

Call for papers

**Special Issue on Verification and Validation of Airgun Source  
Signature and Sound Propagation Models**

Deadline for submission: **30 June 2017**

Target date for publication: **July 2018**

The possible impact of seismic surveys on marine life has given regulators and scientists a shared interest in quantifying the sound field produced by an airgun or array of airguns. Predictions do not always agree well with measurements, and the reasons for the disagreement are often not understood. To build confidence in studies of environmental impact it is necessary to demonstrate that the different modelling techniques in use produce the same solution for a well-specified problem, or if they do not, to investigate the implications of different methods, assumptions or approximations in order to understand how and why they differ. In July 2016, an international airgun modelling workshop was held in Dublin, Ireland<sup>1</sup>, the purpose of which was to identify difference between model predictions for selected well specified shallow water scenarios, and to understand the causes of these differences.

The IEEE Journal of Oceanic Engineering will publish a special issue focusing on the verification and validation of models for the prediction of the sound field radiated by compressed air sources, including airguns and airgun arrays. The specific focus of the special issue is to meet the demand for increasingly precise assessments of environmental impacts, requiring accurate characterization of the airgun array sound field, including the interface between source signature models and sound propagation models.

**Guest Editors:**

Michael A. Ainslie,  
TNO,  
PO Box 96864,  
2509 JG The Hague.  
The Netherlands  
[michael.ainslie@tno.nl](mailto:michael.ainslie@tno.nl)

Kevin D. Heaney,  
OASIS Inc.,  
5 Militia Drive ,  
Lexington, MA 02421, USA.  
[oceansound04@yahoo.com](mailto:oceansound04@yahoo.com)

Alexander O. MacGillivray,  
JASCO Applied Sciences,  
Victoria,  
BC, Canada,  
[alex.macgillivray@jasco.com](mailto:alex.macgillivray@jasco.com)

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<sup>1</sup> 'International Airgun Modelling Workshop: Validation of Source Signature and Sound Propagation Models', 16 July 2016, Dublin, Ireland'.

**Papers:**

Submissions are requested on the validation and verification of models describing either the sound radiated by compressed air sources, including but not limited to airguns, in deep or shallow water. The scope of the special issue includes:

- source models (calculation of source signature);
- propagation models (calculation of sound field caused by source signature);
- interface between source signature and propagation models;
- comparisons between different theoretical methods or between prediction and measurement.

The special issue covers verification and validation of compressed air sources of underwater sound. Papers describing solutions to the Dublin workshop test problems (Ainslie et al 2016<sup>2</sup>) are particularly encouraged. Test case description available from the workshop organisers (contact details of the Dublin Workshop Organizing Committee are provided at the end of this Call for Papers).

**Deadline for submission of papers:** 30 June 2017. Manuscripts submitted before this date will be considered for publication in the special collection. All manuscripts must be submitted through the Journal's website:  
<http://joe.msubmit.net>

Authors should include a cover letter when submitting their manuscript indicating that the contribution is intended for the special issue on **verification and validation of airgun source signature and sound propagation models**.

Individual papers will be posted on IEEE Xplore immediately on approval of the final galley proof, thus becoming downloadable and citable in advance of publication in the regular issue of the Journal.

**Dublin Workshop Organizing Committee:**

Michael A. Ainslie,  
TNO,  
P.O. Box 96864,  
2509 JG The Hague,  
The Netherlands.  
[michael.ainslie@tno.nl](mailto:michael.ainslie@tno.nl)

Michele B. Halvorsen,  
CSA Ocean Sciences Inc.  
8502 SW Kansas Ave,  
Stuart, FL 34997, USA.  
[mhalvorsen@conshelf.com](mailto:mhalvorsen@conshelf.com)

René P. A. Dekeling,  
Netherlands Ministry of Infrastructure and the Environment,  
P.O. Box 20901,  
2500 EX The Hague,  
The Netherlands.  
[rene.dekeling@minienm.nl](mailto:rene.dekeling@minienm.nl)

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<sup>2</sup> M. A. Ainslie et al. 2016, Verification of airgun sound field models for environmental impact assessment, Proc. Mtgs. Acoust., Vol. 27, 070018 (2016); doi: <http://dx.doi.org/10.1121/2.0000339>. Last accessed 16 February 2017.