

Mineralogía y Petrología

Áreas de conocimiento: Cristalografía y Mineralogía; Petrología y Geoquímica

Director: Nicolás Velilla Sánchez

Secretario: Inmaculada Palomo Delgado

Página web: <http://www.ugr.es/~minpet/>

Profesorado: CU: 13, PTU: 9, PDI Contratado y Otros: 4

Tesis leídas

- Caracterización mineral de zonas de falla ricas en minerales fibrosos de la arcilla. Una aproximación experimental y termodinámica.

Doctorando: Catalina Sánchez Roa

Director: Juan Jiménez Millán, Fernando Nieto García, Faulker D

Fecha de lectura: 14 de julio de 2017

- Formación de hueso medular y cáscara de huevo como modelo de procesos dinámicos e interrelacionados/Medullary bone and eggshell formation as a model of dynamic and interrelated processes of biomineralization

Doctorando: Nazaret Domínguez Gasca

Director: Alejandro Rodríguez Navarro

Fecha de lectura: 14 de septiembre de 2017

- Biomimetic strategies for the consolidation and protection of stone materials used in cultural heritage

Doctorando: Alejandro Burgos Cara

Director: Carlos Rodríguez Navarro y Encarnación Ruiz Agudo

Fecha de lectura: 29 de noviembre de 2017

Grupos de Investigación.

RNM145 GEOQUIM.DE PROC.ENDOG.Y PETROG.DE ROCAS IGNEAS Y METAM.

- Responsable: MARIA TERESA GOMEZ PUGNAIRE

RNM131 GRUPO DE INVESTIGACIÓN MINERALOGÍA PETROLOGÍA Y YACIMIENTOS MINERALES (GIMPY)

- Responsable: JOSE TORRES RUIZ

RNM179 MINERALOGÍA Y GEOQUÍMICA DE LOS AMBIENTES SEDIMENTARIO Y METAMÓRFICO

- Responsable: MIGUEL ORTEGA HUERTAS

RNM302 PETROLOGÍA Y MODELIZACION DE PROCESOS LITOSFERICOS

- Responsable: FERNANDO BEA BARREDO

FQM195 QUIMICA DE LA COORDINACIÓN Y ANÁLISIS ESTRUCTURAL

- Responsable: MANUEL RODRÍGUEZ GALLEGO

Dirección y participación en Proyectos I+D

- 2017 EVENTOS Y PALEOGEOGRAFIA DURANTE LA EVOLUCION ALPINA Y PRE-ALPINA DE LAS ZONAS INTERNAS BÉTICAS, DOMINIOS ADYACENTES Y EQUIVALENTES PERIMEDITERRANEOS, , 01/01/2017-31/12/2019

Responsable ANTONIO SÁNCHEZ NAVAS

- 2017 Carbonates: from biomineralization and Earth's climate evolution to CO2 capture and built heritage conservation, Competitivo, 01/01/2017-31/12/2020

Responsable CARLOS MANUEL RODRÍGUEZ NAVARRO

Publicaciones en revistas

- 2018 Artículo: The combined use of spectroscopic techniques for the characterization of Late Roman common wares from Benevento (Italy), Measurement: Journal of the International Measurement Confederation, 114, , 515-525

GIUSEPPE CULTRONE

- 2018 Artículo: Pigment-binder interactions in calcium-based tempera paints, Dyes And Pigments (Print), 148, , 236-248

CAROLINA CARDELL FERNANDEZ

JUAN AGUSTIN HERRERA RUBIA

KERSTIN ELERT

- 2018 Artículo: A Testbed for Evaluating Video Streaming Services in LTE, Wireless Personal Communications, 98, 3, 2753-2773

INMACULADA PALOMO DELGADO

- 2018 Artículo: Appraising timing response of paleoenvironmental proxies to the Bond cycle in the western Mediterranean over the last 20 kyr, Climate Dynamics, 50, , 2925-2934

MIGUEL ORTEGA HUERTAS

- 2018 Artículo: Recycling trachyte waste from the quarry to the brick industry: effects on physical and mechanical properties, and durability of new bricks, Construction and Building Materials, 166, , 792-807

