Brief Characteristics of an Applicant in Habilitation Proceedings at CTU in Prague

Applicant: Antonio Cammarata, Ph.D.

A. Pedagogical activities

1) Number of PhD students for whom the applicant was appointed supervisor, or co-supervisor and who successfully defended their PhD theses: **1** (as supervisor)
2) Number of defended master/bachelor theses supervised by the applicant: **2 / 2**
3) Applicant's most significant achievement in the field of teaching:
   Introduction of a new subject in full-time study XEP35CMS (Ph.D. course) "Computational Methods for Materials Science"
4) Assessment of the applicant in the student Anketa questionnaire in the last 4 semesters:
   1.0 (Summer term 20/21, only 1 evaluation)

B. Scientific or creative activities

1) Three significant original outcomes of scientific or creative activity or arch. or art. realizations:
   i. **A. Cammarata**, W. Zhang, P. S. Halasyamani and J. M. Rondinelli, Microscopic Origins of Optical Second Harmonic Generation in Noncentrosymmetric-Nonpolar Materials, *Chem. Mater.* 26, 5773–5781 (2014), IF 8.44 (**D1**), **68** WOS citations

   ii. **A. Cammarata** and T. Polcar, Tailoring Nanoscale Friction in MX2 Transition Metal Dichalcogenides, *Inorg. Chem.* 54, 5739–5744 (2015), IF 4.82 (**D1**), **38** WOS citations

   iii. A.I. Vakis, V.A. Yastrebov, J. Scheibert, L. Nicola, D. Dini, C. Minfray, A. Almqvist, M. Paggi, S. Lee, G. Limbert, J.F. Molinari, G. Anciaux, R. Aghababaei, S. Echeverri, Restrepo, A. Papangelo, **A. Cammarata** et al., Modeling and simulation in tribology across scales: An overview, *Tribol. Int.* 125, 169 (2018), IF 4.03, Q1, **248** WOS citations
2) H-index without self-citations: **10**
3) Number of citations WOS/Scopus/reactions of arch. work, self-citations not included: **WOS 471**
4) Mobility (internships in a workplace abroad – place, duration and outcomes of the internship):
   - Postdoctoral researcher
     Centre d'Investigació en Nanociència i Nanotecnologia, Bellaterra, Spain
     2011-2012, HPC-Europa 2 fellowship
     Computational studies on systems derived from barium zirconate

- Postdoctoral researcher
  Materials Science and Engineering Department, Drexel University, Philadelphia, PA, USA, September 2011 - June 2014
  Outcome: 6 WOS papers

5) Two most prominent grant projects of which the applicant was a principal investigator or co-investigator (applicant or co-applicant):
   - Principal investigator of GAČR grant, ID: 17-24164Y (2017-2019)
     "Nanoscale Strategies for Transition Metal Dichalcogenides Exfoliation", 5,259,000 CZK
   - Co-investigator of Marie-Skłodowska Curie Action - Innovative Training Networks "SOLUTION", European Union, Horizon 2020, ID: 721642; 465,000 EUR

6) Example(s) of implementation of applicant's outcomes in practice:
   Dr. Cammarata's phonon description of friction (PRB 99, 2019, 094309) enables to extract more information than usual from the atomic-force microscopy data.

7) Most prominent recognition of the community (incl. recognition in an arch. or art. competition):
   Invited Talk at "20th Brasilian MRS meeting", Iguassu Falls, Parańa, Brasil
   25th-29th September 2022

8) Most prominent community service:
   - Organizer of Symposium I "Atomic-scale design protocols towards energy, electronic, catalysis and sensing applications" at "EMRS Fall Meeting" 2018, Warsaw, Poland, 17th-20th September 2018
   - 247 reviews of journal papers (Nature, Science, Physical Review Letters, Physics Review Applied, etc.) in the last 10 years

In Prague on April 5, 2023

Habilitation comittee

Chair:

Prof. Ing. Daniel Klír, Ph.D.

Members:

Prof. Mgr. Petr Vašina, Ph.D.

Doc. RNDr. Ondřej Kylián, Ph.D.

Doc. Ing. Pavel Jelínek, Ph.D.

Doc. Ing. Milan Polívka, Ph.D.