

WELCOME WORD	<hr/> <p style="text-align: center;">Poster Presentation</p> <hr/>
COMMITTEE	<p style="text-align: center;">VELOCITY MODEL BUILDING OF GAS HYDRATE BSR USING ELASTIC FULL WAVEFORM INVERSION IN THE CANADIAN BEAUFORT SEA</p>
SOCIAL EVENTS & SIDE MEETINGS	<p style="text-align: center;"><u>Yeonjin Choi</u></p> <p style="text-align: center;"><u>Yeonjin Choi</u>^{1,2}, <u>Seung-Goo Kang</u>¹, <u>U Geun Jang</u>¹, <u>Jong Kuk Hong</u>¹, <u>Young Keun Jin</u>¹, <u>Woo Keen Chung</u>² and <u>Sung-Ryul Shin</u>^{2*}</p>
PROGRAM AT A GLANCE	<p style="text-align: center;">¹ <i>Division of Earth-System Science, Korea Polar Research Institute, Incheon, Korea</i> ² <i>Department of Energy & Resources Engineering, Korea Maritime and Ocean University, Busan, Korea</i></p>
DETAILED PROGRAM	<p style="text-align: center;">yjchoi@kopri.re.kr</p>
LIST OF POSTERS	<p style="text-align: center;">ABSTRACT</p>
PLENARY & SPECIAL LECTURES	<p>Gas hydrates are ice-crystalline solid containing gas molecules entrapped within rigid cage of water molecule (Sloan, 1998). Gas hydrates can be existed in the permafrost area on the polar region or marine environments under low temperature (<15°) and high pressure condition (>5MPa) known as the gas hydrate stability zone (GHSZ). The existence of a gas hydrate is indicated by presence of a bottom-simulating reflector (BSR) in the seismic section. BSR is a strong reflection event parallel to the sea floor, and it has reverse polarity of the seismic wavelet. BSR is caused by a large impedance contrast between a layer of gas-hydrated sediments above and a free gas layer below.</p>
INVITED LECTURE	<p>In 2017, expedition ARA08C was conducted to investigate degrading permafrost, gas hydrate in the outer shelf and upper slope, glacial history, paleoceanography. Expedition was collaborated with in Korea Polar Research Institute (KOPRI), Geological Survey of Canada (GSC), Monterey Bay Aquarium Research Institute (MBARI) and Fisheries and Ocean Canada (DFO). During the expedition, we acquired a total of 840 L-km of the MCS data along 12 lines purposed by geological and geophysical research in the Canadian Beaufort Sea.</p>
ABSTRACTS OF PRESENTATION	<p>In this study, I applied the elastic FWI algorithm to obtain the velocity model of gas hydrate BSR in the continental shelf of the Canadian Beaufort Sea. FWI is powerful technique for obtaining the subsurface properties model, such as p-wave velocity, s-wave velocity and density, by numerical solution of the wave equation. This study was aimed 1) to develop the FWI algorithm optimized for the gas hydrates regions, 2) to obtain the P-, S-wave velocity model of gas hydrate zone in the Canadian Beaufort Sea.</p>
FLOOR PLAN	<p>141 THE 25TH INTERNATIONAL SYMPOSIUM ON POLAR SCIENCES</p>