

# Mgr. Cinthia Antunes Corrêa

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## Education:

- 2007 – 2011 Baccalaureate, Federal University of Goiás, Institute of Physics  
Study Program: Physics
- 2011 – 2013 Master's degree, Federal University of Goiás, Institute of Physics  
Study Program: Physics of Condensed Matter
- 2013 – 2017 PhD studies, MFF UK  
Study Program: Physics of Condensed matter and Materials Research
- 2013 – 2017 PhD student at the Institute of Physics of the Academy of Sciences of the Czech Republic  
Department of structure analysis

## Stays abroad:

CRISMAT, Caen, France – study visit with measurement, one month stay.

## Scientific activities:

- Crystal structure analysis of nanocrystals by precession electron diffraction tomography (PEDT)
- Dynamical refinement of structure parameters of PEDT data on nanocrystals
- Crystal structure solution and analysis by single crystal X-ray diffraction
- Collaboration with foreign research teams (e.g. CRISMAT, France)

## Research grants:

2016 – 2017 GAUK, topic: Dynamical refinement of structure parameters against data from precession electron diffraction tomography.

## Publications:

1. C. A. Corrêa, O. Perez, J. Kopeček, P. Brázda, M. Klementová, L. Palatinus. Crystal structure of  $\eta''$ - $\text{Cu}_{3+x}\text{Si}$  and  $\eta'''$ - $\text{Cu}_{3+x}\text{Si}$ . Acta Crystallographica B, 2017, accepted.
2. C. A. Corrêa, M. Klementová, V. Dřínek, J. Kopeček, L. Palatinus. Crystal structure redetermination of  $\varepsilon$ - $\text{Ni}_3\text{Si}_2$  from a single nanowire by dynamical refinement of precession electron diffraction data. Journal of Alloys and Compounds 672, 505-509, 2016, doi: 10.1016/j.jallcom.2016.02.190.
3. L. Palatinus, V. Petříček, C. A. Corrêa. Structure refinement using precession electron diffraction tomography and dynamical diffraction: theory and implementation. Acta Crystallographica A71, 2015, doi: 10.1107/S2053273315001266.
4. L. Palatinus, C. A. Corrêa, G. Steciuk, D. Jacob, P. Roussel, P. Boullay, M. Klementová, M. Gemmi, J. Kopeček, M. C. Domeneghetti, F. Camara, V. Petříček. Structure refinement using precession electron diffraction tomography and dynamical diffraction: tests on experimental data. Acta Crystallographica B71, 2015, doi: 10.1107/S2052520615017023.

5. C.A. Corrêa, M. Klementová, L. Palatinus. Electron diffraction tomography and dynamical refinement for crystal-structure characterization of nanocrystalline materials. Acta Physica Polonica A128, 2015, doi: 10.12693/APhysPolA.128.651.

Participation in conferences:

August 2017	24th Congress of the IUCr, Hyderabad, India – invited talk.
June 2017	EMAT Antwerp, Belgium – poster.
June 2017	SpinTech IX, Fukuoka, Japan – poster.
August 2016	30 <sup>th</sup> Meeting of the European Crystallographic Association, Basel, Switzerland – oral contribution.
July 2016	3 <sup>rd</sup> International School on Aperiodic Crystals, Antwerp, Belgium – poster.
August 2015	29th European Crystallography Meeting – ECM 29, Rovinj, Croatia – poster prize.
June 2015	Struktura 2015 – Pozlovice, Czech Republic oral contribution, presentation prize.
September 2014	International conference ISPMA 13, Prague, Czech Republic – oral contribution.
August 2014	International conference 23 <sup>rd</sup> IUCr, Montreal, Canada – poster.
June 2014	Week of Doctoral Students MFF, Prague, Czech Republic – oral contribution.

Participation in Projects:

1. Czech Science Foundation – 15-08842J (2015-2017) “Silicene on copper”: monoatomic silicon surface layer with silicene-like arrangement on Cu(3+x)Si prepared by chemical and mechanical exfoliation (coordinator: Dr.rer.nat. Lukáš Palatinus).
2. Czech Science Foundation – 15-13436S (2015-2017) Relativistic effects in the response of spin-polarized electrons to external fields (coordinator: Dr. Karel Výborný).
3. Ministry of Education Youth and Sports OPVVV(2017-2222) - CZ.02.1.01/0.0/0.0/15\_003/0000485 “Centre of Nanomaterials for Advanced Applications (coordinator: Dr. Milan Dopita)