



Dynamics  
Research  
Group

## The 2nd Sheffield Workshop in Structural Dynamics

In March 2017, the Dynamics Research Group (DRG) in the University of Sheffield hosted a two-day research meeting: a one-day celebration of our 25+ year relationship with Los Alamos National Laboratory in the US, and a day based around population-based Structural Health Monitoring (SHM) in support of Keith Worden's EPSRC Fellowship. The meeting proved very successful, so we are happy to announce a second workshop to be held this year; a three-day workshop to be held between the 18th and 20th November 2019.

The new workshop will be themed around the EPSRC Fellowships of Keith Worden and Lizzy Cross, with one day associated with each project. A third day will focus on verification and validation/digital twin work and will incorporate full-scale structural test demos at the newly-operational Laboratory for Verification and Validation (LVV). Each day will be comprised of keynote lectures by international authorities, detailed research presentations, and ample space for discussions.





# Dynamics Research Group

Monday 18th November

*Inox Dine: Sheffield University Students Union*

Tuesday 19th November

Wednesday 20th November  
*Laboratory for Verification and Validation (LVV)*

9.00			Bus to LVV from Students Union
9.30	"Overview of population-based SHM." Nikolaos Dervilis	"Grey-box models for structural dynamics." Lizzy Cross	"Model Validation and Overcoming Model Discrepancy." Paul Gardner
10.00	Tea break		10.15 - 10.45 Tea break ~
10.30	Session 1: "Populations: graphs, networks and communities." Julian Gosliga. "Homogeneous populations and forms." Lawrence Bull	Tea break	10.45 "Operational modal analysis & managing identification uncertainty" Ivan Au, Nanyang Technological University
11.00		Session 1: "Nonlinear system Identification and Grey-box modelling." Jean Philippe Noel. University of Liège "A forward model driven paradigm for SHM" Robert Barthorpe	Session 1: LVV Capability: Enabled research, interactive demos and Q&A
11.30	Discussion Session		
12.00			
12.30	Lunch	Lunch	12.30-13.15 Lunch ~
13.00			13.15 "Validation of input, state, and parameter estimation for civil engineering structures." Geert Lombaert, KU Leuven
13.30	"Structural Health Monitoring for Offshore Wind." Eleni Chatzi, ETH Zurich	"Identification and Implementation: Grey-Box Models in the State-Space." Tim Rogers	Session 2: LVV Capability: Enabled research, interactive demos and Q&A
14.00			
14.30	Tea break	Tea break	
15.00			Buses from LVV back to Students Union
15.30	Session 2: "Heterogeneous populations: mapping and transfer." Paul Gardner. "Structures as Geometry." Keith Worden	Session 2: "Gaussian processes: connecting random vibration and deep learning." James Hensman, Prowler.io. Second talk TBC	Close
16.00			
16.30	Discussion Session	Discussion Session	
17.00	Drinks Reception		



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## Where can I find the workshop?

On Monday 18<sup>th</sup> and Tuesday 19<sup>th</sup> November the workshop will be held at the 'Inox Dine' facility. Situated in the heart of Sheffield, Inox Dine is only a 2 minute walk from the University of Sheffield tram stop and a 5 minute taxi ride from the railway station. Inox Dine is located within the University of Sheffield Students' Union Building on Level 5.

Enter through the West Entrance of the Students' Union Building, [click here](#) for Google Maps. Students' Union Building, Durham Road, Sheffield, S10 2TG.

On Wednesday 20<sup>th</sup> November the workshop will be held off campus at the Laboratory for Verification & Validation ([www.lvv.ac.uk](http://www.lvv.ac.uk)). A coach will be provided from the Student's Union building leaving at 9am. The coach will return guests back to the Student's Union building at around 4pm.

Lunch and refreshments will be supplied to guests on all days.



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### Laboratory for Verification & Validation (LVV)

