

## CURRICULUM VITAE

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Nationality: Italian

### EDUCATION

- **Bayerisches Geoinstitut, Bayreuth (BGI), October 2007 – 31 March 2011**

PhD thesis: “*The Carbon/Carbonate equilibrium in the Earth’s interior as function of pressure, temperature and oxygen fugacity*”. Supervisor: Prof. D. Rubie, PhD Dan J. Frost, PhD C.A. McCammon.

- **Faculty of Mathematics, Physics and Natural Sciences - Department of Chemistry and Physics of the Earth and applications to Georesources and Natural Hazard, 2006**

Master degree (5yrs) in Earth Science discussing the following thesis “*The CO<sub>2</sub> diffusive soil degassing from seismic areas in the eastern part of Sicily*”. Supervisor: Prof. M. Valenza. Co-supervisor: Prof. A. Aiuppa.

### WORK EXPERIENCE

- **Department of Earth Sciences, Sapienza University of Rome, December 30, 2015 - current**

Tenure-track assistant professor of Petrography and Petrology (SSD GEO/07, RTDB).

- **Geodynamics Research Center – Ehime University, October 2014 – December 2015**

Research Scientist – ELSI/WPI (affiliated to ELSI Department at Tokyo Institute of Technology).

- **Geophysical Laboratory – Carnegie Institution of Washington, October 2013 – September 2014**

Research Scientist (2years-fixed term position funded by CIW).

- **Geophysical Laboratory – Carnegie Institution of Washington, September 2011 - September 2013**

Associate postdoc.

- **Bayerisches Geoinstitut, Bayreuth (BGI), June 2011 – August 2011**

Associate Postdoc

- **Bayerisches Geoinstitut, Bayreuth (BGI), March – August 2007**

European Fellowship funded by Università degli Studi di Palermo – Leonardo DaVinci/Europass Project.

### FELLOWSHIPS, AWARDS, FUNDS

- European Fellowship “*Leonardo DaVinci Project*“, Università degli Studi di Palermo 2007.
- EU Marie Curie (PhD) Fellowship, *Atomic to Global* - Project n. 019700 (two years);
- Deutsche Forschungsgemeinschaft (German Research Foundation, PhD)- Project n.FR1555/5-1 (for one year).
- Absolventenfeier “*Elitenetzwerks Bayern*” PhD-Outstanding, 7 October, 2010.
- Young Scientist Presentation Award from “*The GL-GRC Inter-Institutional Science Symposium*” - 2011.
- Best PhD Thesis Prize-2012 by Italian Society of Mineralogy and Petrology (SIMP).
- DCO-Early Stage Career, workshop, Costa Rica - 17-21 February 2014 (\$1000).
- DCO award for travel support to AGU-2014 meeting (\$2250).
- DCO award for travel support to DCO-Modeling and Visualization workshop-2015, Washington DC(\$2500)
- DCO award (\$1000) for travel support to DCO-Thematic Institute “*Carbon from the Mantle to the Surface*”, Berkeley (2015).

- DCO funds (\$4000) in support of the project “*In situ measurements of the viscosity of CO<sub>2</sub>-rich melts*”.
- ELSI/WPI research funds 2014 (YEN 500,000).
- ELSI/WPI research funds 2015 (YEN 500,000).

## INVITED TALKS

- “Diamonds and carbonates in the Earth’s interior: the deep carbon cycle”. Absolventenfeier “Elitenetzwerks Bayern” outstanding PhD thesis, 7 October, 2010. Ludwig Maximilian Universität, Munich.
- “Carbon and carbonates in the Earth’s interior”. Tübingen Universität, Geology Department, 10 February 2011.
- “Oxidation of garnet in peridotite assemblage and the speciation of carbon”. AGU Conference 2011, Fall Meeting – San Francisco, USA.
- “The stability of carbon and carbonate within eclogites”. Goldschmidt Conference 2012, Montreal.
- “Structural and chemical properties of materials as revealed by multi-anvil experiments”. EFree-DOE Annual Meeting, 11-13 September, 2012- Carnegie Institution of Washington.
- “Experimental measurement of the oxygen fugacity at which graphite/diamond oxidizes to either solid or melt with implications for the deep carbon cycling”. Deep Carbon Observatory seminar series - Carnegie Institution of Washington- 16 October, 2012.
- “Carbon/carbonate equilibria within peridotites and eclogites as function of the oxygen fugacity”. Geochemistry Seminars, Department of Geology, University of Maryland - 31 October, 2012.
- “Carbon speciation in the Earth’s interior”. 11<sup>th</sup> International Workshop of Water Dynamics, 12-14 March 2014, Sendai (Japan) (*invited lecture*).
- “Diamonds, carbonate melts and carbon-bearing aqueous fluids in eclogites”. Goldschmidt Conference 2014, Sacramento.
- “The redox state of the Earth’s interior”. University of Tokyo, Japan – 16 January 2015.
- “Kinetics of carbide rim growth and the diffusion of carbon in the Earth’s upper mantle”. JPGU Meeting 2015, Chiba, Japan (*keynote speaker*).
- “Carbonates, diamonds and carbides in the Earth’s interior”. DCO Thematic Institute, 1-3 July 2015 – Berkeley, USA.
- “In situ viscosity measurements of CO<sub>2</sub>-rich melts at upper mantle conditions”. Carbon at Extreme Conditions, workshop. 26-30 October 2015, CECAM, Lugano. (*withdrawn*)

