



ESDU-SPG-M12-1

Sept.09: Fouling in refinery preheat trains. PHT network simulation



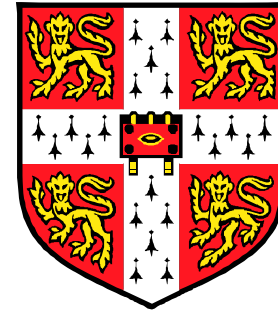
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Unamended
Issued October 2010

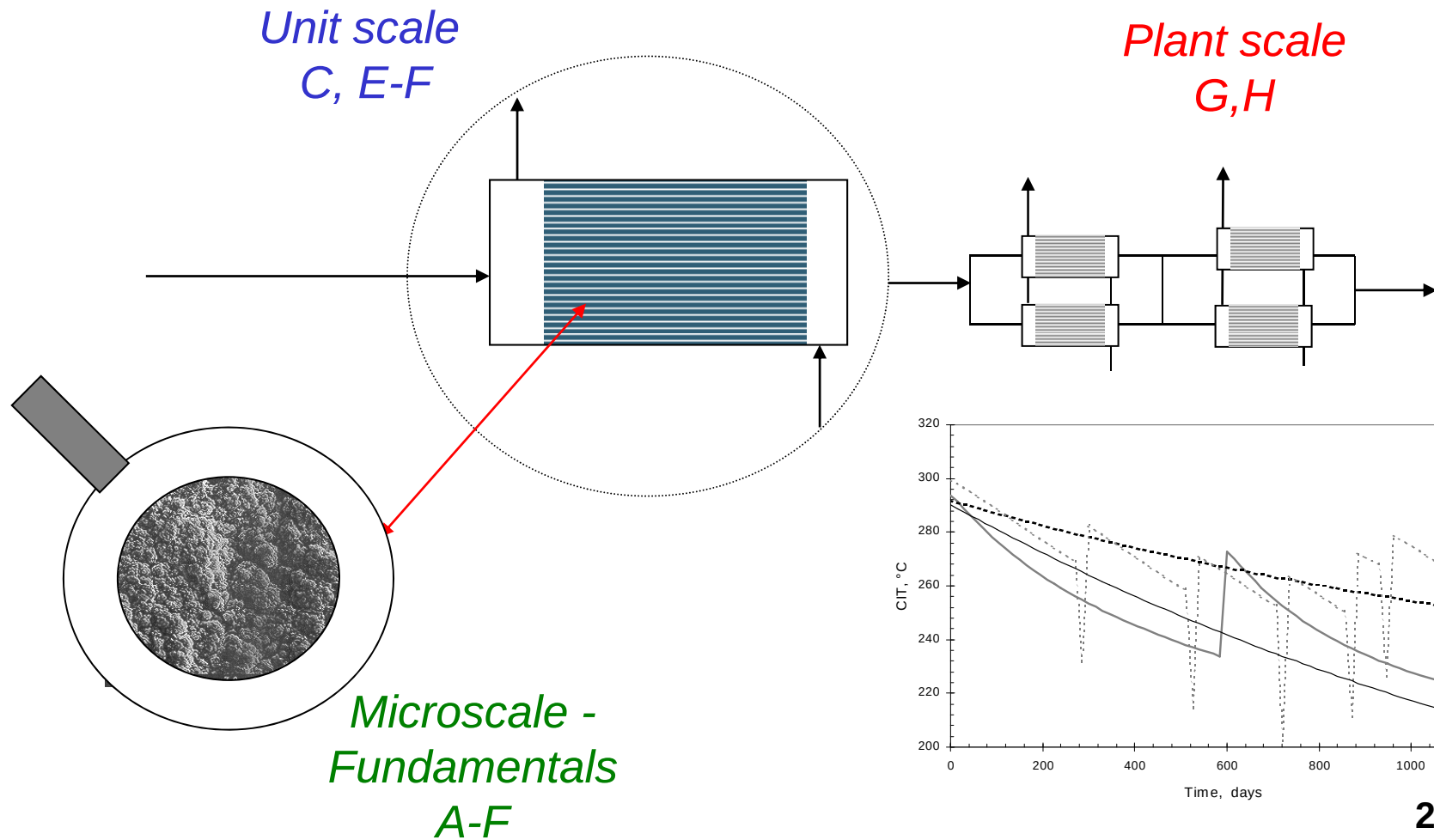
Fouling in refinery preheat trains

Edward Ishiyama, Bill Paterson, Ian Wilson
Department of Chemical Engineering & Biotechnology
University of Cambridge

