



2nd IRSO Polar Code Workshop and update

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31st IRSO meeting, Barcelona, Spain 1-5 October 2018



# Second Polar Code workshop, Bergen, Norway, 23-24 May 2018



Link to Dropbox with all presentations:

<https://www.dropbox.com/sh/bxefaikauob1vn1/AADlcyXMnWVjZau-jy8gNXHpa?dl=0>

# Second Polar Code workshop, Bergen, Norway, 23-24 May 2018

Time	Topic	Presenter
0830-0900	Registration, Welcome, Opening remarks, Work shop introduction, Administrative information	Per W. Nieuwejaar, IMR
	<b>Introduction to Polar Code and PRV design</b>	
0900 - 0930	Aker Arctic on Polar Code implementation	Rob Hindley, Aker Arctic
0930 - 1015	Polar vessel design	Einar Vegsund, RRM
1015 - 1045	Coffee	
	<b>Polar Code implementation on Cat A PRVs</b>	
1045 - 1115	Cat A R/V "Kronprins Haakon"	Per W. Nieuwejaar, IMR
1115 - 1145	Cat A R/V "Sir David Attenborough"	Ralph Stevens, BAS
1145 - 1230	Lunch	
	<b>Category B/C vessels Polar Code implementation</b>	
1230 - 1300	Cat C R/Vs "G.O. Sars", "Johan Hjort" and Kristine Bonnevie"	Morten Eskedal, IMR
1300 - 1330	Cat C R/V "Dana"	Jesper Rasmussen, DTU Aqua
1330 - 1400	Cat C R/V "James Cook"	Colin Day/Phil Harwood NOC
1400 - 1430	Coffee	
1430 - 1530	Q&A, Discussion PC implementation Cat A and C vessels	All
	<b>Polar cruise training</b>	
1530 - 1615	Kronprins Haakon crew and cruise personnel polar training	Per W. Nieuwejaar, IMR
	<b>Polar cruise experiences</b>	
1615 - 1700	R/V Alliance 2018 Arctic cruise	Ian Sage
1700 - 1745	R/V Tangaroa 2018 Antarctica cruise	Greg Foothead
1745 - 1800	Wrap up day 1	
1800 - 2000	<b>Tapas!</b>	

23 May



24 May

Time	Topic	Presenter
	Polar research vessel projects	
0900 - 0925	"Kronprins Haakon"	Per W. Nieuwejaar, IMR
0925 - 0950	"Sir David Attenborough"	Ralph Stevens, BAS
0950 - 1015	Polarstern II	Uwe Pahl, AWI
1015 - 1045	Coffee	
1045 - 1110	JAMSTEC Polar Research Vessel	Tetsuji Maki, JAMSTEC
1110 - 1130	USCG Icebreaker program and NSF Polar Program's research vessel replacement program	Tim Schnoor, NRL
1130 - 1150	PC plans for Armstrong, Atlantis and Thompson	Ken Fitzgerald, Glostent
1150 - 1220	Aranda update	Juha Flinkman; SYKE
1220 -1300	Lunch	
	Ongoing European projects including polar RVs	
1300 - 1315	ARICE	Per W. Nieuwejaar, IMR
1315 - 1345	EMB/ERVO WG "Future European RV fleet"	Per W. Nieuwejaar, IMR
1345 - 1400	Wrap up, adjourn, safe journey home!	



# Participants

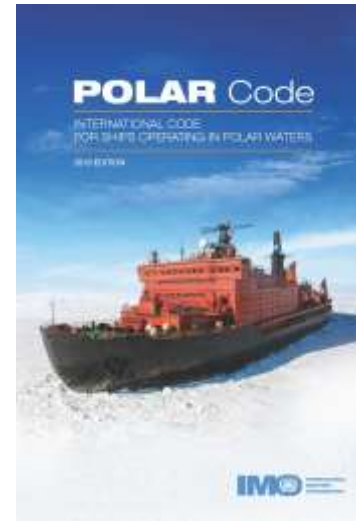
Dr. Satoshi Tsukioka	JAMSTEC/Japan
Mr. Tetsuji Maki	JAMSTEC/Japan
Ms. Yuko Mori	JAMSTEC/Japan
Ian Sage	NATO/Italy
Anders Mård	Aker Arctic/Finland
Rob Hindley	Aker Arctic/Finland
Per W. Nieuwejaar	IMR/Norway
Morten Eskedal	IMR/Norway
Peter H. Caspersen	DTU Aqua/Denmark
Thomas Diget Tarby	DTU Aqua/Denmark
Jesper Rasmussen	DTU Aqua/Denmark
Greg Foothead	NIWA/New Zealand
Tim Schnoor	NRL/USA
Ken Fitzgerald	Glosten/USA
Marius Hirsekorn	AWI/Germany

