Marty Kirk, University of New Mexico
14:55-15:00	Q&A
15:00-18:30	Free Time
18:30-20:00	Dinner
20:00-21:30	Session V (Cedric Owens, Chair)
20:00-20:25	Johannes Rebelein, Max Planck Institute, Marburg <i>EMBO Young Investigator Lecture</i>
20:25-20:30	Q&A
20:30-20:55	Yilin Hu, University of California, Irvine
20:55-21:00	Q&A
21:00-21:25	Markus Ribbe, University of California, Irvine
21:25-21:30	Q&A
21:30-23:00	Poster Session (odd numbered posters presenting)

Program Tuesday, July 22, 2024

7:30-8:30	Breakfast
8:30-10:30	Session VI (Ulrike Kappler, Chair)
8:30-8:55	Maria João Romão, New University of Lisbon
8:55-9:00	Q&A
9:00-9:25	Jarett Wilcoxon, University of Wisconsin, Milwaukee
9:25-9:30	Q&A
9:30-9:55	Paul Bernhardt, University of Queensland
9:55-10:00	Q&A
10:00-10:25	Stephane Grimaldi, University of Aix-Marseilles
10:25-10:30	Q&A
10:30-11:00	Coffee Break
11:00-12:30	Session VII (Marty Kirk, Chair)
11:00-11:25	Jenny Yang, University of California, Irvine
11:25-11:30	Q&A
11:30-11:55	Stan Groysman, Wayne State University
11:55-12:00	Q&A
12:00-12:25	Yasuhiro Ohki, Kyoto University
12:25-12:30	Q&A
12:30-14:00	Lunch
14:00-15:00	Session VIII (Günter Schwarz, Chair)
14:00-14:25	Mai Sekine, University of Tokyo
14:25-14:30	Q&A
14:30-14:55	Partha Basu, University of Indiana, Indianapolis
14:55-15:00	Q&A
15:00-18:30	Free Time
18:30-20:00	Dinner
20:00-21:30	Session IX (Partha Basu, Chair)
20:00-20:25	Eunsuk Kim, Brown University
20:25-20:30	Q&A
20:30-20:55	Neal Mankand, University of Illinois, Chicago
20:55-21:00	Q&A
21:00-21:25	Nadia Mösch-Zanetti, University of Graz
21:25-21:30	Q&A
21:30-23:00	Poster Session (even numbered posters presenting)

Program Wednesday, July 23, 2024

7:30-8:30	Breakfast
8:30-10:30	Session X (Maria João Romão, Chair)
8:30-8:55	Peter Hagedoorn, Technical University of Delft
8:55-9:00	Q&A
9:00-9:25	Maciej Szaleniec, Polish Academy of Sciences
9:25-9:30	Q&A
9:30-9:55	Matthias Boll, University of Freiburg
9:55-10:00	Q&A
10:00-10:25	Bruno Guigliarelli, CNRS Marseilles
10:25-10:30	Q&A
10:30-11:00	Coffee Break
11:00-12:30	Session XI (José Moura, Chair)
11:00-11:25	Brian Hoffman, Northwestern University
11:25-11:30	Q&A
11:30-11:55	Oliver Einsle, University of Freiburg
11:55-12:00	Q&A
12:00-12:25	Dan Lessner, University of Arkansas
12:25-12:30	Q&A
12:30-14:00	Lunch
14:00-19:30	Free Time (whale-watching excursion, dinner on one's own)
19:30-21:30	Session XII (Axel Magalon, Chair)
19:30-19:55	Doug Rees, California Institute of Technology
19:55-20:00	Q&A
20:00-20:25	Ralf Mendel, Technical University of Braunschweig
20:25-20:30	Q&A
20:30-20:55	Silke Leimkühler, University of Potsdam
20:55-21:00	Q&A
21:00-21:25	Kenichi Yokoyama, Duke University
21:25-21:30	Q&A
21:30-23:00	Poster Session

