

9:00	【Opening Address】 Shuheï Takahashi (Chair, Symposium Committee)	Chair, Seiji Katakura (City of Mombetsu)
	【K: Keynote Address】	Chair, Humio Mitsudera (Hokkaido Univ.)
9:10	K-1 How to promote international cooperative studies in marine science? - Contribution from regions, from far east and Asia Pacific- Yutaka Michida (Univ. Tokyo)	
	【S: Special Lectures】	
9:40	S-1 Sea ice variations in a new state of the Arctic Ocean ◇Koji Shimada and Eri Yoshizawa (Tokyo Univ. Mar. Sci. Tech.)	
10:10	S-2 Uncompleted voyage across the Arctic Ocean - Challenge of Arctic Ocean crossing by Kaihou-maru in 1941- ◇Shuheï Takahashi (Okhotsk Sea Ice Museum of Hokkaido) and Mikio Naganobu (Ntl. Res. Inst. Far Sea Fish.)	
10:40	Break	
	【A: Remote Sensing and Climate Change】	Chair, Toshiyuki Takagi (Ntl. Inst. Tech., Kushiro College)
10:50	A-1 Coastal remote sensing from unmanned ground vehicles ☆A ◇Denis Zeziulin, Andrey Kurkin, Efim Pelinovsky, Dmitry Tyugin, Ayrat Giniyatullin, Oxana Kurkina, Vladimir Belyakov, Alexander Belyaev and Vladimir Makarov (Nizhny Novgorod State Tech. Univ., Russia)	
11:10	A-2 An algorithm for analysis of pack ice concentration using image processing technique ◇Seok-Ho Byun, Jong-Ho Nam, Jong-Hun Woo and Seung-Jae Lee (Korea Mar. Ocean Univ., Korea)	
11:30	A-3 Application of the weather satellite NOAA image for the sea ice observation ◇Masaaki Komatsu, Yudai Nakade and Ryosuke Shimizu (Ntl. Inst. Tech., Kushiro College)	
11:50	A-4 The eddy heat flux as a key for better understanding of the Arctic climate system Jinro Ukita (Niigata Univ.) and ◇Katsushi Iwamoto (NIPR/Niigata Univ./City of Mombetsu)	
12:10	Lunch	
13:30 15:00	【Public Program: Symposium on Life and Culture of the People Related to Sea Ice】 <i>(in Japanese language only)</i>	
15:00	Break	
	【B: Snow, Ice and Human Life】	Chair, Kanichiro Matsumura (Tokyo Univ. Agriculture)
15:10	B-1 Relationship of the heavy snowfall and snowstorm event and national road closing in Hokkaido ☆A ◇Satoshi Omiya, Yusuke Harada, Hirotaka Takechi and Masaru Matsuzawa (Civil Eng. Res. Inst. Cold Region)	
15:30	B-2 Physical fitness exerted for the cooperation among people living in cold, snowy regions ◇Tsutomu Suda (Non-professional Organization Snow and Ice Network), Nobuyoshi Konishi (Hokkaido Develop. Civil Eng. Center), Isao Morita (Health Sci. Univ. Hokkaido) and Masao Mizuno (Hokkaido Univ.)	
15:50	B-3 The MONODUKURI PBL in cold area - Development of support application for international student- ◇Kento Niimoto, Ibuki Hara, Masakazu Ikeda, Naoki Miyamoto, Shin Hara and Kei Horio (Utsunomiya Univ.)	
16:10	Break	
16:20	B-4 Visually expressed visibility at blizzard in Antarctica by artificial reality technology ◇Yukio Sugawara (Kitami Inst. Tech.), Shuheï Takahashi (Okhotsk Sea Ice Museum) and Yusuke Fujita (Kitami Inst. Tech.)	
16:40	B-5 Holding after cutting strategy utilizing elasticity of picking fingers ◇Shin Hara, Shinichi Watanabe and Kazutaka Yokota (Utsunomiya Univ.)	
