Dr Matthew M Scase
Assistant Professor of Mathematics
Faculty of Science
C41 Mathematical Sciences

matthew.scase@nottingham.ac.uk

The University of Nottingham

Industrial & Applied Mathematics
School of Mathematical Sciences
University of Nottingham
Nottingham NG7 2RD

Tel: +44 (0)115 846 6980
Fax: +44 (0)115 951 3898

June 6, 2016

Benjamin Werth, Science Editor - Chemistry
Journal of Visualized Experiments

Re: Submission of paper entitled 'Magnetically-Induced Rotating Rayleigh-Taylor Instability'

To The Editor,

Please find enclosed our manuscript entitled 'Magnetically-Induced Rotating Rayleigh-Taylor Instability' that we would like to be considered for publication in Journal of Visualized Experiments. This paper highlights a protocol for initiating the Rayleigh-Taylor Instability in a rotating fluid system using superconducting magnets. We consider of value publishing these data in Journal of Visualized Experiments, as they describe a powerful new technique for instigating flows in fluids of differing buoyancies without the usual need for barriers, or barrier removal methods (or indeed other rocketry based techniques). The techniques presented in this paper and demonstrated in video format will be highly useful for researchers working in the field of experimental fluid mechanics (particularly with focus in environmental, atmospheric and oceanographic flows) which has overlaps with Engineering, Applied Mathematics, Physics and Chemistry.

Scase, Hill & Baldwin designed the procedures described in the manuscript, performed the experiments and analyzed the data. Finally, Scase wrote the manuscript.

During the preparation and submission of this manuscript, we have been kindly assisted by Benjamin Werth.

Thank you for your consideration of this manuscript. We look forward to hearing from you.

Yours sincerely,

Matt