GIUSEPPE CULTRONE

- 2018 Artículo: Characterization and damage assessment of stones used in the Pasargadae World Heritage Site, Achaemenian period, *International journal of architectural heritage*, -, , ---

ANNA ARIZZI

GIUSEPPE CULTRONE

- 2018 Artículo: Smectite formation upon lime stabilization of expansive marls, *Applied Clay Science*, 158, , 29-38

FERNANDO NIETO GARCÍA

KERSTIN ELERT

- 2018 Artículo: Petrology, phase equilibria modelling, noble gas chronology and thermal constraints of the El Pozo L5 meteorite, *Chemie der Erde / Geochemistry*, , , -

JOSE FRANCISCO MOLINA PALMA

- 2017 Artículo: Aquatic toxicity and biodegradability of a surfactant produced by *Bacillus subtilis* ICA56, *Journal of Environmental Science and Health. Part A: Toxic Hazardous Substances and Environmental Engineering*, , , 1-8

ALEJANDRO BURGOS CARA

- 2017 Artículo: Sr-Nd-Pb isotopic systematics of crustal rocks from the western Betics (S. Spain): Implications for crustal recycling in the lithospheric mantle beneath the westernmost Mediterranean, *Lithos*, 276, , 45-61

CLAUDIO MARCHESI

- 2017 Artículo: Effects of lime treatments on marls, *Applied Clay Science*, 135, , 611-619

FERNANDO NIETO GARCÍA

KERSTIN ELERT

- 2017 Artículo: Magnetite nanoparticles biomineralization in the presence of the magnetosome membrane protein MamC: Effect of protein aggregation and protein structure on magnetite formation, *Crystal Growth and Design*, 17, , 1620-1629

ALEJANDRO RODRIGUEZ NAVARRO

- 2017 Artículo: 16S rRNA gene-based characterization of bacteria potentially associated with phosphate and carbonate precipitation from a granular autotrophic nitrogen removal bioreactor, *Applied Microbiology and Biotechnology*, 101, , 817-829

JOSÉ DANIEL MARTÍN RAMOS

- 2017 Artículo en prensa: Effect of pigment size on the physico-chemical susceptibility of azurite-tempera dosimeters to natural and artificial UV aging, *Dyes and Pigments*, , , -

CAROLINA CARDELL FERNANDEZ

JUAN AGUSTIN HERRERA RUBIA

- 2017 Artículo: Gypsum crust as a source of calcium for the consolidation of carbonate stones using a calcium phosphate-based consolidant, *Construction and Building Materials*, 143, , 298-311

ALEJANDRO BURGOS CARA

ENCARNACIÓN MARÍA RUIZ AGUDO

GIUSEPPE CULTRONE

- 2017 Artículo: Different shades of red: the complexity of mineralogical and physico-chemical factors influencing the colour of ceramics, *Ceramics International*, 43, , 8065-8074

GIUSEPPE CULTRONE

- 2017 Artículo: Study of the conservation status of the plasterwork of the Oratory of the Madrasah of Granada. Identification, evaluation and analysis, *Informes de la Construcción*, 69, 545,e175, 1-11

EDUARDO M. SEBASTIÁN PARDO

- 2017 Artículo en prensa: Insights into petrogenesis of the Jálama pluton (Central Iberian Zone, western Spain), *International Geology Review*, , , -

JOSE TORRES RUIZ

- 2017 Artículo: Petrogenesis of meta-volcanic rocks from the Maimón Formation (Dominican Republic): Geochemical record of the nascent Greater Antilles paleo-arc, *Lithos*, 278-281, , 255-273

ANTONIO GARCIA CASCO

- 2017 Artículo: Trace-element geochemistry of transform-fault serpentinite in high-pressure subduction mélanges (eastern Cuba): implications for subduction initiation, *International Geology Review*, , , 1-24

ANTONIO GARCIA CASCO

- 2017 Artículo: Hot subduction in the middle Jurassic and partial melting of oceanic crust in Chilean Patagonia, *Gondwana Research*, 42, , 104-125