17:00	B-6 Projecting crop index in Hokkaido ◇Kanichiro Matsumura (Tokyo Univ. Agriculture), Satoshi Inoue (Ntl. Agriculture Food Res. Org.) and Kenji Sugimoto (Nagoya Univ.)	
18:30	White Concert < Okhotsk Sea Ice Museum >	

10:00	【 W: Workshop, Oil Pollution 】 How we correspond to the large-scale Oil Spill ? (in Japanese language only)
12:00	Lunch
	【 C: Korea-Japan Joint Session 】 Chair, Hiromitsu Kitagawa (Ocean Policy Res. Inst.)
13:00	C-1 Research on navigation support system for the Arctic sea routes Hajime Yamaguchi (Univ. Tokyo)
13:30	C-2 Overview of the development of safe voyage planning system for Arctic sea route ◇Kuk-Jin Kang, Seong-Yeob Jeong, Seong-Rak Cho, Jong-Gil Yeom, Jeong-Seok Ha and Eun-Jin Oh (KRISO, Korea)
14:00	C-3 Northern sea route transport scenarios for various cargoes ◇Natsuhiko Otsuka (North Japan Port Consultants), Katsuya Imai, Keisuke Nagakawa (Univ. Tokyo) and Masahiko Furuichi (Kyoto Univ.)
14:20	C-4 Prototype development of safe voyage planning system for vessel operating in Arctic sea route ◇Han Jin Lee, Eun-Chan Kim and Kuk-Jin Kang (KRISO, Korea)
14:40	Break
	Chair, Kuk-Jin Kang (KRISO, Korea)
14:50	C-5 Criticism on the IMO polar code ◇Eiji Sakai and Hiromitsu Kitagawa (Ocean Policy Res. Inst.)
15:10	C-6 Introduction of voyage environmental information system (VEIS) for the northern sea route ◇Chan-Su Yang, Kyeong-Ok Kim, Sun-Hwa Kim, Hak-Soo Im, Cheol-Ho Kim, Min-Woo Kim and Dan-Bee Hong (Korea Inst. Ocean Sci. Tech., Korea)
15:30	C-7 Validation and improvement of estimated sea ice thickness from AMSR-E/AMSR2 in comparison with in-situ observations ◇Kazutaka Tateyama, Yasuyuki Tokudome, Yasuhiro Tanaka (Kitami Inst. Tech.), Jun Ono (JAMSTEC), Noriaki Kimura (Univ. Tokyo) and Toshiyuki Takagi (Ntl. Inst. Tech., Kushiro College)
15:50	C-8 Arctic sea ship path planning based on multi-resolution ocean environmental information ◇Seungkyun Yeo and Hyun Chung (Korea Advanced Inst. Sci. Tech., Korea)
16:10	Break
	Chair, Noriaki Kimura (NIPR/Univ. Tokyo)
16:20	C-9 An investigation of the extension of an ice-resistance system for a various pack ice condition ◇Hyun Soo Kim (Inha Tech. College, Korea), Dong-Hyun Ahn, SuHeon Ju (Seoul Ntl. Univ., Korea), Kuk-Jin Kang and Seong-Yeob Jeong (KRISO, Korea)
16:40	C-10 Ice tank measurement of power required for ice class vessel ◇Takatoshi Matsuzawa, Haruhito Shimoda, Daisuke Wako, Shotaro Uto (Ntl. Mar. Res. Inst.), He Qing (Oshima Shipbuilding Co., Ltd.) and Shinpei Watanabe (Nippon Kaiji Kyokai)
17:00	C-11 Prediction of resistance and propulsion performance for the optimization of Arctic sea routes Eun-Chan Kim and ◇Kuk-Jin Kang (KRISO, Korea)
17:20	C-12 An analysis of ice load characteristics on a model ship hull ◇Eun-Jee Cheon, Kyungsik Choi (Korea Mar. Ocean Univ., Korea) and Seong-Yeob Jeong (KRISO)
17:40	C-13 Ice load distribution on a model ship station-keeping in broken ice ◇Koh Izumiyama (North Japan Port Consultants), Shotaro Uto, Kazuhisa Otsubo, Takatoshi Matsuzawa, Haruhito Shimoda, Daisuke Wako (Ntl. Mar. Res. Inst.), Takayuki Asanuma and Joji Yamamoto (Japan Oil, Gas Metals Ntl. Corp.)
