



Symposium K : Research on 2D materials

Scope of the Symposium

The last few years, material scientists have focused a lot of their effort in studying the properties of bi-dimensional materials (2D material). Indeed, since the first experimental studies on graphene (2004), it has been shown that lots of other materials can be confined into two dimensions: transition metal dichalcogenides, hexagonal van der Waals exfoliated materials or more recently hybrid organic inorganic perovskites. The research in this area is atypically active, resulting in more than 32.000 papers published since 2010. (web of science, keyword: 2D material), and almost half of those works were published since 2015 till now. This research topic is also extremely active in Brazil. Indeed, the proponents of the symposium have the full support a network created in 2018 and receiving financial support from the Minas Gerais state funding agency (FAPEMIG). This thematical network is composed of 6 federal universities and 36 university professors (membros da Rede PQ-CNPq scholarship: 2 1A, 1 1B, 4 1C, 5 1D e 10 2). Obviously, this symposium would also bring some outstanding research from all over the country, for instance: Antonio Gomez de Souza (PQ 1A) Filho titular member of the Brazilian academy of sciences since 2018, Marcus Pimenta Assuno (PQ 1A) actual president of the Brazilian Physics Society, Fernando Lzaro Freire Junior (PQ 1A) main advisor of the capes physics and astronomy comity, Doulgas Soares Galvo titular member of the Brazilian academy of science, among other high, among others. Due to innumerous applications of such materials we believe that this symposium should cover a wide range of theoretical and applied sciences in physics, chemistry and biological applications. Thus we expect that this symposium should bring to the conference some new conferees that are not yet attending the SBPMat.

Abstracts will be solicited in (but not limited to) the following areas

- *Electronic properties*
- *Synthesis of 2D materials*
- *Spintronic*
- *Sensors and devices applications*
- *Bio-2D mat interactions*
- *Chemistry in 2D materials*
- *Theoretical studies on 2D materials*
- *Opto-electronic properties*
- *Thermal properties of 2D materials*

Tentative list of invited speakers (To be confirmed)

Antonio Gomes de Souza Filho (UFC) **Mauricio Terrones** (Pennsylvania State University) **Stphane Berciaud** (Dpartement Magnisme des Objets NanoStructurs (DMONS)) .

Symposium Organizers

Benjamin Fragneaud (Departamento de Física, UFJF) **JENAINA RIBEIRO SOARES** (UFLA) **Leonardo Cristiano Campos** (UFMG) **Eduardo Bed Barros** (UFC) **Victor Carozo Gois de Oliveira** (PUC-Rio) .

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