ANTONIO GARCIA CASCO

- 2017 Artículo: Principal Component Analysis to interpret changes in chromatic parameters on paint dosimeters exposed long-term to urban air, *Chemometrics and Intelligent Laboratory Systems*, , , -

CAROLINA CARDELL FERNANDEZ

JUAN AGUSTIN HERRERA RUBIA

- 2017 Artículo: Multi-stage evolution of the lithospheric mantle beneath the westernmost Mediterranean: Geochemical constraints from peridotite xenoliths in the eastern Betic Cordillera (SE Spain), *Lithos*, 276, , 75-89

CLAUDIO MARCHESI

- 2017 Artículo: The role of silica in the hydrous metamorphism of chromite, *Ore Geology Reviews*, 90, , 274-286

FERNANDO GERVILLA LINARES

JOSE MARÍA GONZÁLEZ JIMÉNEZ

- 2017 Artículo: Palaeogeography and crustal evolution of the Ossa-Morena Zone, southwest Iberia, and the North Gondwana margin during the Cambro-Ordovician: a review of isotopic evidence., *International Geology Review*, 59, , 94-130

CONCEPCION LAZARO CALISALVO

FERNANDO BEA BARREDO

JANE HANNAH SCARROW

MARIA PILAR GONZALEZ MONTERO

- 2017 Artículo: Artificial porous stone from of ornamental rock waste adaptable for civil construction and heritage restoration. Piedra artificial porosa a partir de residuos de rocas ornamentales adaptable a obras de construcción y restauración patrimonial, *Boletín Geológico y Minero*, 128, 2, 677-688

ANTONIO GARCIA CASCO

- 2017 Artículo: Crystal chemistry and structural characterization of natural Cr-spinels, *Bulgarian Chemical Communications*, 49, , 7-20

FERNANDO GERVILLA LINARES

- 2017 Artículo: Mineralogical and Geochemical Features of the Alteration Processes of Magmatic Ores in the Beni Bousera Ultramafic Massif (North Morocco), *Journal of African Earth Sciences*, 132, , 47-63

FERNANDO GERVILLA LINARES

- 2017 Artículo: Zircon recycling and crystallization during formation of chromite-and Ni-arsenide ores in the subcontinental lithospheric mantle (Serranía de ronda, Spain), *Ore Geology Reviews*, , , -

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JOSE MARÍA GONZÁLEZ JIMÉNEZ

- 2017 Artículo: Ti-clinohumite and Ti-chondrodite in antigorite serpentinites from Central Chile: evidence for deep and cold subduction, *European Journal of Mineralogy*, , , -

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- 2017 Artículo: Petrogenesis of meta-volcanic rocks from the Maimón Formation (Dominican Republic): Geochemical record of the nascent Greater Antilles paleo-arc, *Lithos*, 278-281, , 255-273

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- 2017 Artículo: Decoding recent mud-volcano activity in the westernmost Mediterranean: Evidence from sediment/porewater data and geochemical modeling, *Geophysical Research Abstracts*, 19, , 11175-

FERNANDO NIETO GARCÍA

- 2017 Artículo: How phyllosilicate mineral structure affects fault strength in Mg-rich fault systems, *Geophysical Research Letters*, 44, , -

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- 2017 Artículo: Pigment-size effect on the physico-chemical behavior of azuritetemperas dosimeters upon natural and accelerated photo aging, *Dyes And Pigments* (Print), 141, , 53-65

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KERSTIN ELERT

- 2017 Artículo: Influence of pH and citrate on the formation of oxalate layers on calcite revealed by in situ nanoscale imaging, *CrystEngComm*, 19, 25, 3420-3429

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MIGUEL ORTEGA HUERTAS

- 2017 Artículo: NON DESTRUCTIVE PIGMENT CHARACTERIZATION IN THE PAINTING LITTLE MADONNA OF FOLIGNO BY X-RAY POWDER DIFFRACTION, *Microchemical Journal*, 124, , 343-353

