ISIS@MACH ITALIA
Hub for the analysis of composite materials

Guidelines for the Medium Range Facilities Access Panel (MAPs)
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MAP is an external independent peer review panel responsible for the selection and scientific evaluation of the proposals submitted by potential users requesting access to the suite of MRFs. The panel is composed of 9-13 independent members with a collective scientific knowledge of complex materials and interphases (CMI) and atomic-to-micro analysis and technology, covering the science areas supported by the IM@IT Research Infrastructure.

List of the MRFs suite	*Technical details*
AFM	The Nanowizard II – JPK-Bruker
AFM BIO	AFM/SPM for topological images of biological samples
AFM Raman with Optical Profiler	Raman Spectrometer XploRA Plus
Confocal Microscope 1	Laser Scanning Confocal Microscope Leica TCS SP2
Confocal Microscope 2	Laser Scanning Confocal Microscope Leica TCS SP8
Confocal Microscope 3	Laser lines at 454, 488, 514, 635 nm
Cryogenic Electron Microscopy	CEM in Transmission, Thermo Scientific™ Glacios™
DNA Sequencing NGS	NextSeq 550
Dynamic Mechanical Analyzer	DMA Star Systems – Mettler Toledo
ESCALB QXi	X-ray photoelectron spectrometer XPS, UPS, REELS
FIB-SEM GAIA 3	FIB-SEM with simultaneous milling and EBSD
FT-IR Nexus	Nicolet Nexus 870
FT-IR Nicolet	Endowed with LightDrive Optical Engine components
Fluorescence Microscopy	BX51 microscope
Gas Chromatography - Ion Mobility Spectrometer	To separate & detect the components in sample mixtures
MONeutron	Prototype ground-level-neutron monitoring network
Mass Spectrometer 1	Rapiflex™ MALDI Tissuetyper™
Mass Spectrometer 2	Orbitrap Fusion Tribrid mass spectrometer
Multipurpose X-Ray diffractometer	With WAXS and SAXS
NMR 600 MHz	Bruker Avance III 600 MHz NMR
RETINA	2D/3D X-ray imaging techniques
Raman Confocal Microscope	Microscope inViaTM QontorTM model
SAXS GISAXS	Xenocs XEUSS 3.0
SAXS WAXD	Saxspace Anton-Paar
SEM FEI	SEM FEI QUANTA 200
SEM LEO SUPRA	SUPRA 35 Field Emission SEM
SEM ZEISS GEMINI	FEG-SEM with a nominal resolution of 1.2 nm
SEM ZEISS SIGMA	Scanning electron microscope - field-emission source
SEM&C-AFM & correlative AFM	SEM system with EDS-SPM
SOURIRE	A neutron source - Deuterium-Tritium (D-T) type
Spectrofluorimeter	Varian Eclipse Spectrofluorimeter
TEM FEI	LaB6 source (120 kV) and BF detector and FEI Eagle
TEM High Resolution	ThermoFisher Talos F200X
TEM JEOL	JEOL JEM 2100 Plus with a LaB6 emitter
TLM platform	Microscopy&time-lapse&lab-on-chip and organ-on-chip
UTEM & LUMINAD	The first national Ultrafast TEM
X-Ray diffractometer	Rigaku SmartLab SE
XRD TOMOGRAPHY	RIGAKU Nano3DX

The ***Remit*** of the MAP is:

- To recommend to the Executive Director of IM@IT a balanced science program based upon the criteria of ***scientific excellence and timeliness*** (all within the bounds of technical feasibility and safety implications) and, where appropriate, the potential economic impact and contribution to knowledge exchange and transfer.
- To comment on the appropriateness of the number of instrument days requested for the experiments proposed.
- To identify after each proposal round scientific trends and facility development issues (including software development) which are of relevance to the MRF instrument.

If a panel member is unable to attend, he is requested to notify the panel secretary as soon as possible in advance so that a substitute member can be found if necessary. Written comments are expected from non-attending members. Panel members who are unable to attend in person may attend by Zoom video conference.

Reasonable travel and subsistence costs are reimbursed to members when attending panel meetings.

Panel Working Method and Protocols

MAP members are provided with all the proposals for their panel in advance of the meeting. Each proposal will be assigned to two MAP members who act as primary speakers to give their assessment of the proposal at the MAP meeting. Proposals are then discussed by the MAP, considering any technical issues raised by IM@IT representatives. The MAP should arrive at a grade for each proposal (see ***Proposal Grading and Prioritisation*** in Table 1). The MAP will be notified of the number of days available to them for each instrument being considered, and panels should recommend, based on the days available, which proposals should be awarded instrument time and the number of days to be given.

Comments should be provided by panels to be fed back to proposers, particularly where instrument time is not awarded or significantly reduced.

Panel members should highlight any proposal where they consider there to be ethical issues. This may include unethical practice (*e.g.,* plagiarism), but also where additional protocols may be necessary before an experiment can be allowed to take place (*e.g.,* use of biological material, material from human subjects, genetic modification, etc).

Panel Code of Practice

Panel members should declare all conflicts of interest. Members are expected to leave the room during consideration of these proposals and if proposals from their own departments are being considered. The MAP Chair is responsible for deciding on potential conflicts of interest where these are raised. All papers relating to the proposal review are to be treated as ***confidential*** and should not be discussed outside the meeting; panel discussions and results of the peer review process should also be kept confidential.

Proposal grading and prioritisation

The MAP will peer review all the submitted proposals and agree on an overall grade for each proposal. The grades and an indication of the associated definitions and expected outcomes are given in the table below. Proposals which are scientifically or technically flawed should be rejected and marked X.

<table>
<tr><th>Grade</th><th>Expected Review Outcome</th><th>Definition – for guidance</th></tr>
<tr><td>10</td><td rowspan="2">Instrument time allocation is essential</td><td rowspan="2">Outstanding, World class</td></tr>
<tr><td>9</td></tr>
<tr><td>8</td><td rowspan="2">Instrument time allocation is recommended</td><td rowspan="2">Excellent</td></tr>
<tr><td>7</td></tr>
<tr><td>6</td><td rowspan="2">Instrument time allocation is possible</td><td rowspan="2">Good</td></tr>
<tr><td>5</td></tr>
<tr><td>4</td><td rowspan="4">Instrument time allocation should not be made</td><td rowspan="2">Fair</td></tr>
<tr><td>3</td></tr>
<tr><td>2</td><td>Uncompetitive</td></tr>
<tr><td>1</td><td>Unsatisfactory</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>R</td><td>Panel would like to see a resubmission with panel comments addressed</td><td>Resubmit</td></tr>
<tr><td>X</td><td>Panel do not want to see a resubmission</td><td>Reject</td></tr>
</table>

IM@IT Access Mechanisms

1. **Access to Medium Range Facilities**

Direct access is suitable for all service, training and instrument time using MRF' equipment. Proposals are submitted to two calls for proposals each year with deadlines in April and October each year. All direct access proposals are peer reviewed by the (MAP). Proposals which are allocated beamtime are scheduled by ISIS scientists normally between 2 months and 4 months after the proposal deadline.

2. **Industrial Collaborative Program**

An Industrial Collaborative program (ICP) is also offered. It is a fast-track route for industries based in Italy to use MRF' equipment for service, training, and instrument time. Requests of time using the ICP route can be submitted at any time. Requests are reviewed by a small panel with appropriate expertise, including the MAP chair, under strict confidentiality rules. Industrial users may also buy beamtime directly by contacting the IM@IT User Office (useroffice@isismachitalia.eu).

IM@IT User Office
Revised: May 18th, 2024