

SESSION: Innovation and development

MARS Themes:

Innovation and development

Title:

The berth of Mariner 4.0: A human-centered monitoring and research tool

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Abstract:

The SA Agulhas II is South Africa's polar research vessel equipped with advanced monitoring systems to aid operations. The ship and status of much onboard equipment can be tracked in near real-time from a plethora of dashboards on board. Yet, the well-being of scientists unaccustomed to ship motion remains a mystery until word of mouth conveys the news of motion sickness incidences during a research voyage. Mariner 4.0 is an information and communications technology platform developed for human-centered health monitoring to provide insight into motion sickness responses on seafaring vessels.

The content proposed to be communicated at the research session includes introducing the Mariner 4.0 concept, a practical description of the platform, and the results from the berth of Mariner 4.0 on a winter research expedition. A feat in shipping will be showcased: the motion sickness status of 15 participants was monitored in near real-time over the course of the voyage. Novel motion sickness criteria were determined by Mariner 4.0 on Winter Cruise using data captured from the participants and a full-scale ship motion measurement system. The Mariner 4.0 platform served as a tailored research tool for advancing the study of motion sickness that humans experience on ships.

Format:

Oral presentation

Keywords: (add ; between keywords)

Human-centered systems; Motion sickness; Human factors