Tobias Boebel	AWI/Germany
Juha Flinkman	SYKE/Finland
Michael Thurmann	F. Laeisz Gmbh/Germany
Uwe Pahl	F. Laeisz Gmbh/Germany
Remy Balcon	Genavir/France
Roy Åge Klepsvik	IMR/Norway
Matthew Thialo	NOC/UK
Phil Harwood	NOC/UK
Mikael Sandström	Sjöfartsverket/Sweden
Anders Broberg	SSPA/Sweden
Einar Vegsund	RRM/Norway
Ralph Stevens	BAS/UK
Page, Timothy S.	BAS/UK
Leithgoe, Hana K.	BAS/UK
Joe Hooper	BASUK
Odd Jarle Pollen	IMR/Norway
Dag Hellesnes	IMR/Norway
Einar Strønen	IMR/Norway



# EMB & ERVO WG, WP 3 – Polar regions

- The polar regions, and in particular the Arctic is being transformed by rapid environmental change and commercial exploitation. There is therefore an increasing interest, and necessity, for marine science to monitor and understand these changes to the physical environment and impact on the ecosystem.
- However, the polar regions present a number of additional challenges for research vessels and associated sampling technologies.
- The IMO Polar Code, which came into force in January 2017 sets out mandatory requirements for all shipping-related matters relating to navigating in Polar waters. including ship design, construction and equipment.
- Due to these requirements, the number of ice-going vessels is still very limited, which in turn limits the scientific cruises and research that can be done to develop understanding of these remote regions and the impacts of climate change on them.



# Working Group Objectives

- Reviewing the current status of European RVs and related equipment.
- Identifying the progress made since the previous EMB Position Paper in 2007, including new advancements and requirements.
- Assessing the role of RVs as part of the EOOS and within the scope of advancing marine and ocean science research.
- Exploring options for future management of the fleet within Europe, exploring wider-ranging collaborations, co-ownership, chartering, training at sea opportunities etc.
- Exploring options for enhancing the European Research Fleet capability as a world-class infrastructure resource for the international marine research community and finding ways to further enhance existing collaboration between projects, networks and nations to enhance access, training and interoperability opportunities, and hence cost-efficient use of these valuable resources.

Polar Code Category	IACS Class equivalency	Ice Class	Vessel name	Country	Length /Beam (m)	Built year	Operator	Polar code certificate	Operating area		Supply Station
A	PC1 to PC3	Arc3	<b>Polarstern</b>	Germany	118/25	1982	AWI	TBC	Antarctic	Arctic	Yes
		DNV Polar 20	<b>Oden</b>	Sweden	108/31	1988	SMA	TBC	Antarctic	Arctic	Yes
		PC-3	<b>Kronprins Haakon</b>	Norway	100/21	2018	IMR/NPI	A	Arctic	Arctic	No
	PC4 to PC5	PC-5	<b>Sir David Attenborough</b>	UK	129/24	2019	BAS	A	Antarctic	Arctic	Yes
		DnV ICE 05	<b>E. Shackleton</b>	UK	80/17	1995	BAS	TBC	Antarctic		Yes
B	PC6 to PC7	Ice 1A Super	<b>Aranda</b>	Finland	59/14	1989	Finnish Env. Insti.	TBC		Arctic	No
		Lloyds IAS	<b>James C. Ross</b>	UK	99/19	1990	BAS	TBC	Antarctic	Arctic	No
		PC-7	<b>Maria S Merian</b>	Germany	95/19	2005	IOW_Warnemunde	TBC		Arctic	No
		Ice 1A	<b>Sanna</b>	Greenland	32/10	2012	GINR	TBC		Arctic	No
		Ice 1A	<b>Helmer Hanssen</b>	Norway	64/13	1988	University of Tromso	TBC		Arctic	No
										No	
C	No PC-class	Ice 1C	<b>G.O. Sars</b>	Norway	77/16	2003	UiB	C	Antarctic	Arctic	No
		Ice 1C	<b>Hesperides</b>	Spain	82/14	1991	Spanish Navy CSIC-UTM	TBC	Antarctic	Arctic	Yes
		Ice 1C	<b>OGS Explora</b>	Italy	65/12	1973	OGS-Trieste	TBC	Antarctic	Arctic	Yes
		Ice 1C	<b>Dana</b>	Denmark	78/17	1981	DTU Aqua	TBC		Arctic	No
		Ice 1B	<b>A. Fridriksson</b>	Iceland	70/14	2000	MRI	TBC		Arctic	No



# ARICE PRVs



ARICE mtg at CSIC  
on 4 October



Questions?