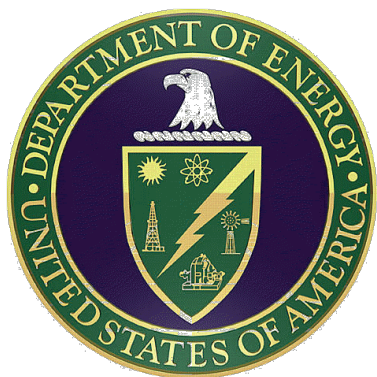
Program Thursday, July 24, 2024

7:30-8:30	Breakfast
8:30-10:30	Session XIII (Silke Leimkühler, Chair)
8:30-8:55	José Moura, New University of Lisbon
8:55-9:00	Q&A
9:00-9:25	Dimitri Niks, University of California, Riverside
9:25-9:30	Q&A
9:30-9:55	Frank Sargent, Newcastle University
9:55-10:00	Q&A
10:00-10:25	Inês Pereira, University of Coimbra
10:25-10:30	Q&A
10:30-11:00	Coffee Break
11:00-12:30	Session XIV (Frank Sargent, Chair)
11:00-11:25	Axel Magalon, CNRS Marseilles
11:25-11:30	Q&A
11:30-11:55	John Stolz, Duquesne University
11:55-12:00	Q&A
12:00-12:25	Daan Speth, University of Vienna
12:25-12:30	Q&A
12:30-14:00	Lunch
14:00-15:30	Session XV (Chad Saltikov, Chair)
14:00-14:25	Chad Saltikov, University of California, Santa Cruz
14:25-14:30	Q&A
14:30-14:55	Tristan Wagner, Max Planck Institute, Bremen
14:55-15:00	Q&A
15:00-15:25	Kylie Allen, Virginia Tech University
15:25-15:30	Q&A
15:30-19:00	Free Time
19:00-22:00	Banquet

Program Friday, July 25, 2024

7:30-10:00	Breakfast
11:00	<i>Checkout</i>

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MoTEC History

In the 1970's and early 1980's The Climax Molybdenum Company (later AMAX) sponsored several meetings on the chemistry and uses of molybdenum. The principal focus of these meetings was chemistry and chemical engineering, but they invariably included one or more sessions on enzymes that possessed molybdenum (which at the time was limited to nitrogenase, xanthine oxidase, sulfite oxidase and the assimilatory nitrate reductase from plants).

The first meeting focusing principally on the biology and biochemistry of molybdenum was organized by Robert C. Bray and Russ Hille, April 12-14, 1997, at the University of Sussex as a satellite meeting of the annual meeting of Biochemical Society of the United Kingdom that year. The Sussex meeting brought together a large and international contingent of biochemists and molecular biologists, and was enthusiastically received by the participants. It became clear that the community was large enough to sustain a regular meeting of its own, and subsequent discussion among workers in the field led to the suggestion of a Molybdenum and Tungsten Enzymes Gordon Conference, and a successful application for the creation of such a meeting was prepared by Ed Stiefel and Russ Hille. This Gordon Conference, which included a strong contingent of synthetic and physical inorganic chemists (notably absent from the Sussex meeting owing to a scheduling conflict with an annual meeting of the American Chemical Society) was held every other year from 1999 to 2009 with the organizers indicated below, with sites alternating between the US and Europe.

1999 Plymouth State College, Plymouth USA (Edward I. Stiefel and Russ Hille)
2001 The Queen's College, Oxford, UK (C. David Garner and Ralf. R.R. Mendel)
2003 Kimball Union Academy, USA (John H. Enemark and Rudolf K. Thauer)
2005 The Queen's College, Oxford, UK (Michael K. Johnson and Tracy Palmer)
2007 Colby-Sawyer College, USA (Alastair G. McEwan and Caroline Fl. Kisker)
2009 Renaissance, Il Ciocco, IT (Martin L. Kirk and Maria João Romão)

