MUltiphase Flow-induced Fluid-flexible structure InteractioN in Subsea applications (MUFFINS)

Engineering and Physical Sciences Research Council

MUFFINS

16-17 December 2020

Recent Advances in MultiphasE flow-induced vibratioN (RAMEN)

Day 1	16 December 2020	
10.00 – 10.15	**Participants join online**	
10.15 – 10.30	**Welcome & Opening Remarks** Narakorn Srinil [PI & Chair] & David Swailes, Newcastle University Omar Matar & Christopher Pain, Imperial College Gioia Falcone & Andrea Cammarano, University of Glasgow	
10.30 – 11.30	**Keynote Speaker I** **Examples on Two-Way Dynamic Coupling: Two-Phase Flow in Flexible Pipes** Ole Nydal, Norwegian University of Science & Technology	
11.30 – 11.45	Coffee/Tea Break	
11.45 – 12.45	**MUFFINS Showcase I** WP7 | **Experimental Validations for Multiphase Flow in Flexible Risers: Design Considerations for Multiple Stakeholders** Alexander Elliott, University of Glasgow WP5 | **A Mechanistic Model for Tracking an Unsteady Slug Flow** Juan Padrino, Newcastle University	
12.45 – 13.30	Lunch Break	
13.30 – 14.30	**Keynote Speaker II** **An Assessment of Subsea Manifold Piping FIV due to Multiphase Flow with Low Liquid Content** Juan Pontaza, Shell	
14.30 – 15.30	**MUFFINS Showcase II** WP3 | **Slug Flow Prediction for Subsea Applications Using Dynamic Anisotropic Mesh Optimisation with Tetrahedral Control-Volume Finite Elements** Lyes Kahouadji, Imperial College WP7 | **CFD Simulations of Multiphase Flow in a Flexible Riser and Considering Fluid-Structure Interaction** Graeme Hunt, University of Glasgow	
15.30 – 15.45	Coffee/Tea Break	

15.45 – 17.00	**MUFFINS Industry Partner I**
	Computational Multiphase FIV: Validation and Unanswered Questions
	Mike Lewis, Xodus
	Force and Vibration Measurement in 1" Complex Piping: Influence of Phase Behavior and Damping
	Stefan Belfroid, TNO
Day 2	17 December 2020
10.00 – 11.00	**Keynote Speaker III**
	Partitioned Fluid-Structure Interaction Simulations with Multiphase Flow in a Circular Pipe
	Joris Degroote, Ghent University
11.00 – 12.00	**MUFFINS Showcase III**
	WP3 | **Fluid-Structure Interaction in Pipelines**
	Jiansheng Xiang, Imperial College
	WP4 | **Non-Intrusive Reduced Order Modelling for Multiphase Flows**
	Claire Heaney, Imperial College
12.00 – 12.45	Lunch Break
12.45 – 13.45	**Keynote Speaker IV**
	CFD with Solids, Mesh Adaptivity, Reduced-Order Models & Neural Networks
	Christopher Pain, Imperial College
13.45 – 14.45	**MUFFINS Showcase IV & Other Academic**
	WP6 | **Moving Mass/Oscillator for Modelling Slug Flow-Induced Vibration**
	Victoria Kurushina, Newcastle University
	Influence of Slug-Induced Oscillations on Steel Catenary Risers in Non-Linear Hysteretic Seabed
	Xiaoyu Dong, Memorial University of Newfoundland
14.45 – 15.00	Coffee/Tea Break
15.00 – 15.40	**MUFFINS Industry Partner II**
	Review of Slugging Induced Vibration Modelling of Spool & Riser System for Design Purpose
	Kévin Le Prin, TechnipFMC
15.40 – 16.20	**Discussion on Future Direction of Multiphase FIV Research**
16.20 – 16.30	**Closing Remarks**
	Narakorn Srinil, Newcastle University