18:30	White Concert < Okhotsk Sea Ice Museum >

9:00	
12:00	Lunch
	【 Public Program : Our Home Okhotsk Sea 】 <i>(in Japanese language only)</i>
13:30	Introdaution
13:40	I . Short-term variations of seawater temperature and salmon catch off central area of the Okhotsk Sea coast of Hokkaido Katsumi Yokouchi (Hokkaido Ntl. Fish. Res. Inst., Fish. Res. Agency)
14:20	II . Underwater condition changes visualized by mulch-images Yuta Ohashi (Ocean Res. & Systems Co., Ltd.)
15:00	III . Checking of the fat condition of Atka mackerel by optical sensors Akiko Miyazaki (Dept. Abashiri Fish. Res. Inst., Hokkaido Res. Organization)
16:00	Break
18:30	White Concert < Okhotsk Sea Ice Museum >

9:00	
	◆ 11:30~12:30 P: Poster Session 「Place: 3F Lobby」
12:30	Lunch
13:30 15:30	<p>【Public Program: How Do We Act at Heavy Snowstorm in Okhotsk Area?】 <i>(in Japanese language only)</i></p> <p>I Physical fitness exerted for the cooperation among people living in cold, snowy regions Tsutomu Suda (Non-professional Organization Snow and Ice Network)</p> <p>II Relationship of the heavy snowfall and snowstorm event and national road closing in Hokkaido Satoshi Omiya (Civil Engineering Research Institute for Cold Region)</p> <p>III Car refuge system for snow storm by Mombetsu Cooperative Road Management Association Yuki Tanaka (Mombetsu Cooperative Road Management Association)</p> <p>IV Risk of CO poisoning in a car buried with snow Ryuta Matsui (JAFMATE Co. Ltd.)</p>
15:30	Break
15:40	<p>【D: Sea Ice and Technology】 Chair, Kazutaka Tateyama (Kitami Inst. Tech.)</p> <p>D-1 Shallow-Sea underwater acoustic communication test around Okhotsk Tower ◇Shingo Yoshizawa, Hiroshi Tanimoto (Kitami Inst. Tech.) and Takashi Saito (Mitsubishi Electric TOKKI Systems Co.)</p> <p>D-2 Spectroellipsometric tools for the water quality diagnostics in the Sea of Okhotsk Vladimir F. Krapivin and ◇Ferdenant A. Mkrtychyan (V. A. Kotelnikov Inst. Radioeng. Electronics, Russia)</p> <p>D-3 Particle-based numerical modeling of ice-sheet breakup process during a collision with a structure ☆A ◇Takaaki Abe (Civil Eng. Res. Inst. Cold Regions) and Yasuhiro Yoshikawa (Kitami Inst. Tech.)</p>
16:40	Break
16:50	<p>Chair, Akihisa Konno (Kogakuin Univ.)</p> <p>D-4 Development and verification of sea-ice thickness algorithm by AMSR2 data in the Antarctic ☆A ◇Seita Hoshino, Kazutaka Tateyama (Kitami Inst. Tech.), Shuki Ushio and Takeshi Tamura (NIPR)</p> <p>D-5 A case study of performance test for Anti-icing deck equipment in arctic marine plant and polar class vessel ◇Su yeon Oh, Il-sup Shin, Huigyeong Lee, Donghyun Kim and Seonghwan Min (Korea Mar. Equipment Res. Inst., Korea)</p> <p>D-6 Development of GIMS- technologies for environmental monitoring of ocean ecosystems Vladimir F. Krapivin, ◇Ferdenant A. Mkrtychyan (V. A. Kotelnikov Inst. Radioeng. Electronics, Russia) and Nazaret A. Nazaryan (GIMS- Ltd., Russia)</p>
19:00	Dinner Party for Friendship between Scientists & Volunteers <Mombetsu Central Hotel>

