## ***RIS Internship Master thesis opportunities***

## ***Acad. year 2023/24***

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| Host institution name | ICMS (CSIC-US) |
| Host institution field | Mining / Geo-sciences and geotechnology / Extractive waste management/ Materials science/ Metallurgy / Recycling / Other (specify) |
| Tentative topic of the master thesis | Use of clay for energy storage |
| Short description (several sentences) | Lithium-ion batteries (LIB) and supercapacitors (SC) have been implemented in applications requiring high energy or high-power densities. In this context, two dimensional (2D) materials have proven to be valuable for the fabrication of high-performance electrodes.  In this project, flexible, one layered silicates will be explored as silicon sources for preparing Si-based SC electrode materials.  The development of these materials could create new opportunities for natural clays in energy storage applications. |
| Key words | Battery, Supercapacitors, Clay, 2D materials |
| Please select if applicable | Laboratory work  Field work  Available datasets  Literature overview  Other (please specify) |
| Preferred educational background of the intern | Mining / geology / ecology/biology / chemistry / waste management / civil engineering / mechanical engineering / environmental engineering / metallurgy / economy/management |
| We accept | International students / National students / EIT Labelled students / SinREM/ Amir / Emerald / TimRex |
| Chose tentative months (Internship related to MSC thesis in 2023/24 should be e accomplished between October 2023 and latest May 2024) | October 2023 (zero grant)  November 2023 (zero grant)  December 2023 (zero grant)  January 2024 (full scholarship)  February 2024 (full scholarship)  March 2024 (full scholarship)  April 2024 full scholarship)  May 2024 (full scholarship) |
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