The Gordon Conference series was discontinued after 2009, but its place, an independently organized Molybdenum and Tungsten Enzymes Conference was established, the first such meeting being organized by Joel Weiner at the University of Edmonton August 3-6, 2011, immediately prior to the ICBIC 15 meeting in Vancouver that year. Again, it was evident that the community was sufficiently large and active to sustain such a regular meeting. The second of these independently organized meetings was held July 16-19 2013 Sintra, Portugal immediately prior to ICBIC 16 in Grenoble, France, and was hosted by José Moura, Isabel Moura, Luisa Maia and Maria João Romão. This meeting for the first time included a significant contingent of workers on nitrogenase, which had previously held a separate Gordon Conference focusing exclusively on that enzyme. The inclusion of the nitrogenase theme was viewed by all as a very positive development, and has been a component of all subsequent meetings. The next meeting was held at Lake Balatonfüred, Hungary, September 6-10, 2015, hosted by Günter Schwarz and Katrin Fischer-Schrader of the University of Cologne, and it was here that the name Molybdenum and Tungsten Enzymes Meeting (MoTEC) was first adopted. Subsequent meetings were held in Santa Fe, NM (2017, hosted by Sharon Burgmayer and Martin Kirk), Potsdam, Germany (2019, hosted by Silke Leimkühler) and Indianapolis, IN (2022, hosted by Partha Basu). A virtual MoTEC meeting was held in 2021. Organized by Axel Magalon due to COVID-related travel restrictions.

Although focused on molybdenum- and tungsten-containing enzymes, The MoTEC series has had great breadth, dealing not only with the structural and functional characterization of molybdenum- and tungsten-containing enzymes, but also chemical and computational modeling of them (from both a structural and functional standpoint), bioinformatics analysis of their biological distribution, cell biology, cofactor biosynthesis, intracellular trafficking and insertion.

The present meeting constitutes the fifteenth in the series, stretching back to the University of Sussex meeting in 1997. The field has expanded greatly in that time, in terms of the number of principal investigators working in the field, the breadth of approaches employed and the number of enzymes studied (now exceeding 100 on the basis of the most recent genomics analyses).

25+ Years of Molybdenum and Tungsten Enzymes Meetings

Year	Venue	Chair(s)
1997	Sussex University, Brighton, UK	Bob Bray and Russ Hille
1999	Plymouth State College, Plymouth, USA	Ed Stiefel and Russ Hille
2001	Queen's College, Oxford, UK	David Garner, Ralf Mendel
2003	Kemble Union Academy, Meriden, USA	John Enemark and Rudolf Thauer
2005	Queen's College, Oxford, UK	Michael Johnson and Tracy Palmer
2007	Colby-Sawyer College, Newport, USA	Alastair McEwan and Caroline Kisker
2009	Renaissance Hotel, Il Ciocco, Italy	Martin Kirk and Maria João Romão
2011	University of Alberta, Edmonton, Canada	Joel Weiner
2013	Hotel Tivoli, Sintra, Portugal	José & Isabel Moura, Luisa Maia, Maria Romão
2015	Hotel Flamingo, Balatonfüred, Hungary	Günter Schwarz and Katrin Fischer-Schrader
2017	Buffalo Thunder Hotel, Santa Fe, USA	Sharon Burgmayer
2019	University of Potsdam, Potsdam, Germany	Silke Leimkühler
2021	Univ. Marseilles, Marseilles, France (virtual)	Axel Magalon
2022	IUPUI, Indianapolis, USA	Partha Basu
2025	The Queen Mary Hotel, Long Beach, USA	Russ Hille

MoTEC 2025

The Queen Mary Hotel, Long Beach, CA USA July 20-25, 2025

Check-in and Conference Registration: *Hotel Lobby, A Deck (Level 3)*

Name Tags: *information*

Welcome Reception: *information*

Scientific Sessions: *information*

Poster Sessions: *information*

Breakfast: *information*

Lunch: *information*

Dinner: *information*

Banquet: *information*

Registered Guests: *information*

Information about the Queen Mary <https://queenmary.com>

SHIP INFORMATION

WELCOME TO THE QUEEN MARY!

Her history is full of action, adventure, romance and paranormal activity offering a full service hotel, award-winning dining and unique attractions.