	<p>【E: Meteorology and Oceanography in Frozen Sea】 Chair, Katsushi Iwamoto (NIPR/ Niigata Univ./City of Mombetsu)</p>
9:00	<p>E-1 On jet structure of the Soya Warm Current in summer from the viewpoint of the bottom boundary layer ☆A ◇Tatsuro Karaki, Humio Mitsudera (Hokkaido Univ.) and Hiroshi Kuroda (Hokkaido Ntl. Fish. Res. Inst.)</p>
9:20	<p>E-2 Observation of frazil ice formation and sediment upward transport off the northeast coast of Sakhalin ☆A ◇Masato Ito, Kay I. Ohshima, Jun Nishioka (Hokkaido Univ.), Yoshimu Kusumoto (Hydro Systems Develop. Incorporated), Genta Mizuta and Yasushi Fukamachi (Hokkaido Univ.)</p>
9:40	<p>E-3 Enhanced turbulent energy dissipation due to internal wave breaking within an anticyclonic Arctic eddy ☆A ◇Yusuke Kawaguchi, Shigeto Nishino (JAMSTEC), Jun Inoue (NIPR), Hiroki Takeda (Tokyo Gakugei Univ./JAMSTEC), Katsuhisa Maeno (Global Ocean Develop. Inc./JAMSTEC) and Kazuhiro Oshima (JAMSTEC)</p>
10:00	Break
	<p>Chair, Genki Sagawa (Weathernews Inc.)</p>
10:10	<p>E-4 Arctic sea ice reduction and stratosphere-troposphere coupling ☆A ◇Kazuhira Hoshi, Jinro Ukita, Meiji Honda (Niigata Univ.), Katsushi Iwamoto (NIPR/ Niigata Univ./City of Mombetsu), Tetsu Nakamura and Koji Yamazaki (NIPR/Hokkaido Univ.)</p>
10:30	<p>E-5 Estimation of mechanical increases in Arctic sea ice thickness due to sea ice rafting using satellite-derived sea ice velocities ☆A ◇Eri Yoshizawa and Koji Shimada (Tokyo Univ. Mar. Sci. Tech.)</p>
10:50	<p>E-6 Turbulent mixing within the mixed layer from direct microstructure measurements during Arctic cruise MR14-05 ☆A ◇Hiroki Takeda (Tokyo Gakugei Univ./JAMSTEC), Yusuke Kawaguchi (JAMSTEC) and Naoki Sato (Tokyo Gakugei Univ./JAMSTEC)</p>
<p>◆ 11:30~12:30 P: Poster Session 「Place: 3F Lobby」</p>	
12:30	Lunch
13:30	<p>【F: Special Session, Progress of Research on the Arctic Sea Routes 】 ◆See the next page</p>
19:00	Dinner Party for Friendship between Scientists & Volunteers <Mombetsu Central Hotel>

9:00	<p>【E: Meteorology and Oceanography in Frozen Sea】</p> <p>◆See the previous page</p>
<p>◆11:30~12:30 P: Poster Session 「Place: 3F Lobby」</p>	
12:30	Lunch
	<p>【F: Special Session, Progress of Research on the Arctic Sea Routes】 Chair, Hajime Yamaguchi (Univ. Tokyo)</p>
13:30	<p>F-1 Outlook for the Arctic Shipping from the ship owners' perspective ◇Hiroyuki Goda (Nippon Yusen Kabushiki-Kaisha Ltd.)</p>
13:50	<p>F-2 Trial of continuous monitoring of vessel movements on NSR by satellite AIS ◇Motohisa Abe (Ntl. Inst. Land Infrastructure Mgt.), Shuji Shimizu (Japan Aerospace Exploration Agency), Tetsuya Hayakawa (Hokkaido Regional Develop. Bureau), Chiyokazu Hirayama (Aomori Prefectural Gov.), Hironao Takahashi (Waterfront Vitalization and Environment Res. Foundation) and Shingo Kinoshita (Ntl. Inst. Land & Infrastructure Mgt.)</p>
14:10	<p>F-3 Feasibility of LNG transport via the NSR by icebreaking LNG carrier Natsuhiko Otsuka, Koh Izumiyama (North Japan Port Consultants), Keisuke Nagakawa and ☆A ◇Katsuya Imai (Univ. Tokyo)</p>