JOSÉ DANIEL MARTÍN RAMOS

- 2017 Artículo: Hydration Effects on the Stability of Calcium Carbonate Pre-Nucleation Species, *Minerals*, 7, 7, 126-

ALEJANDRO BURGOS CARA

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- 2017 Artículo: Traditional brick production in Madagascar: from raw material processing to firing technology, *Applied Clay Science*, 150, , 252-266

GIUSEPPE CULTRONE

- 2017 Artículo: Electrokinetic and thermodynamic characterization of lime-water interface: physical and rheological properties of lime mortar., *Construction and Building Materials*, , , 809-818

- ENCARNACIÓN MARÍA RUIZ AGUDO
- 2017 Artículo: Protection and consolidation of stone heritage by self-inoculation with indigenous carbonatogenic bacterial communities, *Nature Communications*, 8, 279, 1-13
CARLOS MANUEL RODRÍGUEZ NAVARRO
ENCARNACIÓN MARÍA RUIZ AGUDO
KERSTIN ELERT
- 2017 Artículo: Lu-Hf ratios of crustal rocks and their bearing on zircon Hf isotope model ages: The effects of accessories, *Chemical Geology*, , , -
FERNANDO BEA BARREDO
JANE HANNAH SCARROW
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MARIA PILAR GONZALEZ MONTERO
- 2017 Artículo: A non-classical view on calcium oxalate precipitation and the role of citrate, *Nature Communications*, , , -
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- 2017 Artículo: A non-classical view on calcium oxalate precipitation and the role of citrate, *Nature Communications*, 8, 768, -
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AURELIA MARÍA IBÁÑEZ VELASCO
CARLOS MANUEL RODRÍGUEZ NAVARRO
ENCARNACIÓN MARÍA RUIZ AGUDO
- 2017 Artículo: Implications of sepiolite dehydration for earthquake nucleation in the Galera Fault Zone: A thermodynamic approach, *Applied Geochemistry*, 89, , 219-228
FERNANDO NIETO GARCÍA
- 2017 Artículo: Microtextura y Composición Química de Illitas Amónicas en Metapelitas, *Macla*, 22, , 19-
FERNANDO NIETO GARCÍA
- 2017 Artículo: Luces y Sombras del Tratamiento de Arcillas Expansivas Mediante Cal ¿ el Caso de las Margas, *Macla*, 22, , 93-
FERNANDO NIETO GARCÍA
- 2017 Artículo: Zn-clay minerals in the Skorpion Zn nonsulfide deposit (Namibia): Identification and genetic clues revealed by HRTEM and AEM study, *Applied Clay Science*, 150, , 309-322
FERNANDO NIETO GARCÍA
- 2017 Artículo: Ancient xenocrystic zircon in young volcanic rocks of the southern Lesser Antilles island arc, *Lithos*, 290-291, , 228-252
ANTONIO GARCIA CASCO
- 2017 Artículo: Mobility of Trace Elements in Phosphogypsum Leachates During Seawater Mixing, *Macla*, 22, , 1-
CLAUDIO MARCHESI
- 2017 Artículo: Neoproterozoic granitoids in the basement of the Moroccan Central Meseta: Correlation with the Anti-Atlas at the NW paleo-margin of Gondwana, *Precambrian Research*, 299, , 34-57
CLAUDIO MARCHESI
- 2017 Artículo: Cambios Estructurales durante Procesos de Reemplazamiento: Estudio Preliminar mediante EBSD, *Macla*, 22, , 39-40
FERNANDO GERVILLA LINARES
- 2017 Artículo: Chromite typology and composition characterized through multispectral specular reflectance, *Macla*, 89, , 132-142
FERNANDO GERVILLA LINARES
- 2017 Artículo: Mineralogía de la platina enviada desde el Virreinato de Nueva Granada a finales del siglo XVIII, *Macla*, 22, , 57-
FERNANDO GERVILLA LINARES
- 2017 Artículo: Nanopartículas de metales nobles en sistemas magmáticos ultramáficos, *Macla*, 22, , 63-
FERNANDO GERVILLA LINARES
JOSE MARÍA GONZÁLEZ JIMÉNEZ
- 2017 Artículo: Dorsale Reguibat et Massif des Oulad Dlim, l'avancée des connaissances, *Géologues*, 194,, , 37-46
FERNANDO BEA BARREDO
JOSE FRANCISCO MOLINA PALMA
MARIA PILAR GONZALEZ MONTERO
- 2017 Artículo: Petrology and geochronology of the Porriño late-Variscan pluton from NW Iberia. A model for post-tectonic plutons in collisional settings, *Geologica Acta*, 15, , 283-304
FERNANDO BEA BARREDO
JOSE FRANCISCO MOLINA PALMA
MARIA PILAR GONZALEZ MONTERO