FOR TOUR CHECK-IN AND TO PURCHASE ADDITIONAL TOURS AND EXHIBITS

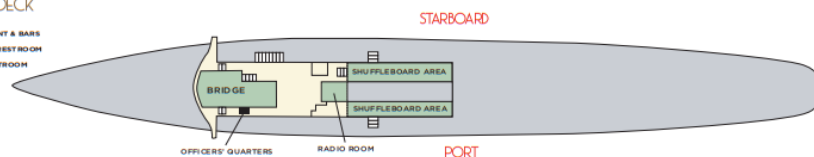
Go to Level 4 (Promenade Deck) and proceed to the Tour Center. Please arrive at least 10 minutes early for all tours.

FOR ASSISTANCE

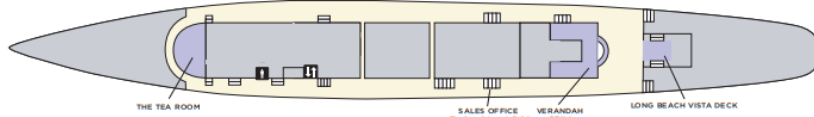
Due to the historic nature of the ship, not all areas are accessible. For special accommodations for guided tours and historic exhibits, please go to the Tour Center located on level 4 (Promenade Deck); for the Stern go to the Wharf entrance on level 1 (ground level). For special accommodations with hotel rooms, please go to the Hotel Lobby on Level 3 (A-Deck).