14:30	<p>F-4 Simplified random ice force modeling for ice-going ships navigating in pack ice based on collision test between model ship and synthetic ice ☆A ◇Hyoil Kim and Junji Sawamura (Osaka Univ.)</p>
14:50	Break
	<p>Chair, Koh Izumiyama (North Japan Port Consultants)</p>
15:00	<p>F-5 Influence of ice drift motion on resistance of ships navigating in small ice floes ◇Shotaro Uto, Haruhito Shimoda, Daisuke Wako and Takatoshi Matsuzawa (Ntl. Mar. Res. Inst.)</p>
15:20	<p>F-6 Ice resistance test using synthetic ice for ship advancing into ice-covered water ☆A ◇Keisuke Suga, Junji Sawamura and Hyoil Kim (Osaka Univ.)</p>
15:40	<p>F-7 Analysis of structural response of ice-class vessel due to impact of ice and energy-saving device ☆A ◇Sadaoki Matsui, Yasuhira Yamada, Shotaro Uto, Takatoshi Matsuzawa (Ntl. Mar. Res. Inst.) and Shinpei Watanabe (Nippon Kaiji Kyokukai)</p>
16:00	<p>F-8 Risk assessment method for collision of ship with an ice floe ◇Tatsuya Shigihara and Akihisa Konno (Kogakuin Univ.)</p>
16:20	Break
	<p>Chair, Shotaro Uto (Ntl. Mar. Res. Inst.)</p>
16:30	<p>F-9 Numerical simulation of local ice pressure distributions and structural response of ship hull for ship advancing in level ice Junji Sawamura (Osaka Univ.)</p>
16:50	<p>F-10 Ice navigation according to the ability of the icebreaker using ship radar images ◇Toshiyuki Takagi (Ntl. Inst. Tech., Kushiro College) and Kazutaka Tateyama (Kitami Inst. Tech.)</p>
17:10	<p>F-11 Field observations of impinging seawater spray using sea spray meters, –Case study of the icebreaker Soya– ◇Toshihiro Ozeki, Yuhei Yashiro (Hokkaido Univ. Education), Genki Sagawa (Weathernews Inc.), Kazutaka Tateyama (Kitami Inst. Tech.) and Takenobu Toyota (Hokkaido Univ.)</p>
17:30	<p>F-12 Medium-term forecast of the Arctic sea ice ◇Noriaki Kimura (NIPR/Tokyo Univ.) and Hajime Yamaguchi (Tokyo Univ.)</p>
19:00	Dinner Party for Friendship between Scientists & Volunteers <Mombetsu Central Hotel>

9:00	
11:30 12:30	<p>【P: Poster Session 1】</p> <p>P-1 Developing sightseeing spots APP along Sea of Okhotsk, Hokkaido Ami Ishikawa, Hayato Ishizeki, Kouki Inamura, Kohei Oka, Futoshi Kuwabara, Kiyu Sumida, Yoshiki Tsuruta, Kohei Nagatomi, Nanami Hishioka, Narutaka Hoshino, Yasuyuki Yamazaki, Seira Watanabe and Kanichiro Matsumura (Tokyo Univ. Agriculture)</p> <p>P-2 Crop index in Hokkaido, 2015 Masaki Iida, Masayoshi Ishii, Hitoshi Ishii, Kei Ohkawa, Kazuki Kako, Kouta Kato, Masamoto Sato, Shun Syoji, Ikki Sugiura, Ryota Takeda, Yuki Mochizuki, Ryo Yoshikawa, Kae Terashima, Kai Aotani and Kanichiro Matsumura (Tokyo Univ. Agriculture)</p> <p>P-3 Towards the climatology of polar lows over the Okhotsk Sea ◇Wataru Yanase and Hiroshi Niino (Univ. Tokyo)</p> <p>P-4 Planning of energy system in the Antarctica Showa Base ◇Ryo Hamanaka, Shin'ya Obara, Takuya Kanai (Kitami Inst. Tech.), Taiki Ouchi (Hokkaido Electric Power Co., Inc.) and Kenji Ishizawa (NIPR)</p> <p>P-5 Study on estimation of damages caused by sea ice floes driven by run-up tsunami -Physical and computational experiments of fracture, behavior and run-up of sea ice- ◇Shinji Kioka (Civil Eng. Res. Inst. Cold Region), Takahiro Takeuchi (Hachinohe Inst. Tech.) and Yasunori Watanabe (Hokkaido Univ.)