

2019 Tenerife International Training Course on **Surface Geothermal Exploration**

Course Syllabus

| May 23, 2019 | Thursday | Instructors |
|---------------------|---|---------------------------|
| 09:00 - 10:00 | Geothermal energy and surface geothermal exploration: An overview | <i>Nemesio Pérez</i> |
| 10:00 - 11:00 | Electromagnetic methods for geothermal exploration: An overview | <i>Heinrich Brasse</i> |
| 11:00 - 11:30 | Coffe break | |
| 11:30 - 12:30 | Fluid-rock interaction in geothermal systems I | <i>Manfred van Bergen</i> |
| 12:30 - 13:30 | Magnetotellurics: basic principles | <i>Perla Piñas-Varas</i> |
| 13:30 - 14:30 | Lunch | |
| 14:30 - 15:30 | Hydrothermal gas equilibria for geothermal exploration | <i>Giovanni Chiodini</i> |
| 15:30 - 16:30 | Passive seismic studies for geothermal exploration | <i>Luca D'Auria</i> |
| 16:30 - 17:00 | Coffe break | |
| 17:00 - 18:00 | Soil and soil-gas surveys for geothermal exploration | <i>Nemesio Pérez</i> |

| May 24, 2019 | Friday | Instructors |
|---------------------|--|--------------------------|
| 09:00 - 10:00 | Magnetotellurics: application to geothermal systems | <i>Perla Piñas-Varas</i> |
| 10:00 - 11:00 | Measuring the thermal energy output from geothermal systems: the chloride and the soil | <i>Giovanni Chiodini</i> |
| 11:00 - 11:30 | Coffe break | |
| 11:30 - 12:30 | Electromagnetic studies of volcano-geothermal systems in Central and South America | <i>Heinrich Brasse</i> |
| 12:30 - 13:30 | Ambient noise tomography | <i>Jean Soubestre</i> |
| 13:30 - 14:30 | Lunch | |
| 14:30 - 15:30 | Ground deformation and thermal mapping by remote sensing techniques for geothermal | <i>Pietro Tizzani</i> |
| 15:30 - 16:30 | Seismic methods for geothermal exploration | <i>Luca D'Auria</i> |
| 16:30 - 17:00 | Coffe break | |
| 17:00 - 18:00 | Surface and subsurface thermal mapping for geothermal exploration | <i>Eleazar Padrón</i> |

| May 25, 2019 | Saturday | Instructors |
|---------------------|---|------------------------|
| 09:00 - 18:00 | Field trip: Tenerife Explosive Volcanism | <i>Alexis Schwartz</i> |

| May 26, 2019 | Sunday | Instructors |
|---------------------|--|---|
| 09:00 - 16:00 | Field trip: Tenerife Effusive Volcanism | <i>Javier Dóniz Páez, David Calvo</i> |

| May 27, 2019 | Monday | Instructors |
|---------------------|---|--------------------------------------|
| 09:00 - 18:00 | MT Field Work | Heinrich Brasse Federico Di Paolo |
| May 28, 2019 | Tuesday | Instructors |
| 09:00 - 18:00 | Geochemical Field Work | Fátima Rodríguez Marta García |
| May 29, 2019 | Wednesday | Instructors |
| 09:00 - 10:00 | Gravimetric methods for geothermal exploration | <i>Hazel Rymer</i> |
| 10:00 - 11:00 | Numerical modelling of geothermal systems | <i>Giovanni Chiodini</i> |
| 11:00 - 11:30 | Coffe break | |
| 11:30 - 12:30 | Surface temperature mapping for geothermal exploration lab exercise | <i>Eleazar Padrón</i> |
| 12:30 - 13:30 | Diffuse degassing for geothermal exploration lab exercise | <i>Eleazar Padrón</i> |
| 13:30 - 14:30 | Lunch | |
| 14:30 - 15:30 | Fluid-rock interaction in geothermal systems II | <i>Manfred van Bergen</i> |
| 15:30 - 16:30 | MT surface exploration lab exercise | <i>Federico Di Paolo</i> |
| 16:30 - 17:00 | Coffe break | |
| 17:00 - 18:00 | Evaluation of non-conventional geothermal potential in Italy | <i>Pietro Tizzani</i> |

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