Capítulos de libros (con ISBN)

- 2017 Título Capítulo: Métodos de análisis y caracterización de materiales, Título Libro: El escultor Francisco Morales y la restauración de sus modelos clínicos en terracota de la Universidad de Granada: EDITORIAL UNIVERSIDAD DE GRANADA, GRANADA, 2017, 978-84-338-6029-3
GIUSEPPE CULTRONE

Contribuciones en congresos

- 2017 Comunicación en congreso: Decoding recent mud-volcano activity in the westernmost Mediterranean: Evidence from sediment/porewater data and geochemical modeling, European Geosciences Union General Assembly 2017, 23/04/2017, AUSTRIA, AUSTRIA, VIENA, Congreso
FERNANDO NIETO GARCÍA
- 2017 Poster en Congreso: Clay mineral assemblages as proxies for reconstructing paleoclimate, provenance and sediment transport pattern in the Alboran Sea basin, 16h International Clay Conference, 17/07/2017, Granada (España), Congreso
MIGUEL ORTEGA HUERTAS
- 2017 Poster en Congreso: Oxygen fugacity and chemical potentials as determinant factors in constraining the metamorphic evolution of subducted rodingites and enclosing ultramafic rocks., European Geoscience Union, General Assembly, 2017, 23/04/2017, Viena (Austria), Congreso
CLAUDIO MARCHESI
MARIA TERESA GOMEZ PUGNAIRE
- 2017 Sesión plenaria en Congreso: Geochronological and petrological evidence for the architecture of the Oulad Dlim Massif, The First West African Craton and Margins International Workshop, 24/04/2017, DAKHLA-MAROC, Congreso
JOSE FRANCISCO MOLINA PALMA
FERNANDO BEA BARREDO
MARIA PILAR GONZALEZ MONTERO
- 2017 Ponencia en Congreso: New Zircon Oxygen and Hf isotopes evidence on the magmatic sources of the Derraman Aegirine-Riebeckite granites, The First West African Craton and Margins International Workshop, 24/04/2017, DAKHLA-MAROC, Congreso
JOSE FRANCISCO MOLINA PALMA
MARIA PILAR GONZALEZ MONTERO
FERNANDO BEA BARREDO
- 2017 Ponencia en Congreso: Microtextural, mineralogical and thermobarometric characterization of metagabbroites, charnockites and amphibolites from the Oulad Dlim Massif, The First West African Craton and Margins International Workshop, 24/04/2017, DAKHLA-MAROC, Congreso
JOSE FRANCISCO MOLINA PALMA
FERNANDO BEA BARREDO
MARIA PILAR GONZALEZ MONTERO
- 2017 Ponencia en Congreso: The Gareg Granites: first evidence for an Archean core in the Oulad Dlim Massif, The First West African Craton and Margins International Workshop, 24/04/2017, DAKHLA-MAROC, Congreso
FERNANDO BEA BARREDO
MARIA PILAR GONZALEZ MONTERO
JOSE FRANCISCO MOLINA PALMA
- 2017 Poster en Congreso: Carbonation of Peridotite by CO₂-rich Fluids: Insights from Listvenites in the Advocate Ophiolite (Newfoundland), EGU General Assembly 2017, 23/04/2017, AUSTRIA (VIENA), Congreso
CLAUDIO MARCHESI
- 2017 Poster en Congreso: Subduction Metamorphism of Ophicarbonates beyond the Stability of Antigorite: insights into Carbonate Dissolution vs. Decarbonation from the Almirez ultramafic massif (S. Spain), EGU General Assembly 2017, 23/04/2017, AUSTRIA (VIENA), Congreso
CLAUDIO MARCHESI
- 2017 Poster en Congreso: Magmatic plumbing system of a complex ocean island volcano, Ascension Island, south Atlantic., Japan Geoscience Union and American Geophysical Union Joint Meeting, 20/05/2017, Tokio, Japón, Congreso
JANE HANNAH SCARROW
- 2017 Poster en Congreso: Role of plutonics in the generation of felsic magmas at ocean island volcanoes: Oki Dozen and Ascension Island, Japan Geoscience Union and American Geophysical Union Joint Meeting, 20/05/2017, Tokio, Japón, Congreso
JANE HANNAH SCARROW
- 2017 Poster en Congreso: Geochemical and textural constraints on wehrlite formation by melt-rock reaction in the shallow subcontinental lithospheric mantle (Oran, Tell Atlas, N-Algeria), EGU General Assembly,