</p> <p>P-6 A linkage between recent summer Arctic sea ice reduction and winter snowfall variability in Japan ◇Katsushi Iwamoto (City of Mombetsu/Niigata Univ./NIPR), Meiji Honda and Jinro Ukita (Niigata Univ)</p> <p>P-7 Consideration about walleye pollock recruitment from Japan Sea to Pacific Tomonori Hamatsu, Tetsuichiro Funamoto and Yuho Yamashita (Hokkaido Ntl. Fish. Res. Inst.)</p> <p>P-8 Stable isotope analysis and marine-derived nutrient inputs in the riparian forests in Shiretoko Peninsula ◇Kenta Oda, Katsuaki Komai, Kei Matsumoto (Kitami Inst. Tech.), Keisuke Nakayama (Kobe Univ.), Kenta Watanabe and Tomohiro Kuwae (Port and Airport Res. Inst.)</p> <p>P-9 Variability of phytoplankton in mesoscale eddies in ice-free Antarctic Ocean in summer ◇Hiroshi Sasaki, Ena Suenaga (Ishinomaki Senshu Univ.), Ryosuke Makabe (NIPR) and Hiroshi Hattori (Tokai Univ.)</p> <p>P-10 The Variability of small animal assemblage within sea ice floes in the Antarctic Ocean ◇Motoha Ojima (SOKENDAI), Kunio T. Takahashi (SOKENDAI/NIPR), Naho Miyazaki, Masato Moteki (Tokyo Univ. Mar. Sci. Tech.), Takahiro Iida (Hokkaido Univ.), Atsushi Tanimura and Tsuneo Odate (SOKENDAI/NIPR)</p> <p>P-11 The variability of zooplankton community structure along the 110°E meridian in the Southern Ocean, 1972-2013 ◇Kunio T. Takahashi, Atsushi Tanimura (NIPR/SOKENDAI), Mitsuo Fukuchi (NIPR) and Tsuneo Odate (NIPR/SOKENDAI)</p> <hr/> <p>【Display and Demonstration of Instruments for Marine Research】 Development of accurate ice observation technologies and ice database for oil & gas development in Arctic region (2014-15) Exhibited by Japan Oil, Gas and Metals National Corporation and National Maritime Research Institute</p>
19:00	Dinner Party for Friendship between Scientists & Volunteers <Mombetsu Central Hotel>

9:00	<p>【S: Special Lectures】 Chair, Satoru Taguchi (Univ. Tokyo)</p> <p>S-3 Advancement in Plio-Pleistocene paleoceanography of the Bering Sea Kozo Takahashi (Hokusei Gakuen Univ.)</p> <p>【G: Marine Organisms and Fisheries in the Ice-Covered Waters】</p> <p>G-1 Influences of change of sea-ice distribution on oceanographic environment in the coastal water around Mombetsu: Results from the monitoring survey at the Okhotsk Tower ◇Hiromi Kasai (Hokkaido Ntl. Fish. Res. Inst.), Kazutaka Tateyama (Kitami Inst. Tech.), Ryuichi Nagata, Katsushi Murai (Okhotsk Garinko & Tower Co., Ltd.), Seiji Katakura and Soushi Hamaoka (City of Mombetsu)</p> <p>G-2 Comparison with phytoplankton communities of different water masses in the southwestern Okhotsk Sea in summer ☆A ◇Tsuyoshi Watanabe (Tohoku Ntl. Fish. Res. Inst.), Hiromi Kasai, Yukiko Taniuchi, Hiroshi Kuroda (Hokkaido Ntl. Fish. Res. Inst.) and Akira Kuwata (Tohoku Ntl. Fish. Res. Inst.)</p>