SPORTS DECK

- RESTAURANT & BARS
- WOMEN'S RESTROOM
- MEN'S RESTROOM
- ELEVATOR
- SHOP



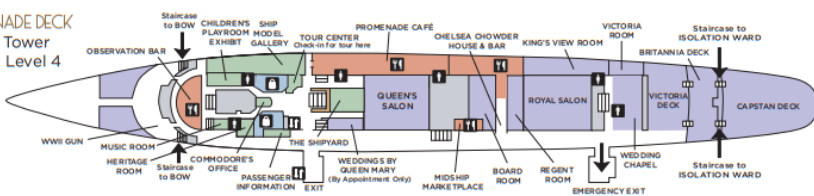
SUNDECK



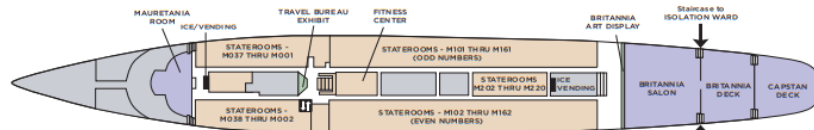
PROMENADE DECK

Exterior Tower
Elevator Level 4

BOW

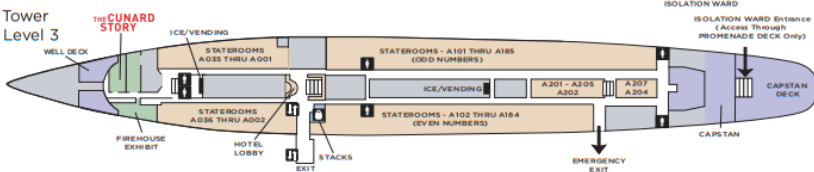


M-DECK

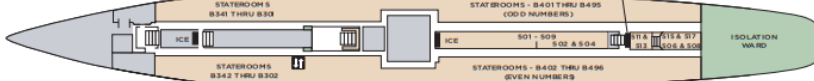


A-DECK

Exterior Tower
Elevator Level 3

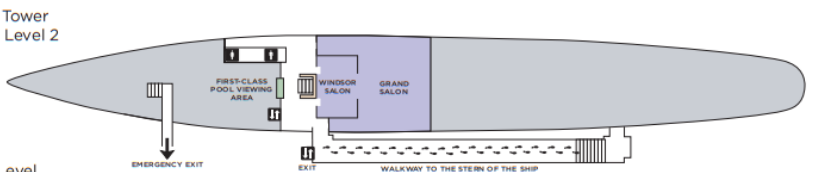


B-DECK



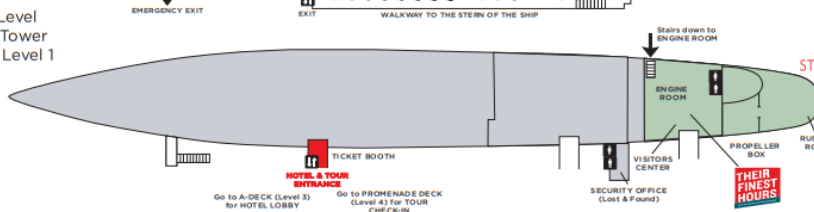
R-DECK

Exterior Tower
Elevator Level 2



D-DECK

Ground Level
Exterior Tower
Elevator Level 1



Attractions & Historical Exhibits	Shopping	Dining	Meetings & Receptions
<ul style="list-style-type: none"> BRIDGE & OFFICERS' QUARTERS SPORTS DECK, FORWARD COMMODORE'S OFFICE PROMENADE DECK, MIDSHIPS ENGINE ROOM D-DECK, AFT FIREHOUSE EXHIBIT A-DECK, FORWARD SOLITRON WIND A-DECK, AFT, STERN PRINT SHOP DISPLAY D-DECK, AFT QUEEN MARY HERITAGE ROOM PROMENADE DECK, FORWARD, PORT QUEEN MARY HISTORIC EXHIBIT D-DECK, AFT 	<ul style="list-style-type: none"> MIDSHIP MARKETPLACE & STARBORD SHOPPE PROMENADE DECK, MIDSHIPS PICNIC DELIGHTS PROMENADE DECK, MIDSHIPS STACKS A-DECK, MIDSHIPS 	<ul style="list-style-type: none"> CHELSEA CHOWDER HOUSE & BAR PROMENADE DECK, MIDSHIPS MIDSHIP MARKETPLACE PROMENADE DECK, PORT OBSERVATION BAR PROMENADE DECK, FORWARD PROMENADE CAFE PROMENADE DECK, MIDSHIPS ROYAL SUNDRY BRUNCH R-DECK GRAND SALON 	<ul style="list-style-type: none"> BOARD ROOM PROMENADE DECK, MIDSHIPS BROWNIRL SALON M-DECK, AFT CRISTIN ROOM A-DECK, AFT GRAND SALON R-DECK, MIDSHIPS KING'S VIEW ROOM PROMENADE DECK, STARBORD, AFT MURKIN ROOM M-DECK, FORWARD QUEEN'S SALON PROMENADE DECK, MIDSHIPS RECENT ROOM PROMENADE DECK, MIDSHIPS
<ul style="list-style-type: none"> RADIO ROOM (WRO) SPORTS DECK, MIDSHIPS SHIP MODEL GALLERY PROMENADE DECK, STARBORD SISTERS OF THE SEAS EXHIBIT D-DECK, AFT THEIR FINEST HOUR EXHIBIT D-DECK, AFT TRAVEL BUREAU M-DECK, MIDSHIPS THE CUNARD STORY A-DECK, FORWARD TOUR CENTER PROMENADE DECK, MIDSHIPS THE SHIPYARD PROMENADE DECK, MIDSHIPS WWI GUN PROMENADE DECK, BOW 	<ul style="list-style-type: none"> HOTEL LOBBY A-DECK, MIDSHIPS FITNESS CENTER BETWEEN M-DECK AND A-DECK, MIDSHIPS 		<ul style="list-style-type: none"> ROYAL SALON PROMENADE DECK, MIDSHIPS THE TEA ROOM SUN DECK, FORWARD VERANDAH GRILL SUN DECK, AFT VICTORIA ROOM PROMENADE DECK, AFT WEDDINGS BY QUEEN MARY PROMENADE DECK, MIDSHIPS WEDDING CHAPEL PROMENADE DECK, AFT WELL DECK A-DECK, BOW AREA WINDSOR SALON R-DECK, MIDSHIPS

*Restaurants, shops, tours & exhibit hours may be seasonal and are subject to change pending any special events or private bookings.