23/04/2017, AUSTRIA, VIENA, Congreso

CLAUDIO MARCHESI

- 2017 Ponencia en Congreso: Genesis of ultra-high pressure garnet pyroxenite in orogenic peridotites and its bearing on the isotopic chemical heterogeneity in the mantle source of oceanic basalts, EGU General Assembly, 23/04/2017, AUSTRIA, VIENA, Congreso

CLAUDIO MARCHESI

- 2017 Poster en Congreso: Sr, Nd and Pb isotope systematics of the Cenozoic volcanism in the Algerian Tell Belt: a key constraint on the geodynamic evolution of the westernmost Mediterranean, EGU General Assembly, 23/04/2017, AUSTRIA, VIENA, Congreso

CLAUDIO MARCHESI

- 2017 Ponencia en Congreso: Geochronological constraints on the exhumation and emplacement of subcontinental lithospheric mantle peridotites in the westernmost Mediterranean, EGU General Assembly, 23/04/2017, AUSTRIA, VIENA, Congreso

CLAUDIO MARCHESI

- 2017 Poster en Congreso: Decoding recent mud-volcano activity in the westernmost Mediterranean: Evidence from sediment/porewater data and geochemical modeling, General Assembly of the European Geosciences Union, 23/04/2017, Viena, Congreso

FERNANDO NIETO GARCÍA

- 2017 Ponencia en Congreso: CLAY MINERAL TRANSFORMATION AND FLUID SOURCES AT MUD VOLCANOES IN THE ALBORAN BASIN (WESTERN MEDITERRANEAN), 16h International Clay Conference, 17/07/2017, Granada (España), Congreso

FERNANDO NIETO GARCÍA

- 2017 Comunicación en Jornada: Efecto de los aditivos naturales en restauraciones de construcciones de tierra de Formación Alhambra, Jornadas de Investigadores en Formación Fomentando la Interdisciplinariedad, 17/05/2017, universidad de granada. Antigua Facultad de Medicina., Jornada

ALEJANDRO BURGOS CARA

- 2017 Comunicación en congreso: Multidisciplinary study of the low-grade metamorphism in the Pulo do Lobo metasedimentary belt (SW Iberian Variscides): X-ray diffraction, RSCM and chlorite thermometry from compositional maps, XVI International Clay Conference, 17/07/2017, Granada, Congreso

FERNANDO NIETO GARCÍA

- 2017 Comunicación en congreso: MULTIDISCIPLINARY STUDY OF THE LOW-GRADE METAMORPHISM IN THE PULO DO LOBO METASEDIMENTARY BELT (SW IBERIAN VARISCIDES): X-RAY DIFFRACTION, RSCM AND CHLORITE THERMOMETRY FROM COMPOSITIONAL MAPS, XVI International Clay Conference, 17/07/2017, Granada, Congreso

FERNANDO NIETO GARCÍA