

Needs and priorities in training survey

A survey aiming at identifying the needs and priorities in training has been launched in November 2016.

The survey was opened to the entire ARBRE-MOBIEU community and asked for the needs in training, in terms of research fields and techniques; it also explored the willingness of the community about being involved in the organization of training schools and in the teaching activities. The survey obtained 57 replies covering 17 countries over the 23 being part of the network (74% of countries covered).

The two main scientific themes that received the highest score were “molecular interactions” and “structural characterization and conformation dynamics” (figure 1).

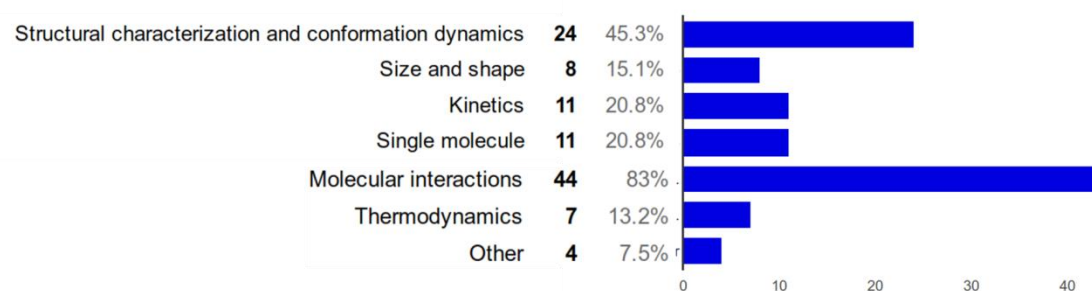


Figure 1 – Topics in Molecular Biophysics

The technologies with the highest demand for training were SPR, ITC, CD, MST, DLS, AUC, SAS, and Structural MS. For a full breakdown of the results see figure 2 and table 1.

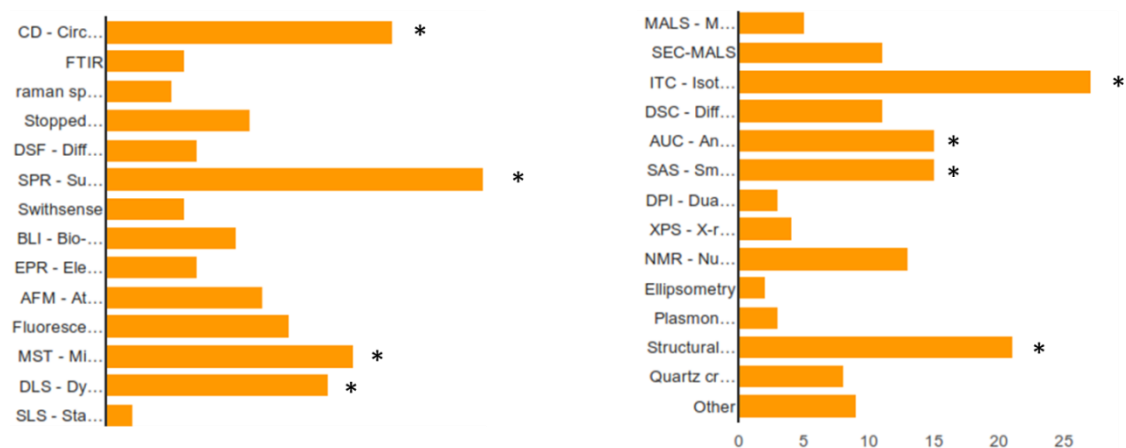


Figure 2 – Technologies in Molecular Biophysics

SPR - Surface Plasmon Resonance	54.70%
ITC - Isothermal Titration Calorimetry	50.90%
CD - Circular Dichroism	41.50%
Structural mass spectrometry	39.60%
MST - Microscale Thermophoresis	35.80%
DLS - Dynamic Light Scattering	32.10%
AUC - Analytical Ultracentrifugation	28.30%
SAS - Small Angle Scattering	28.30%
Fluorescence Microscopy	26.40%
NMR - Nuclear Magnetic Resonance	24.50%
AFM - Atomic Force Microscopy	22.60%
Stopped Flow	20.80%
SEC-MALS	20.80%
DSC - Differential Scanning Calorimetry	20.80%
BLI - Bio-Layer Interferometry	18.90%
Other	17%
Quartz crystal microbalance	15.10%
DSF - Differential Scanning Fluorimetry	13.20%
EPR - Electron Paramagnetic Resonance	13.20%
FTIR	11.30%
Swithsense	11.30%
raman spectroscopy	9.40%
MALS - Multi-Angle Light Scattering	9.40%
XPS - X-ray photoelectron spectroscopy	7.50%
DPI - Dual Polarisation Interferometry	5.70%
Plasmon waveguide Resonance	5.70%
SLS - Static Light Scattering	3.80%
Ellipsometry	3.80%

Table 1 - Technologies in Molecular Biophysics

The keywords indicated by the survey as subjects for training actions were “interactions” and a few of their declinations. (Protein-Protein, protein-membrane, protein-small molecule and protein-nucleic acid complexes), and “structural characterization” subjects like protein aggregation, protein dynamics and conformational flexibility and intrinsically disordered proteins. For a full breakdown of the results see figure 3 and table 2.