30th September 2009



Scales of Scrutiny



Scaling up

The fundamental work will generate knowledge and modelling of

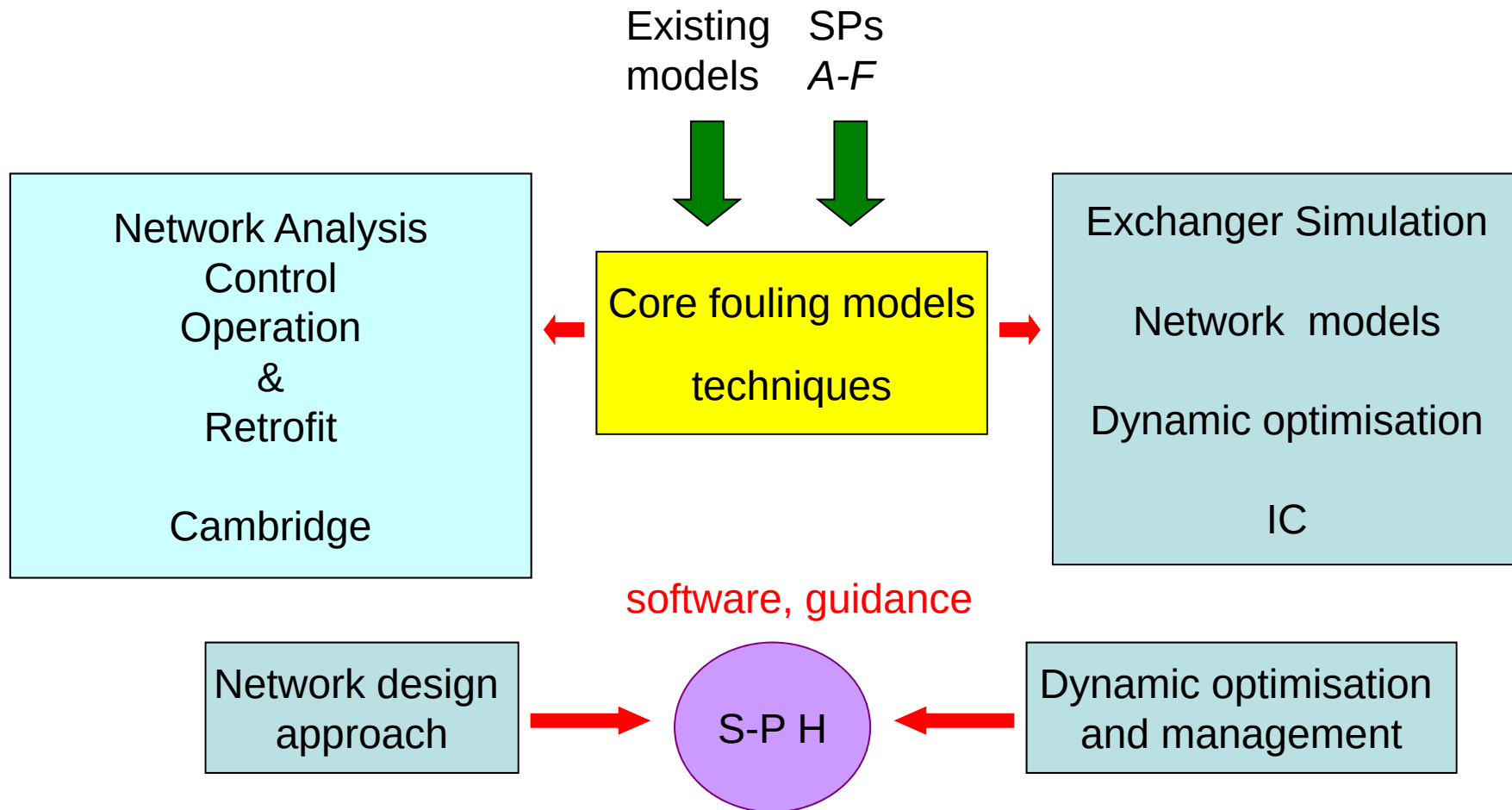
- conditions likely to cause fouling
- thermal fouling rates
- relationships between thermal fouling and pressure drop

S-P G will focus on implementing this knowledge in

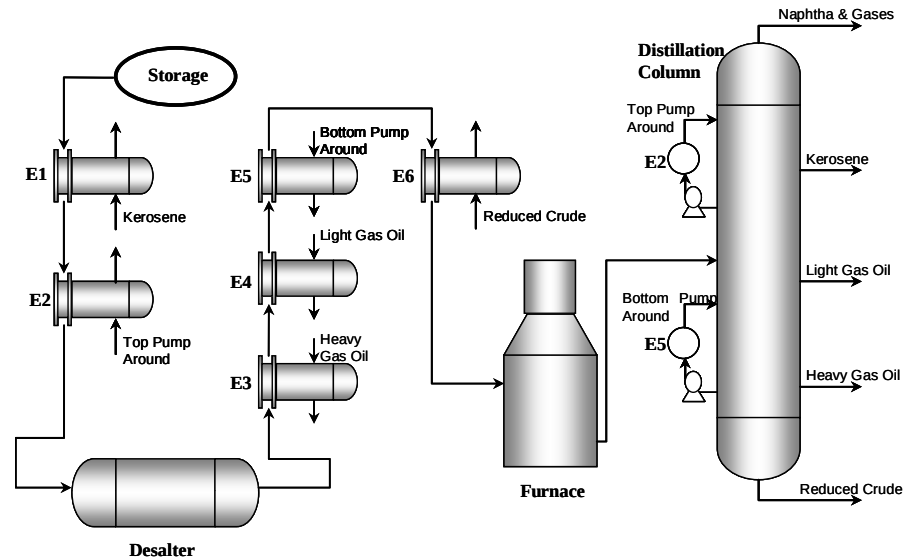
- exchanger design
- network **design** and retrofit
- network control and operation



Approach



Resources



- IC
 - Sandro Macchietto, Stephen Richardson, Geoff Hewitt
 - PhD student Francesco Coletti (simulation and optimisation)
 - 1 PDRA shared with Sub-Project F
- Cambridge
 - Ian Wilson, Bill Paterson
 - PhD student Edward Ishiyama (network retrofit, operation and design)
- Chiefly numerical

