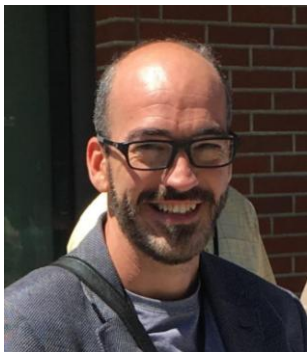


Curriculum Vitae

Name	Christophe DROUET			
Nationality	France	Age	47	
Date of Birth	04.01.1973	Sex	Male	
Affiliation	CIRIMAT Institute / University of Toulouse, France			
Position	CNRS Senior scientist / Prof. (academic, permanent)			
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Dr. Christophe Drouet, Ph.D. is a permanent Senior Scientist hired since October 2003 by the French CNRS scientific organization. Member of the CIRIMAT Institute in Toulouse, France, and **Leader since January 2016 of the “Phosphates, Pharmaceutics, Biomaterials” research group (previously managed by Prof. Christian Rey).**

Ph.D. in (bio)Materials Sciences. Major research fields include the physico-chemistry and thermochemistry of natural or synthetic (bio)minerals and the study of the surface characterization and reactivity of (bio)nanomaterials. Some key milestones include 3 years (2001-2003) spent as Research Associate in Prof. Alexandra Navrotsky's group at the University of California at Davis (UCDavis), USA, for thermochemistry/stability studies of various hydrated mineral phases of interest; as well as other stays including in Prof. José-Luis G. Fierro's group at the Univ. of Madrid, Spain, for a specialization in the exploration of the surface of solids especially via X-ray photoelectron spectroscopy and via the follow-up of molecular adsorption processes.

A special focus in C. Drouet's research is now dedicated to the investigation of calcium phosphates and related compounds, in particular of *biomimetic nanocrystalline apatites analogous to bone mineral*, in view of innovative biomedical applications (tissue engineering, intracellular drug delivery, medical imaging...) This includes a physico-chemical but also thermodynamic approach.

C. Drouet regularly supervises Ph.D theses in (bio)materials Sciences and is involved in the co-direction of undergraduate students and postdoctoral fellows. He is the French coordinator of the French-German *BioCapabili* Engineering Cluster on *innovative antimicrobial materials* (www.biocapabili.com) and was expert at the Toulouse Court of Appeal in the fields of general analytical sciences/analysis of skeletal fragments in 2016-2019. C. Drouet is also at the origin of the *Therm'AP* free software (www.christophedrouet.com/thermap) relative to the estimation of thermodynamic properties of phosphate-bearing apatites.

C. Drouet received the honorary Racquel Legeros Award in June 2013 and the ISCM Excellence Award in 2016, for contribution to the field of calcium phosphate research.

H-factor: 29, co-author of ~90 publications, 2 patents, 12 book chapters.

Past experience with ISTECCNR:

Previous works have been pursued in collaboration with ISTECCNR, e.g. in the frame of the EU FP7 project AUTOBONE or else in the GLILEO French-Italian program. This has led to several publications:

Co-written book chapters with ISTECC members:

1 - Types of ceramics: Material class

C. DROUET, A. LERICHE, S. HAMPSHIRE, M. KASHANI, A. STAMBOULIS, M. IAFISCO, A. TAMPIERI in *Advances in Ceramic Biomaterials (Materials, Devices and Challenges)*, Editors: P. Palmero, F. Cambier and E.D. Barra, **Woodhead Publishing** (2017), chapter 2, Pages 21-82, doi: 10.1016/B978-0-08-100881-2.00002-6

2 - Nanocrystalline apatites: synthesis, physical-chemical and thermodynamic characterization

M. IAFISCO, J.M. DELGADO-LOPEZ, C. DROUET in *Apatites: synthesis, structural characterization and biomedical applications*, Editors: M. Iafisco, J.M. Delgado-Lopez, **Nova Science Publishers**, New York, (2014), chapter 2, eBook, ISBN 978-1-63321-500-9