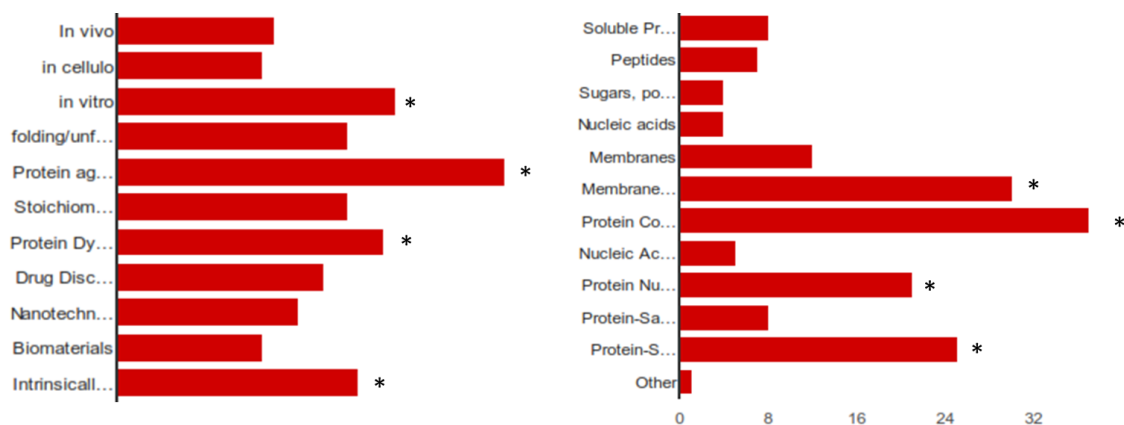


Figure 3 – Subjects/applications for training

Protein Complexes and Protein-Protein Interactions	69.80%
Protein aggregation and aggregates	60.40%
Membrane Proteins and Protein-Lipid Interactions	56.60%
Protein-Small molecule Interactions	47.20%
<i>in vitro</i>	43.40%
Protein Dynamics and Conformational Flexibility	41.50%
Protein Nucleic Acid Complexes	39.60%
Intrinsically disordered proteins	37.70%
Folding/unfolding	35.80%
Stoichiometry	35.80%
Drug Discovery	32.10%
Nanotechnology	28.30%
<i>In vivo</i>	24.50%
<i>In cellulo</i>	22.60%
Biomaterials	22.60%
Membranes	22.60%
Soluble Proteins	15.10%
Protein-Saccharide Interactions	15.10%
Peptides	13.20%
Nucleic Acid-Nucleic Acid Interactions	9.40%
Sugars, polysaccharides	7.50%
Nucleic acids	7.50%
Other	1.90%

Table 2 – Subjects/applications for training

The vast majority of the users are willing to be trainers (Figure 4), 2/3 are interested or do not discard organizing a training action (Figure 5) and a significant number of almost 1/2 has already a training course planned in his/her institute in the near future that would consider to propose in a ARBRE-MOBIEU training call (Figure 6).

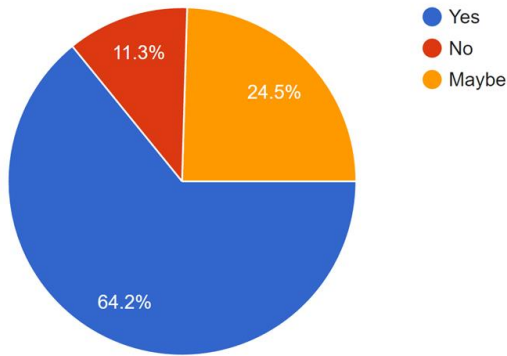


Figure 4 – I am willing to participate as a speaker or tutor

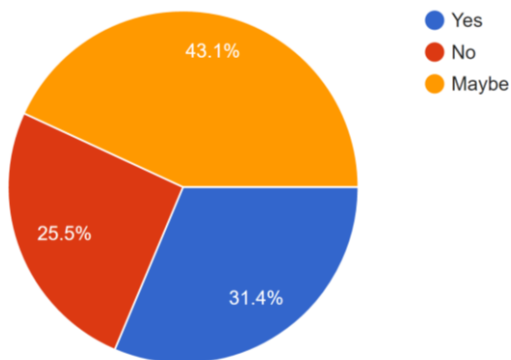


Figure 5 – I am interested in organizing

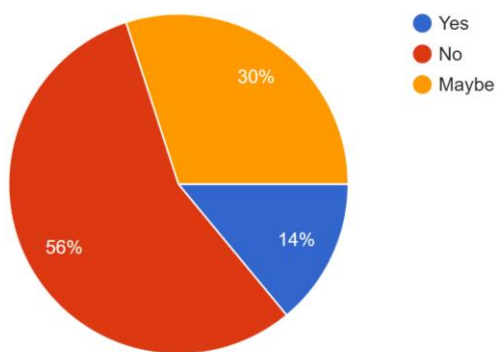


Figure 6 – I have a workshop or training scholl planned and will consider applying for MOBIEU support