## PROFESSIONAL ACTIVITIES

- Reviewer of Journal Articles: *Geochimica et Cosmochimica Acta*, *Contributions to Mineralogy and Petrology*, *Earth and Planetary Science Letters*, *American Mineralogist*, *Physics of the Earth and Planetary Interiors*, *PNAS*, *Lithos*, *Journal of Mineralogy and Petrology*, *AAAS*, *Annals of Geophysics*, *Nature Geoscience*, *Nature*, *NatureComm*, *EJM*, *Scientific Reports*.
- (Co-)Convener for Carbon related sessions
- “Redox controls and C-O-H equilibria in the Earth’s interior”. Session DI10 (AGU 2012-Fall Meeting).
- “Carbon: Storage, Migration and Outgassing within Earth and other planetary bodies”. Session V11D (AGU 2014-Fall Meeting).
- “The Earth’s geodynamic carbon cycle: subduction, storage, migration, and outgassing”. Session V032 (AGU 2015-Fall Meeting).
- “The history of a diamond: insights from melts, fluids and mineral inclusions”. Session V033 (AGU 2015-Fall Meeting).
- “The Deep Carbon Cycle Through Time: From Experiment to Nature”. Session 4e, Goldschmidt Conference-2016 (Japan).
- “Cycling of Volatile Elements between Earth’s Interior and Exterior Through Subduction Zones”. Session 7e, Goldschmidt Conference-2016 (Japan).
- “Slab Processes and Slab-Mantle Interaction”. Session 7d, Goldschmidt Conference-2016 (Japan).
- “Mineral Physics of the Earth’s Interior: Constraints on the Chemistry and Physics of our Planet from Experimental and Computational Studies”. Session 18c, Goldschmidt Conference-2016 (Japan).

## CARBON-RELATED PUBLICATIONS

-**Stagno, V.**, and D. J. Frost (2010), Carbon speciation in the asthenosphere: Experimental measurements of the redox conditions at which carbonate-bearing melts coexist with graphite or diamond in peridotite assemblages. *Earth Planet. Sci. Lett.*, 30, 72-84, doi: 10.1016/j.epsl.2010.09.038.

-**Stagno, V.**, Y. Tange, N. Miyajima, C. A. McCammon, T. Irifune, D. J. Frost (2011), The stability of magnesite in the transition zone and the lower mantle as function of the oxygen fugacity. *Geophys. Res. Lett.*, 38, L19309, doi:10.1029/2011GL049560.

-**Stagno V.**, D.O. Ojwang, C.A. McCammon, D.J. Frost (2013), The oxidation state of the mantle and the extraction of carbon from Earth’s interior. *Nature*, 493, 84-88.

-Cellura D., **Stagno V.**, M. Camarda, M. Valenza (2014), Diffuse soil CO<sub>2</sub> degassing from Linosa Island. *Annals of Geophysics*, 57, 3.

-Sverjensky D., **Stagno V.**, Fang Huang (2014), A rich variety of carbon species in peridotitic and eclogitic fluids in the upper mantle. *Nature Geoscience* (November). DOI: 10.1038/ngeo2291.

-**Stagno V.**, D. J. Frost, C. A. McCammon, H. Mohseni, Y. Fei (2015), The oxygen fugacity at which graphite or diamond forms from carbonate-bearing melts in eclogitic rocks. *Contributions to Mineralogy and Petrology*, 169, 16.

- Lustrino M., Prelevic D., Agostini S., Gaeta M., Di Rocco T., **Stagno V.**, Capizzi L.S., Ca-rich carbonates associated with ultrabasic-ultramafic melts: carbonatite or limestone xenoliths? A case study from the late Miocene Morron de Villamayor volcano (Calatrava volcanic field, central Spain). *Geochimica et Cosmochimica Acta*, in press.

- Aulbach S. and **Stagno V.** Evolution of the mantle oxidation state and the Archaean deep carbon cycle. *Geology*, submitted.

#### **OTHER PEER-REVIEWED PAPERS**

Mohanty P., B. Kokoszka, C. Liu, M. Wienberger, M. Mandal, V. Stagno, Y. Fei and K. Landskron (2012), Large-pore periodic mesoporous silicas with crystalline channel walls and exceptional hydrothermal stability synthesized by a general high-pressure nanocasting route *Microporous Mesoporous Mater.*, 152, 214-218.

Mandal M., V. Stagno, Y. Fei, K. Landskron (2013), Investigation of high-pressure and temperature behavior of surfactant-containing periodic mesostructured silica. *Cryst. Growth Des.*, 13 (1), pp 15-18.

Stagno V., M. Mandal, W. Yang, C. Ji, Yingwei Fei, H-K Mao, K. Landskron (2014), Synthesis of mesostructured stishovite from periodic FDU12-C composite material. *Microporous and Mesoporous Materials*, 187, 145-149.

Stagno V., L. Bindi, Y. Shibasaki, Y. Tange, Y. Higo, H.-K. Mao, P. J. Steinhardt, Y. Fei (2014), Icosahedral AlCuFe quasicrystal at high pressure and temperature and its implications for the stability of icosahedrite. *Scientific Reports* 4, 5869; doi:10.1038/srep05869.

Stagno V., M. Mandal, K. Landskron, Y. Fei (2015). High-pressure synthesis of mesoporous stishovite: potential applications in High-Pressure Mineral Physics. *Physics and Chemistry of Minerals* DOI 10.1007/s00269-015-0739-8.

Stagno V., L. Bindi, C. Park, S. Tkachev, V. Prakapenka, H.-K. Mao, R. Hemley, P. Steinhardt, and Y. Fei. Quasicrystals at extreme conditions: The role of pressure in stabilizing icosahedral  $\text{Al}_{63}\text{Cu}_{24}\text{Fe}_{13}$  at high temperature (2015). *American Mineralogist*, in press. DOI: 10.2138/am-2015-5412.