Program Sunday July 20, 2024

12:00-18:00 Registration

18:00-20:00 Dinner

20:00-21:00 Session I R. Hille, Chair

20:00-20:15 Introductory Remarks – Russ Hille

20:15-21:00 Keynote Speaker (TBA)

21:00 Opening Reception

Program Monday, July 21, 2024

7:30-9:00 Breakfast

9:00 -10:30 Session II (Chair TBA)

9:00-9:25 Speaker 1

9:25-9:30 Q&A

9:30-9:55 Speaker 2

9:55-10:00 Q&A

10:00-10:25 Speaker 3

10:25-10:30 Q&A

10:30-11:00 Coffee Break

11:00 -12:30 Session III (Chair TBA)

11:00-11:25 Speaker 4

11:25-11:30 Q&A

11:30-11:55 Speaker 5

11:55-12:00 Q&A

12:00-12:25 Speaker 6

12:25-13:30 Q&A

12:30-14:00 Lunch

14:00-18:00 Free Time

18:00-20:00 Dinner

20:00 -22:30 Session IV (Chair TBA)

20:00-20:25 Speaker 7

20:25-20:30 Q&A

20:30-20:55 Speaker 8

20:55-21:00 Q&A

21:00-21:25 Speaker 9

21:25-21:30 Q&A

21:30-22:00 Poster Session (odd numbered posters presenting)

Program Tuesday, July 22, 2024

7:30-9:00 Breakfast

9:00 -10:30 Session V (Chair TBA)

9:00-9:25 Speaker 10

9:25-9:30 Q&A

9:30-9:55 Speaker 11

9:55-10:00 Q&A

10:00-10:25 Speaker 12

10:25-10:30 Q&A

10:30-11:00 Coffee Break

11:00 -12:30 Session VI (Chair TBA)

11:00-11:25 Speaker 13

11:25-11:30 Q&A

11:30-11:55 Speaker 14

11:55-12:00 Q&A

12:00-12:25 Speaker 15

12:25-13:30 Q&A

12:30-14:00 Lunch

14:00-18:00 Free Time

18:00-20:00 Dinner

20:00 -22:30 Session VII (Chair TBA)

20:00-20:25 Speaker 16

20:25-20:30 Q&A

20:30-20:55 Speaker 17

20:55-21:00 Q&A

21:00-21:25 Speaker 18

21:25-21:30 Q&A

21:30-22:00 Poster Session (even numbered posters presenting)

Program Wednesday, July 23, 2024

7:30-9:00 Breakfast

9:00 -10:30 Session VIII (Chair TBA)

9:00-9:25 Speaker 19

9:25-9:30 Q&A

9:30-9:55 Speaker 20

9:55-10:00 Q&A

10:00-10:25 Speaker 21

10:25-10:30 Q&A

10:30-11:00 Coffee Break

11:00 -12:30 Session IX (Chair TBA)

11:00-11:25 Speaker 22

11:25-11:30 Q&A

11:30-11:55 Speaker 23

11:55-12:00 Q&A

12:00-12:25 Speaker 24

12:25-13:30 Q&A

12:30-14:00 Lunch

14:00-20:00 Free Time (whale-watching excursion, dinner on one's own)

20:00 -22:30 Session X (Chair TBA)

20:00-20:25 Speaker 25

20:25-20:30 Q&A

20:30-20:55 Speaker 26

20:55-21:00 Q&A

21:00-21:25 Speaker 27

21:25-21:30 Q&A

21:30-22:00 Poster Session

Program Thursday, July 24, 2024

7:30-9:00 Breakfast

9:00 -10:30 Session XI (Chair TBA)

9:00-9:25 Speaker 28

9:25-9:30 Q&A

9:30-9:55 Speaker 29

9:55-10:00 Q&A

10:00-10:25 Speaker 30

10:25-10:30 Q&A

10:30-11:00 Coffee Break

11:00 -12:30 Session XII (Chair TBA)

11:00-11:25 Speaker 31

11:25-11:30 Q&A

11:30-11:55 Speaker 32

11:55-12:00 Q&A

12:00-12:25 Speaker 33

12:25-13:30 Q&A

12:30-14:00 Lunch

14:00-18:00 Free Time

18:00-22:00 Banquet

Program Friday, July 25, 2024

7:30-10:00 *Breakfast on one's own*

11:00 *Checkout*

Speaker Abstracts

Poster Titles

Poster Abstracts

Attendee Contact List