Please complete and return to:

NERC Field Spectroscopy Facility University of Edinburgh Grant Institute James Hutton Road Edinburgh EH9 3FE Tel: 0131 650 5926 Email: fsf@nerc.ac.uk



It is a condition of loan that all applicants are expected to present the results of their research at the FSF Users meeting, and all publications arising as a direct result of your loan should fully acknowledge the support of the facility. Failure to do so may jeopardise future loans.

### 1. Principal Investigator (P.I.) / Applicant

#### 2. User (if different from applicant)

Name of PI:	User (if different from PI):
Status/job title:	Status/job title:
Address:	Address:
Post code:	Post code:
Telephone:	Telephone:
Email:	Email:

### 3. Equipment and measurements.

Please select the instrument(s) you wish to borrow and indicate what types of measurements you will be making. Detailed information regarding instrument specifications is available on our website at <a href="http://fsf.nerc.ac.uk">http://fsf.nerc.ac.uk</a>

Instrument	Wavelength range	Type of measurement required	
Full range field spectrometer (please specify if you have a <u>model preference</u> )	350 - 2500 nm	GHGs	
Headwall Hyperspectral Imager flight (FSF will collect your data, please email us at <u>fsf@nerc.ac.uk</u> at least 1 month prior to our direct access deadline)	350 – 2500 nm	Multispectral/Hyperspectral Imagery	
Bruker EM27 Sun		Reflectance	
UAV-mounted MAIA 8/9 band Multispectral Camera (please also fill out <u>this</u> form)	Sentinel-2 or WV3	Radiance	
OceanOptics QE Pro Fluorescence Spectrometer	600-800 nm	Irradiance	
Cimel tracking sun photometer	7 / 8 channels	Underwater radiance/irradiance	
Microtops ozone monitor	5 channels	Underwater reflectance	

Microtops sun photometer	5 channels			Underwater absorption/attenuation/CTD	
Midac FTIR spectrometer	5000 - 700 cm <sup>-1</sup> (2.0 - 14.5 μm)			Underwater rad/irrad. & surface irrad.	
Wetlabs AC-S	400-730nm			Aerosols	
Hyper OCR radiometers	350-950nm			FTIR Gas analysis	
Diving PAM				FTIR ground radiance/emissivity	
2D MaxDOAS				Fluorescence	
Other (please describe)					
Field Spectroscopy Accessories - Please Specify:					

**4. Is training required?** (NB if the person <u>USING</u> the equipment has <u>NOT</u> already been trained by FSF, then attending a training course in Edinburgh is compulsory). We provide fully customised, one-to-one training courses tailored to individuals' needs. We also offer refresher courses for those who have not used the equipment for over 18 months, or if requested.

YES D NO D Refresher course D

5. Period of Loan Dates when equipment is required (inclusive)

First Preference:

Second Preference:

6. Research Project Title and Personnel (Academics and Students, both UK and International)

7. Proposed site(s) Please provide place name and map hyperlink. If travelling to a site location, please provide details on how your travel arrangements will conform to the sustainability policies of your institution.

**8. Funding type** (tick all that apply). Please note that loan priority will be assigned to those projects currently in receipt of a NERC Grant or studentship

### a. Project funding

NERC Research Grant    Grant	NERC other	Other academic  ロ (please specify below)	Other □ (please	specify
below)				

### b. User/studentship funding

NERC studentship 🛛	Other studentship 🗖	No associated studentships 🗆
(including NERC CASE or tied studentships)		

**c.** Funding details. If in receipt of NERC funding please provide the full grant or studentship reference number and the title of the project. Please also state the value of your funding.

#### 9. Science areas

**a.** Please indicate which of the following NERC Science Themes (https://www.ukri.org/councils/nerc/remit-programmes-and-priorities/) is the most fitting for your application.

Atmospheric Physics and Chemistry	Marine Environments	
Climate and Climate Change	Polar Sciences	
Ecology, Biodiversity, and Systematics	Science Based Archaeology	
Geosciences	Terrestrial and Freshwater Environments	

### 10. Previous FSF loans

**a.** Is this application associated with any previous applications to FSF? If so please provide the loan reference number(s), the name of the Principal Investigator(s), and the grade(s) of each.

## b. Please list the outputs from your previous loan(s), in terms of publications, presentations etc?

### 11. Research Programme: Scientific background to your proposal

Please use the space below to give details of the scientific aims and objectives of the project. Please describe in full the purpose of the study and why it is important. You should place the study in the wider scientific context, and cite related work from the published literature. Make sure you provide adequate justification for how field spectroscopy will contribute to your research. Details of how the science you intend to undertake will contribute to scientific knowledge, and how it will fit with the aims of NERC's The Business of the Environment strategy should also be included. If your research will be conducted overseas you should provide justification for taking the equipment abroad.

### 12. Research Programme: Proposed Methodology

Please use the space below to provide details of the project methodology. This section should include details of how data will be **collected** and **analysed**, how the spectral data will contribute to the project and whether the spectral data will be related to other parameters (and if so what other parameters)

Please tick, to confirm this proposed work has undergone ethics approval at your home institute. Note that FSF adheres to the UKRI's Preventing harm (safeguarding) in research and innovation policy (<u>policy information</u>) and it is a <u>loan condition</u> that the receiving institution has similar safeguards in place.

#### 13. Your publication record

Please provide details of your publication record from the past five years in the space provided below. All publications are important, including conference proceedings, reports and poster papers. Those articles which are not directly related to remote sensing or field spectroscopy should also be listed. Please use the additional sheet at the back of the application form if you require more space.

### 14. What output is expected from the research? (Please indicate time scale)

#### 15. Declaration

Note. NERC FSF recommends, and in some cases requires, that FSF equipment be insured for 'all risks' for the duration of the loan. The duration of the loan is from receipt of equipment by the applicant until its return to FSF in Edinburgh, this includes during transportation

I have read and agree to abide by the Conditions of Loan.

Signature of Applicant	Date
Signature of Head of Department or Institute Director	Date

# 16. Please use the additional space provided for adding further information you feel may support your application