



## M2 – SMNO-nanomat – NOCNAM

<b>Title:</b>	<b>NOn-Crystalline solids and NAnoMineralogy (NOCNAM)</b> * UE recommandée pour le parcours patrimoine	
	<b>Apogée code:</b> MU5PYM13 <b>Number of credits:</b> 6 <b>Teaching hours:</b> 36h courses, 14h tutorial or project	

<b>Lecturers:</b>	Gérald LELONG (coordinator) IMPMC – 23-24 – 414 <a href="mailto:gerald.lelong@sorbonne-universite.fr">gerald.lelong@sorbonne-universite.fr</a>	Guillaume MORIN (1 cours) IMPMC – 23-24 – 503	Thierry AZAIS (2 cours) LCMCP - 44-54 - 404
	Laurent CORMIER IMPMC – 23-24 – 414	Etienne BALAN (2 cours) IMPMC – 23-24 – 427	

<b>Objective</b>	<ul style="list-style-type: none"> <li>- Investigate the specificities of aperiodic or short-range ordered materials in terms of formation mechanisms, synthesis processes and structure-properties relations</li> <li>- Introduce to the diversity of application fields: cultural heritage, environment, industry,...</li> </ul>
<b>Content</b>	<ol style="list-style-type: none"> <li>1. Structural properties of glasses and nano-materials</li> <li>2. Investigation tools: diffraction-based methods, spectroscopies, solid-state nuclear magnetic resonance, dynamical and vibrational properties</li> <li>3. Diversity of glasses and amorphous materials, formation mechanisms and synthesis processes, phase transformations</li> <li>4. Application fields: biomineralogy, environment &amp; nanomineralogy, industrial and nuclear glasses</li> <li>5. Industrial speaker (Saint-Gobain Recherche) to introduce current application topics</li> </ol>
<b>Prerequisites</b>	<ul style="list-style-type: none"> <li>- Physics and Chemistry of solids (CMP1, CMC)</li> <li>- Materials Investigation Methods (MIM)</li> </ul>
<b>Examination</b>	<ul style="list-style-type: none"> <li>- Bibliographic report and oral examination</li> <li>- Standard examination</li> </ul>