Emlyn John Davies Research Scientist, Environmental Technology SINTEF Materials and Chemistry Brattørkaia 17C Trondheim, Norway 7010

a. Professional Preparation

University of Plymouth, UK Ocean Sciences University of Plymouth, UK Ocean optics BSc (Hons.) 2009 PhD 2013

b. Appointments

2013-presentResearch Assistant, Plymouth University: Marine optics research on: particle size distributions, holographic imaging, marine optics.

2013-present: Associate Lecturer, Plymouth University: Responsibility for delivery of lectures and fieldwork in marine optics for undergraduate marine science students (50% of stage-two module: "Marine Optics & Acoustics"). Further details outlined on Page 4.

2011: Research Assistant, Plymouth University: Higher Education Innovation Fund (HEIF) project for development of holographic reconstruction software and development of a fluorescence imaging system.

2010: Demonstrator, Plymouth University: Laboratory-based teaching and demonstrating for stage-two Ocean Science undergraduates.

c. Publications

Emlyn J. Davies, Daniel Buscombe, George W. Graham, W. Alex M. Nimmo-Smith, (2015), "Evaluating unsupervised methods to size and classify suspended particles using digital holography", Journal of Atmospheric and Ocean Technology, 32, 1241-1256. DOI: 10.1175/JTECH-D-14-00157.1

Emlyn J. Davies, David McKee, David Bowers, George w. Graham, W. Alex M. Nimmo-Smith, (2014), "Optically significant particle sizes in seawater", Applied Optics, 1067-1074 Vol 53, No 6. DOI:10.1364/AO.53.001067

George W. Graham, **Emlyn J. Davies**, W. Alex M. Nimmo-Smith, David G. Bowers, and Katherine M. Braithwaite, (2012), "Interpreting LISST-100X measurements of particles with complex shape using Digital In-line Holography", Journal of Geophysical Research: Oceans, 117(C05034). DOI:10.1029/2011JC007613.

Emlyn J. Davies, W. Alex M. Nimmo-Smith, Yogesh C. Agrawal, and Alejandro J. Souza, (2012), "LISST-100 response to large particles", Marine Geology, 307-310. DOI:10.1016/j.margeo.2012.03.006.

Emlyn J. Davies, W. Alex M. Nimmo-Smith, Yogesh C. Agrawal, and Alejandro J. Souza, (2011), "Scattering signatures of suspended particles: an integrated system for combining digital holography and laser diffraction," Optics Express, 19, 25488-25499.

Emlyn J. Davies and W. Alex M. Nimmo-Smith, (2010), "Dynamics of suspended particulate matter in the lower Tamar Estuary", Plymouth Student Scientist, 3(2), 63-108.

d. Synergistic Activities

NYKOS – New knowledge on submarine tailings placement. Measurements and modelling of transport and distribution of suspended mineral flocs.

- Multiple projects within the API program on subsea dispersant injection quantification of oil and gas size distributions from laboratory simulations of subsea blowouts.
- IOGP Arctic Response Technology Oil Under Ice project to quantify turbulence under ice in low energy environments.
- DROPPS I & II measurements of oil and gas from subsea releases, including long term fate and tip-streaming of chemically-treated droplets.
- SURE SUbea Releases of gas experimental studies of large subsea releases of gas, involving development on new methods for quantification of large-scale plume behavior below the sea surface.

e. Collaborators & Other Affiliations

(i) Collaborators

Agrawal Y. (Sequoia Scientific Inc.), Ahnell, A. (Exponent), Brakstad, O.G. (SINTEF), Boehm (Exponent), Dahling, P. (SINTEF) Faksness, L.-G. (SINTEF), McKee D. (U of Strathclyde), McPhee, M. (McPhee Consulting), Nimmo-Smith, A (Plymouth U), Pelz O. (BP), Reed, M. (SINTEF)

(ii) Graduate and Postdoctoral Advisors. Alex Nimmo-Smith, University of Plymouth, United Kindom.

(iii) Thesis Advisor and Postgraduate-Scholar Sponsor. None