

Georgios Aprilis

Curriculum Vitae

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As of May 2021

Personal Info

Nationality Greek
Date of Birth 21/07/1988
Birthplace Panorama Thessaloniki, Greece

Education

May 2014 – **Dr. Rer. Nat.**,
May 2020 *University of Bayreuth, Germany,*
Faculty of Mathematics, Physics and Computer Science, Laboratory of Crystallography.
Research group Materials Physics and Technology at Extreme Conditions

Oct 2006 – **Diploma of Electrical and Computer Engineering,**
Nov 2013 *Aristotle University of Thessaloniki, Greece,*
Faculty of Engineering, Department of Electrical and Computer Engineering.
Division of Electronics and Computer Engineering

PhD Thesis

Title *Pulsed laser heating in the diamond anvil cell: applications in geo- and material science*

Supervisors Prof. Dr. Natalia Dubrovinskaia, Prof. Dr. Leonid Dubrovinsky, PD Dr. Catherine McCammon

Description Development of a pulsed laser heating system for time-resolved studies of geomaterials inside a Diamond Anvil Cell at high pressures and temperatures at conditions of the deep Earth's interior.

Experience

Research

Aug 2021 – **Postdoc,**
NUCLEAR RESONANCE BEAMLIN (ID18),
ESRF, Grenoble, France.
Responsible for the high-pressure experiments of the user run, development and upgrade of the LHDAC system of the beamline.

Nov 2018 – **External Researcher**,
Sep 2019 EXTREME CONDITIONS BEAMLINE (P02.2), PETRA III,
DESY, Hamburg, Germany.
Development of a Single-crystal diffractometer coupled with a pulsed double-sided laser heating system for time-resolved X-ray Diffraction of samples at high temperatures and pressures.

Nov 2012 – **Research Assistant**,
May 2013 INSTITUTE FOR SURGICAL TECHNOLOGY & BIOMECHANICS,
University of Bern, Switzerland.
Master's Thesis Internship under the collaborated supervision of Guoyan Zheng, PD PhD (ISTB) and Anastasios Delopoulos, Associate Professor (AUFh). Title: GPU-Accelerated Volume Rendering with Applications in 2D–3D Registration

Synchrotron

ESRF,
NUCLEAR RESONANCE BEAMLINE [ID18].

Extensive experience through participation in more than 10 experiments including pulsed and continuous laser heating coupled with Synchrotron Mössbauer Source (SMS) and Nuclear Inelastic Scattering (NIS). Participation in the development of a system for time-resolved SMS data collection during pulsed laser heating of samples in a Diamond Anvil Cell (DAC). Experience with SMS data analysis.

ESRF,
HIGH PRESSURE DIFFRACTION BEAMLINE [ID15].

Participation in the development of a laser heating system coupled with X-ray imaging and tomography as well as X-ray diffraction (XRD) of a sample inside the Diamond Anvil Cell (DAC). Experience with powder XRD data analysis. Limited experience with single-crystal XRD data analysis.

ESRF,
ENERGY DISPERSIVE X-RAY ABSORPTION SPECTROSCOPY BEAMLINE [ID24].
Participation in two experiments of X-ray Absorption Near Edge Structure (XANES) spectroscopy coupled with laser heating using the laser heating system of the beamline as well as modifying for pulsed laser heating and time-resolved temperature estimation of the sample during heating. Experience with XANES data analysis.

ESRF,
INELASTIC X-RAY SCATTERING BEAMLINE [ID20].
Participation in one experiment of X-ray Raman scattering spectroscopy coupled with laser heating of a sample in a Diamond Anvil Cell (DAC)

DESY,
EXTREME CONDITIONS BEAMLINE [P02.2].
Extensive experience in experiments as well as commissioning of the beamline. Participation in the development of a single-crystal diffractometer coupled with a double-sided laser heating system for samples in a Diamond Anvil Cell (DAC). Assignment of the project to modify the system for pulsed laser heating and time-resolved XRD. Experience with powder and single-crystal XRD data analysis.

Languages

Greek Mother tongue
English Fluent
German Advanced
French Basic

Additional Information

- March 2021 Speaker in EMPG XVII, Potsdam, Germany and Online. *Title:* The Effect of Pulsed Laser Heating on the Stability of Ferropericlasite at High Pressures
- January 2021 Speaker in Expert Workshop on Nuclear Resonant Scattering of Synchrotron Radiation (ExNRS) 2021 , Online. *Title:* Nuclear Resonance Measurements in the Laser Heated Diamond Anvil Cell
- March - May 2018 Successful completion (grade: 95%) of EPFL's eCourse "Synchrotrons and X-Ray Free Electron Lasers". [Online certificate](#)
- June 2018 Speaker in EMPG XVI, Clermont-Ferrand, France. *Title:* Chemical interaction of iron with diamond anvils in pulsed and continuous wave laser heated diamond anvil cells
- September 2017 Speaker in EHPRG 2017, Poznan, Poland. *Title:* Chemical interaction of iron with diamond anvils in pulsed and continuous wave laser heated diamond anvil cells
- September 2016 Speaker in EHPRG 2016, Bayreuth, Germany. *Title:* Double-sided pulsed laser heating system for time resolved geoscience and materials science applications
- August 2015 Participant of RACIRI 2015 Summer School
- 2014 Presentation in Electrical and Computer Engineering Student Conference, Thessaloniki, Greece. *Title:* GPU-Accelerated Volume Rendering with Applications in 2D-3D Registration
- 2011 Participant in IEEEExtreme 5.0 Programming Competition
- 2009 Member of the Organizing Support Team in Electrical and Computer Engineering Student Conference in Thessaloniki
- 2008 Participant in Electrical and Computer Engineering Student Conference in Athens