3 - Calcium Phosphate Surface Tailoring Technologies for Drug Delivering and Tissue Engineering

C. DROUET, J. GOMEZ-MORALES, M. IAFISCO, S. SARDA

in Surface Tailoring of Inorganic Materials for Biomedical Applications, Editor(s): L. Rimondini, C.L. Bianchi, E. Vernè, e-book, DOI: 10.2174/97816080546261120101, **Bentham Science**, (2012), eISBN: 978-1-60805-462-6, ISBN: 978-1-60805-556-2

Co-written publications with ISTE members:

- Bioinspired crystallization, sensitized luminescence and cytocompatibility of citrate-functionalized Ca-substituted europium phosphate monohydrate nanophosphors

J. GOMEZ-MORALES, C. VERDUGO-ESCAMILLA, R. FERNANDEZ-PENAS, C.M. PARRA-MILLA, C. DROUET, M. IAFISCO, F. OLTOLINA, M. PRAT, J.F. FERNANDEZ-SANCHEZ

Journal of Colloid and Interface Science, 538 (2019) 174-186, doi: 10.1016/j.jcis.2018.11.083

- Interaction of Folic Acid with Nanocrystalline Apatites and Extension to Methotrexate (Antifolate) in View of Anticancer Applications

S. SARDA, M. IAFISCO, P. PASCAUD-MATHIEU, A. ADAMIANO, M. MONTESI, S. PANSERI, O. MARSAN, C. THOURON, A. DUPRET-BORIES, A. TAMPIERI, C. DROUET

Langmuir, 34 (2018) 12036-12048, doi: 10.1021/acs.langmuir.8b02602

- Superparamagnetic iron-doped nanocrystalline apatite as a delivery system for doxorubicin

M. IAFISCO, C. DROUET, A. ADAMIANO, P. PASCAUD, M. MONTESI, S. PANSERI, S. SARDA, A. TAMPIERI

J. Mater. Chem. B 4 (2016) 57, doi:10.1039/c5tb01524c

- Progress on the preparation of nanocrystalline apatites and surface characterization: Overview of fundamental and applied aspects

J. GOMEZ-MORALES, M. IAFISCO, J.M. DELGADO-LOPEZ, S. SARDA, C. DROUET

Progress in Crystal Growth and Characterization of Materials 59 (2013) 1-46, doi: 10.1016/j.pcrysgrow.2012.11.001

Research keywords or interests: 1) Preparation and evaluation of materials for biomedical applications and nanomedicine, 2) Physicochemical and thermodynamic characterizations, 3) Surface reactivity of inorganic and organic-inorganic (nano)systems (ion substitutions/exchanges, adsorption/desorption), 4) Development of bio-inspired and biomimetic systems for nanomedicine.

Brief description of C. Drouet's research group

The “*Phosphates Pharmaceutics, Biomaterials*” group (group leader: Dr. Christophe Drouet) of CIRIMAT Institute (University of Toulouse / CNRS) gathers physicochemists, materials scientists, pharmacists and clinicians, and specializes in the synthesis, physicochemical and thermodynamic characterization of inorganic, organic, and composites (bio)materials, including inorganics such as nanocrystalline apatites. The group's expertise includes the study of their bulk and surface properties, especially in terms of ionic exchanges and adsorption processes. The laboratory received the “Carnot Institute” label in 2006 and is ISO9001 certified since 2012. The group is at the origin of various technology transfers (bioactive ceramics...) with products on the international market (Cementek®, alpha-BSM®, Cerafom®revolution).

The laboratory belongs to the CNRS and the University of Toulouse. It is located in a geographical region (Languedoc Roussillon-Midi Pyrénées) with a high visibility in fields such as Health, with a Cancer-Bio-Health-Aging competitiveness cluster, the Oncopole/Clinics of cancer, several high-rank university hospitals, and other dedicated platforms or federations such as FerMat, ITAV or GALA (advanced galenic pharmacy).