

Future Infrastructure Forum

EPSRC Network for Resilient & Sustainable Infrastructure
Structural & Geotechnical Engineering



The Fifth FIF



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27th & 28th March 2013

FIF4 delegates



Prof. Prof. Brian Bell – Network Rail

FIF Aims

1. Establish an umbrella network to forge new partnerships
2. Define future research vision
3. Produce formal research proposals
4. Innovate, disseminate & collaborate

Universities (24)

~ 80 Academics

- Bath
- Birmingham
- Bradford
- Brighton
- Bristol
- Cambridge
- Cardiff
- Edinburgh
- Exeter
- Heriot- Watt
- Imperial College
- Leeds
- Loughborough
- Manchester
- Newcastle
- Nottingham
- Oxford
- Queen's Belfast
- Reading
- Sheffield
- Southampton
- Surrey
- UCL
- Warwick

Industry partners (37)

- Arup
- Atkins
- Costain
- Gifford
- Halcrow
- NRA
- PB
- WSP
- TWI
- BAM Nuttall
- Buro Happold
- Laing O'Rourke
- Sir Robert McAlpine
- Mott MacDonald
- Vinci
- Straininstall
- Humber Bridge Board
- Canal & River Trust
- Infrastructure UK
- LUL & TfL
- FETA
- HA
- Transport Scotland
- Welsh Government
- Network Rail
- National Grid
- Bill Harvey Associates
- ADEPT
- BOF
- BRE
- EPSRC
- GAOF
- ICE
- TRL
- TSB
- CIRIA

FIF Network Events

1. Introductory Forum (2 days) – 26 & 27th Sept 2011
2. International & Industry Forum (2 days) – 17&18th Jan 2012
3. Themed Forum (2 days) – 17th & 18th April 2012
4. Bid Preparation Forum (2 days) – 5th & 6th Sept 2012
5. ***Future Opportunities Forum (1.5 days) – 27th & 28th March 2013***

Formal research proposals

Produce at least two, and preferably several formal proposalsfor large scale collaborative research programmes that will address specific challenges facing our infrastructure

Outcomes achieved

1. Establish an umbrella network to forge new partnerships



2. Define future research vision



3. Produce formal research proposals



4. Innovate, disseminate & collaborate



Ground and Structural Engineering Research Challenge Call for Proposals – closed Sept 2012

Two future research challenge areas identified:

- Resilient and Sustainable Infrastructure
- Novel Materials and Novel Use of Materials in the Built Environment

Aims: produce *transformative, novel and future focussed* research in the area of ground and structural engineering. The research should be *ambitious* and a first step in defining the priorities for future research in the area.

Funding available: up to £8M available which will be expected to fund up to five research projects.
(with possibility of up to £12M)



FIF outcomes achieved

Formal research proposals

*Produce at least **two**, and preferably several formal proposalsfor large scale collaborative research programmes that will address specific challenges facing our infrastructure*

No. of FIF Projects
registered for submission
13



Ground and Structural Engineering Research Challenge Call for Proposals

15 project submissions actually received by EPSRC from both Networks (FIF & LimesNet) - 4 shortlisted & interviewed

No. of projects funded = 3



Funding provided £4,7M

BUT

Only 3 of expected 5 projects funded



Only 58% of expected funding allocated

Aims of FIF5

1. Establish new or strengthen existing collaborations between academics and industrial partners to produce new, high quality research proposals for preparation for submission to EPSRC in the forthcoming months, building upon the key challenges identified at previous fora.
2. Provide feedback on the 3 proposals that were successful in the recent EPSRC call in Ground & Structural Engineering.
3. Provide feedback from EPSRC on the outcomes of this previous call and an update of EPSRC's current priorities in civil engineering.
4. Update on new research initiatives in civil engineering including the TSB Future Cities and Transport catapults.
5. Explore other funding opportunities, in particular via EU programmes.

Successful projects

- 1. iSMART** – PI: Prof. Stephanie Glendinning (Newcastle)
+ 12 CIs (+ QUB, Durham, BGS, L'boro, S'hampton)
- 2. M4L** – Materials for Life – PI: Prof. Bob Lark (Cardiff)
+ 10 CIs (+ Cambridge, Bath)
- 3. DURACOMP** – PI: Prof. Toby Mottram (Warwick)
+ 7 CIs (+ Bristol, Newcastle, Bath, Leeds, Glasgow)

Successful projects

iSMART

iSMART will use a combination of field measurements, lab testing and development of conceptual and numerical models to investigate the uncertainties and knowledge gaps enumerated above and to visualise the complex interactions taking place over time and space. This knowledge will help the managers of the UK's transport infrastructure to identify problem sites, plan and prioritise maintenance activity, and develop assessment and adaptation strategies to ensure future safety and resilience of geotechnical transport infrastructure.

Successful projects

iSMART PI – Prof. S. Glendinning (Newcastle)

iSMART CIs

Hughes, Dr D

Hughes, Dr PN

Augarde, Dr CE

Gunn, Dr DA

Dixon, Professor N

Chambers, Dr JE

Toll, Professor DG

Rouainia, Dr M

Smethurst, Dr JA

Dijkstra, Dr T

Powrie, Professor \

Clarke, Dr D

Successful projects

1. M4L – Materials for Life – PI: Prof. Bob Lark (Cardiff) + 10 CIs (+ Cambridge, Bath)

Paine, Dr KA

Al-Tabbaa, Dr A

Jefferson, Dr T

Heath, Dr A

Harbottle, Dr MJ

Abell, Professor C

Lees, Dr J

Gardner, Dr D R

Oyen, Dr ML

Cooper, Dr RM

Successful projects

DURACOMP PI: Prof Toby Mottram

Sebastian, Dr WM

Kilsby, Professor C

Evernden, Dr M

Purnell, Professor P

Kaczmarczyk, Dr L

Pearce, Professor C

Gosling, Professor PD