

## Research Grants for PhD students from the China Scholarship Council

Information Form (please read the guidelines carefully on the website [www-csc.utt.fr](http://www-csc.utt.fr))

Supervisor's name : CALVEZ Given names : Guillaume

Status (prof., assistant prof., ...) : assistant prof.

Laboratory : ISCR-CSM Website address : <https://iscr.univ-rennes1.fr/umr/>

Institution : INSA Rennes Website address : <https://www.insa-rennes.fr/>

Scientific competence of the supervisor:

The supervisor has a strong experience in coordination chemistry, cristallogenesis, cristallography. He already supervised 2 PhD students (37 y.o.). He coauthored 45 publications (h 20).

Two major publications in the field proposed for the PhD :

1. Coordination Chemistry Reviews, 2017, 340, pp.134-153
2. Inorganic Chemistry, 2017, 56 (23), pp.14632-1464

Website address of the personal page : <http://iscr-csm.insa-rennes.fr/guillaumecalvez>

**Supervisor's email :** [guillaume.calvez@insa-rennes.fr](mailto:guillaume.calvez@insa-rennes.fr)

**Description of the research work proposed for a PhD** **Topic # (see list) :** IV-5

Title : Polynuclear building unit to synthesize new coordination compounds

Subject :

The use of a polynuclear building blocks instead of isolated metal ions to synthesize new coordination compounds is a way to obtain original structures and properties in the fields of molecular magnetism, luminescence, porosity for example. Our lab has worked on polynuclear species since over 10 years, obtaining new compounds that have very interesting luminescent properties due to the short distances between metal ions. The objectives for this work would be to synthesize new compounds by using polynuclear species as reagents. The expected properties in the field of luminescence or magnetism for exemple would be studied regarding the short distance between metal ions.

Keywords :

coordination chemistry, polynuclear species, luminescence

Expected collaborations :

Most collaborations would take place in Rennes (solid state NMR, theoretical calculations for example).

Background required from the applicant :

The applicant should know basic synthesis methods and characterization techniques (UV-vis-IR spectroscopy, X-ray powder diffraction,...)

Existence of a PDF file detailing the proposal ("yes" or "no") : no

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