10:10	Break
10:20	<p>Chair, Hiroshi Sasaki (Ishinomaki Senshu Univ.)</p> <p>G-3 Feeding ecology of two euphausiids <i>Euphausia pacifica</i> and <i>Thysanoessa inspinata</i> in the Oyashio region during spring phytoplankton bloom ☆A ◇Yoshiyuki Abe (Hokkaido Univ.), Yoshizumi Nakagawa (Tokyo Univ. Agriculture), Atsushi Yamaguchi and Ichiro Imai (Hokkaido Univ.)</p> <p>G-4 Larval dynamics of the snow crab <i>Chionoecetes opilio</i> in the Bering and Chukchi Seas during summers of 2007 and 2008 ☆A ◇Jose M. Landeira (Hokkaido Univ./Japan Society for the Promotion of Sci.), Kohei Matsuno (NIPR), Atsushi Yamaguchi, Toru Hirawake (Hokkaido Univ.) and Takashi Kikuchi (JAMSTEC)</p> <p>G-5 Vulnerability of Pteropod shell in the Arctic Ocean: A result of culture experiment under natural seawater ◇Katsunori Kimoto, Jonaotaro Onodera (JAMSTEC), Takahito Ikenoue (Mar. Ecology Res. Inst.), Kohei Matsuno (NIPR), Osamu Sasaki (Tohoku Univ. Museum) and Naomi Harada (JAMSTEC)</p>
12:30	Lunch
13:30	<p>Chair, Kei Matsumoto (Kitami Inst. Tech.)</p> <p>G-6 Occurrence and abundance of <i>Clione limacina</i> and <i>Limacina helicina</i> in water around the Okhotsk Tower, Mombetsu, Hokkaido ◇Seiji Katakura and Soshi Hamaoka (City of Mombetsu)</p> <p>G-7 Recent status of chum salmon stocks on the Okhotsk coast of Hokkaido ◇Yasuyuki Miyakoshi (Salmon and Freshwater Fish. Res. Inst.)</p> <p>G-8 Effect of carbon dioxide gas as fish anesthetic ◇Hajime Matsubara, Aya Takada, Megumu Takahashi (Tokyo Univ. Agriculture), Masakazu Kondo (Ntl. Fish. Univ.), Arata Nagami, Yujiro Naka, Ryohei Yanagida, Kenta Asai, Kenta Tsunoda, Yoshinori Shiga and Ken-ichi Watanabe (Tokyo Univ. Agriculture)</p>
14:30	Break
14:40	<p>Chair, Hajime Matsubara (Tokyo Univ. Agriculture)</p> <p>G-9 Clarification of Japanese lamprey parasitic mechanism ☆A ◇Aya Takada and Hajime Matsubara (Tokyo Univ. Agriculture)</p> <p>G-10 Transfer patterns of salmon resources by terrestrial animals in Hokkaido ◇Kei Matsumoto (Kitami Inst. Tech.), Keisuke Nakayama (Kobe Univ.), Katsuaki Komai, Shigeru Hisamatsu (Kitami Inst. Tech.), Shuhei Takahashi (Okhotsk Sea Ice Museum), Kenta Watanabe and Tomohiro Kuwae (Port Airport Res. Inst.)</p> <p>G-11 Sustainability of diversification by salmon producing countries in global markets and Japanese original commodities ◇Ikutaro Shimizu (Hokkaido Ntl. Fish. Res. Inst.)</p>
15:40	Break
15:50	<p>【Reports of Okhotsk Garinko & Tower and Okhotsk Tokkari Center】 (in Japanese language only) Chair, Yoshitsugu Hirosaki (Okhotsk Tokkari Center)</p> <p>G-12 Fluctuations in the turbidity of the seawater around Okhotsk Tower ◇Mizuho Takuma, Keijiro Sudo, (Okhotsk Garinko & Tower Co., Ltd.), Yoshitsugu Hirosaki (Okhotsk Tokkari Center) and Katsushi Murai (Okhotsk Garinko & Tower Co., Ltd.)</p> <p>G-13 Behavior of spotted seals <i>Phoca largha</i> shown when simple devices for carrying them on land were used, and their training and taming ◇Ayako Oba, Megumi Imai, Maya Tsuchiya and Yoshitsugu Hirosaki (Azarashi Sea Paradise)</p> <p>G-14 Problems on the health management of 3 ribbon seals <i>Phoca fasciata</i> from the viewpoint of their rearing conditions ◇Masako Okazaki, Aoi Nakazawa and Yoshitsugu Hirosaki (Okhotsk Tokkari Center)</p>
