

International Mineralogical Association

Working Group

# **“Biominerals And Environment”**

## **SUMMER SCHOOL**

**Cagliari, Italy, 05-08 September 2023**

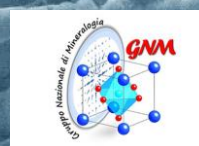
✓ *Biomineralogy*

✓ *Minerals and the environment*

✓ *Advanced techniques for (bio)minerals characterisation*

**Registration deadline: May, 24<sup>th</sup> 2023**

Further information at the following link: <https://sites.unica.it/biominerals-and-environment>

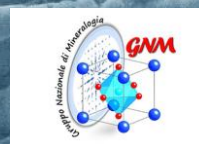


## Organising committee:

G. De Giudici, K. Rosso, K. Hudson-Edwards, J. Maizlan,  
F. Di Benedetto, F. Bellatreccia, P. Di Leo,  
V. Funari e L. Pastero, P. Onnis., D. Medas

## Planned field trips:

- ✓ *Porto Flavia* an industrial archeological dock linked to the mining sites
- ✓ *Santa Barbara Cave* a natural cave hosting barite, calcite and aragonite mineralisation
- ✓ *Ingurtosu - Naracauli mines* a mining site where one of the largest Pb-Zn-Ag district in Italy was exploited



# Programme:

|               | Biominerology and environmental processes                                                                                      |               | Environmental Mineralogy                                                                     |              | field trip and field activity                                   |               | Investigating BM by High sensistivity techniques                                  |
|---------------|--------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------|
| 09:00         | Opening and Introduction to the school                                                                                         |               |                                                                                              |              |                                                                 |               |                                                                                   |
| 09:30 - 11:00 | Molecular processes and iron minerals - K. Rosso                                                                               | 09:00 - 10:30 | Sulphide weathering - J. Maizlan                                                             |              |                                                                 | 09:00 - 10:30 | IR microscopy and environment - G. Birarda                                        |
| 11:30 - 13:00 | Biominer generalities - G. De Giudici                                                                                          | 11:00-12:00   | Fungi weathering and microbiological tools - M. Zotti                                        |              |                                                                 | 11:00-12:30   | XAS and synchrotron techniques to investigate biomineral Processes - C. Meneghini |
|               |                                                                                                                                | 12:00 - 13:00 | Sulphur reducing bacteria and environment - P. Paganin                                       | 8:30 - 17:30 | Field trip, Santa Barbara Cave and Masua Bay, sampling biofilms | 14:00 - 15:00 | Biominerals and Lichens - P. DI Leo                                               |
| 14:00 - 15:30 | Biominer, microbiology tools - C. Alisi                                                                                        | 14:00 - 15:30 | Mine sustainability - K. Hudson-Edwards                                                      |              |                                                                 | 15:00 - 16:45 | Short presentations (students)                                                    |
| 16:00 - 16:45 | Mn oxide and caves microbiological tools - M. Pellegrini                                                                       | 16:00 - 16:45 | Application of Phosphates, carbonates and oxalates to environmental remediation - L. Pastero |              |                                                                 | 17:00 - 17:30 | final remarks                                                                     |
| 16:45 - 17:30 | Biominerization processes in microbial communities: role of bacteria, extracellular polymeric substance and viruses - E. Perri | 16:45 - 17:30 | Mineral and the environment: risk analysis - A. Vecchio                                      |              |                                                                 |               |                                                                                   |

