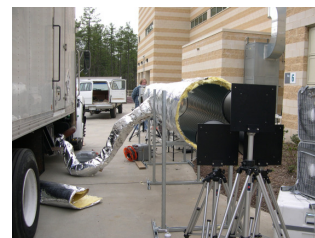


# FTIR Spectroscopy Workshop

6<sup>th</sup> to 7<sup>th</sup> June 2007 – King's College London



## a 2-day workshop in remote sensing with FTIR Interferometers

### Aims

The workshop aims to bring together new and exiting users of FTIR interferometers for remote sensing applications, to share their knowledge and experiences when designing and implementing field measurement campaigns. Two FTIR systems will be used for hands on demonstration of the equipment in both open path and ground radiance configurations. Data processing techniques, for retrieval of gas concentrations and ground emissivity values will be discussed. Throughout the two days, opportunities will arise for users new to FTIR remote sensing to discuss their projects in detail and to establish links to experts in this field.

### Topics

Topics covered include:

- Field measurements with Fourier Transform Infrared interferometers
- Remote sensing and gas retrievals from volcanic plumes
- Open path measurements of fugitive emissions
- Ground radiance and surface emissivity
- Estimating gas releases in biomass fires
- Radiometric calibration of FTIR systems
- Data retrieval techniques including least squares fit and the reference forward model.

### Field Measurement Demonstrations

The demonstration on the first day will include an open path configuration using a collimated infrared field source and, weather permitting, a sun occultation measurement.

The experiment on the second day will aim to demonstrate the techniques and methods required to measure ground radiance, surface temperature and emissivity using field and laboratory black body sources.

### Cost

The workshop is open at no charge to all FTIR users new and old, but participants will need to fund their own travel and accommodation during their stay in London.

### Registration

For registration and further enquiries please contact the NERC Field Spectroscopy Facility at:

NERC Field Spectroscopy Facility,  
University of Edinburgh, Grant Institute,  
West Mains Road, Edinburgh EH9 3JW

Tel: 0131 6505926; Fax: 0131 6505901;

Email: [fsf@nerc.ac.uk](mailto:fsf@nerc.ac.uk);

Web: <http://fsf.nerc.ac.uk>

## Programme

Wednesday 6<sup>th</sup> June

Venue: War Studies meeting room, Strand Building, King's College London

Time	Topic	Speaker	
9:00 – 9:45	Registration		
9:45 – 10:00	Welcome	Martin Wooster & Tim Malthus	King's College London Univ. of Edinburgh
10:00 – 10:20	Principles of FTIR Interferometers	C MacLellan	NERC FSF
10:30 – 11:00	Open path	Mike Burton	Istituto Nazionale di Geofisica e Vulcanologia (INGV)
11:00 – 11:30	Comparison of different analysis techniques of Open-Path FTIR spectra	Susana Briz	Universidad Europea de Madrid
11:30 – 12:00	Coffee		
12:00 – 12:30	Using FTIR to Measure the Influence of Biomass Fires on the Atmosphere (R.J. Yokelson)	Pete Zemek	Midac Corp.
12:30 – 13:00		Johan Mellqvist	Chalmers U. of Technology, Göteborg,
13:00 – 14:00	Lunch (provided)		
14:00 – 14:30	Open path	Clive Oppenheimer	Univ. of Cambridge
14:30 – 16:00	FTIR spectroradiometer measurement demos. Open path with field source & sun occultation. (Auto-quant Pro & Essential FTIR)	& Chris MacLellan	NERC FSF
16:00 – 16:30	Coffee & discussion		
16:30 – 17:30	Data retrievals with Reference Forward Modelling	Anu Dudhia	Univ. of Oxford
18:30 –	Workshop dinner at TBA		

Thursday 7<sup>th</sup> June

Venue: Pyramid Room, Strand Building, King's College London

Time	Topic	Speaker	
9:30 – 10:00	Radiometric Calibration of Field Spectrometers	Tim Nightingale,	CCLRC, RAL
10:00 – 10:30	Gas Retrievals from Spectroscopic Measurements	Jolyon Reburn	CCLRC, RAL
10:30 – 11:00	Scanning system	Andrew Wilson	Centre for Ecology & Hydrology
11:00 – 11:30	Coffee		
11:30 – 12:00	Ground radiance & emissivity	Vitchko Tsanev	Univ. of Cambridge
12:30 – 13:00	Ground radiance & emissivity	TBA	
13:00 – 14:00	Lunch (provided)		
14:00 – 15:30	Ground radiance & emissivity demo	Martin Wooster/ Chris MacLellan	
15:30 – 16:00	Reactor based open-path measurements using the Illuminator portion of the MIDAC OP-system	Pete Zemek	Midac, Corp.
16:00 – 16:30	Midac FTIR system options & accessories	Don Mullally,	Midac, Corp.
16:30 – 17:00	Coffee & round up discussions	Clive / Martin / Tim	

## Venue and Transport (information and maps from <http://www.kcl.ac.uk/about/campuses/strand-det>)

Rooms: War Studies Meeting Room (6<sup>th</sup> June) & Pyramid Room (7<sup>th</sup> June)

Department of Geography,  
King's College London,  
Strand,  
London WC2R 2LS

**Tube** - nearest stations

Temple (District and Circle lines), 2 minute walk

Charing Cross (Bakerloo, Northern lines), 10 minute walk

Embankment (District, Circle, Bakerloo lines), 10 minute walk

Waterloo (Jubilee, Northern, Bakerloo, Waterloo & City lines), 12 minute walk

Holborn (Central, Piccadilly lines), 12 minute walk

Chancery Lane (Central line), use exit 4, 15 minute walk

**By train** - nearest stations

Charing Cross, 9 minute walk

Waterloo, 12 minute walk

Waterloo East, 10 minute walk

Blackfriars, 12 minute walk

**By bus**

Buses stopping outside the College: 6 (24 hour service), 9, 11, 15, 23 (24 hour service), 91, RV1

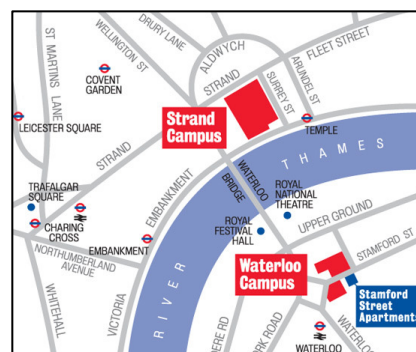
Buses stopping near the College: 1, 4, 26, 59, 68, 76, X68, 168, 171, 172, 176 (24 hour service), 188, 243 (24 hour service), 341 (24 hour service), 521

**Parking**

The Strand Campus has no public parking, but a pay and display parking system operates in nearby streets including Surrey Street. Motorcycles: bays in the Strand, Arundel Street, Temple Place and other nearby streets.

**Bicycles**

Bicycle stands in the quadrangle of the Strand Campus (next to the School of Law).



Department of Geography - Building A entrance on Strand opposite Bush House - BBC world service building