19:00	Dinner Party for Friendship between Scientists & Volunteers <Mombetsu Central Hotel>

9:00	<p>【H: Sea Ice and Meteorology】 Chair, Natsuhiko Otsuka (North Japan Port Consultants)</p> <p>H-1 Data assimilation in an ice-ocean coupled model to improve sea ice predictions in the Arctic Ocean ◇Dulini Yasara Mudunkotuwa and Hajime Yamaguchi (Univ. Tokyo)</p> <p>9:20 H-2 The relationship between the disappearance of temperature minimum in Hokkaido in February and sea ice Mitsuharu Nishimura (Kushiro Local Meteorological Office)</p> <p>9:40 H-3 Temporal variations of the current structure and volume transport of the Coastal Oyashio revealed by direct current measurement ◇Akira Kusaka, Yugo Shimizu (Ntl. Res. Inst. Fish. Sci.), Toru Sato (Kushiro Fish. Res. Inst.) and Jiro Yoshida (Tokyo Univ. Mar. Sci.)</p>
10:00	Break
10:10	<p>H-4 Influence of topographic interaction and numerical diffusion on the Arctic Ocean freshwater modeling ◇Liyanarachchi Waruna Arampath De Silva (NIPR/Univ. Tokyo) and Hajime Yamaguchi (Univ. Tokyo)</p>
10:30	<p>H-5 Operational aspects of sea ice research for the purpose of hydrocarbon fields development offshore Sakhalin Anatoliy M. Polomoshnov (LCC “RN-Shelf-Arctic”, Russia)</p>
11:00 11:30	<p>【Closing Session】 Chair, Seiji Katakura (City of Mombetsu)</p> <p>A Review of the Symposium: Prize-awarding Ceremony of the Aota Masaaki Award Closing Remarks: Shuhei Takahashi (Chair, Symposium Committee)</p>
12:00	Lunch
14:00 16:00	<p>【Public Program: Symposium on the Forest-Ocean Linkage】 <i>(in Japanese language only)</i></p>

【P: POSTER SESSION 2】

- P-12** General features of ichthyoplankton structure in Busse Lagoon (Aniva Bay, South Sakhalin)
Olga N. Moukhametova (Sakhalin Res. Inst. Mar. Fish. Oceanography, Russia)
- P-13** Localization of fishing fleet, Alaska Pollock'eggs distribution and rate of their development in dependence of temperature of water around eastern Sakhalin
Ilyas N. Moukhametov and
Olga N. Moukhametova (Sakhalin Res. Inst. Mar. Fish. Oceanography, Russia)
- P-14** The spatial distribution of *Lycodes pectoralis* (Perciformes: Zoarcidae) Okhotsk Sea
Oleg Z. Badaev (TINRO-Center, Russia)
- P-15** Offshore concrete structures in cold region
Sergei Leonovich (Belorussian Ntl. Tech. Univ., Russia) and Lev V. Kim (Far Eastern Federal Univ., Russia)
- P-16** An expert system for the Okhotsk Sea investigation
Vladimir F. Krapivin, Ferdenant A. Mkrtchyan and Vladimir Yu. Soldatov (V.A. Kotelnikov Inst. Radioeng. & Electronics, Russia)
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