

DOLBECQ Anne

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Université de Versailles Saint-Quentin-en-Yvelines

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Diplomas

2003: **Accreditation to supervise research** (HDR) University of Versailles Saint Quentin.

1995: **PhD in Inorganic Chemistry**, University Paris Sud Orsay, France.

1992: Agrégation de Physique, option Chimie

Former student of the Ecole Normale Supérieure, Paris (1988-1992)

Awards

2000: CNRS bronze medal

Research Experience

Since 2009: **Senior scientist, DR CNRS**, Institut Lavoisier de Versailles, MIM group

Research topics:

- Multifunctional molecular polyoxometalates
- Nanomaterials functionalized by polyoxometalates for biological applications
- Metal-Organic Frameworks-based materials with optical or photocatalytic properties

1997 – 2009: **Junior scientist, CR CNRS (section n°14)**, Institut Lavoisier de Versailles

1996 – 1997: **Teaching and research assistant position (ATER)** in the group of Prof. M. Verdaguer, Laboratoire de Chimie des Métaux de Transition, Université Paris VI.
Research topic: Synthesis of Co-Fe Prussian blue analogues.

1995 – 1996: **Post-doctoral researcher** in the group of Prof. A. M. Stacy at the University of California at Berkeley, USA (Lavoisier fellowship). Research topic: Molten salt synthesis, structural and magnetic characterization of new cobalt and rhodium oxides.

1992 – 1995: **Doctoral researcher** (supervision P. Batail) at the Univ. Paris Sud Orsay. Research topic: Organic-inorganic constructions based on functionalized radical salts.

138 publications, 1 patent

h-index: 49, > 7000 citations (excluding self-citations)

Administration and Collective Responsibilities

Since 2015: Deputy Director of Institut Lavoisier de Versailles

Since 2019 : Member of the Conseil Scientifique, Institut de Chimie INC CNRS

2008 – 2012: Member of the "Comité National du CNRS", section n°14

Publications 2018 - 2022

The review articles are indicated in blue

2022----

- P19 Understanding the Photocatalytic Reduction of CO₂ with Heterometallic Molybdenum(V) Phosphate Polyoxometalates in Aqueous Media. Y. BENSEGHIR, A. SOLE-DAURA, P. MIALANE, J. MARROT, L. DALECKY, S. BECHU, M. FREGNAUX, M. GOMEZ-MINGOT, M. FONTECAVE, C. MELLOT-DRAZNIIEKS, **A. DOLBECQ**, *ACS Catalysis* 2022, 12, 453-464.

2021---

- P18 Tailoring the solid-state fluorescence of BODIPY by supra-molecular assembly with polyoxometalates. P. BOLLE, T. BENALI, C. MENET, M. PUGET, E. FAULQUES, J. MARROT, P. MIALANE, **A. DOLBECQ**, H. SERIER-BRAULT, O. OMS, R. DESSAPT, *Inorg. Chem.* 2021, 60, 12602-12609.

- P17 Temperature sensors based on europium polyoxometalate and mesoporous terbium metal-organic framework. C. VIRAVAU, O. OMS, **A. DOLBECQ**, E. NASSAR, L. BUSSON, C. MELLOT-DRAZNIIEKS, R. DESSAPT, H. SERIER-BRAULT, P. MIALANE, *J. Mater. Chem. C.* 2021, 9, 8323-8328.

- P16 Gold/polyoxometalate core/shell nanoparticles for combined chemotherapy-photothermal cancer therapy. S. TOMANE, C. WILHELM, S. BOUJDAY, A. FROMAIN, A. MICHE, F. BOURDREUX, **A. DOLBECQ**, P. MIALANE, A. VALLEE, *ACS Appl. Nano Mater.* 2021, 4, 2339-2344.

- P15 Heterogenisation of coordination complexes or polyoxometalates in Metal-Organic Frameworks : from Synthesis to Characterisations and applications in catalysis. P. MIALANE, C. MELLOT-DRAZNIIEKS, P. GAIROLA, M. DUGUET, Y. BENSEGHIR, O. OMS, **A. DOLBECQ**, *Chem. Soc. Rev.* 2021, 50, 6152-6220.

2020----

- P14 Structure-directing role of immobilized polyoxometalates in the synthesis of porphyrinic Zr-based Metal-Organic Frameworks, M. DUGUET, A. LEMARCHAND, Y. BENSEGHIR, P. MIALANE, M. GOMEZ-MINGOT, C. ROCH-MARCHAL, M. HAOUAS, M. FONTECAVE, **A. DOLBECQ**, C. SASSOYE, C. MELLOT-DRAZNIIEKS, *Chem. Commun.* 2020, 56, 10143-10146, Thematic issue « Hybrid Functional Materials ».

- P13 Co-immobilization of a Rh catalyst and a Keggin Polyoxometalate in the UiO-67 Zr-based Metal-Organic-Framework: in Depth Structural Characterization and Photocatalytic Properties for CO₂ Reduction. Y. BENSEGHIR, A. LEMARCHAND, M. DUGUET, P. MIALANE, M. GOMEZ-MINGOT, C. ROCH-MARCHAL, T. PINO, M.-H. HA-THI, M. HAOUAS, M. FONTECAVE, **A. DOLBECQ**, C. SASSOYE, C. MELLOT-DRAZNIIEKS, *J. Am. Chem. Soc.* 2020, 142, 9428-9438.

- P12 Aerobic Oxidation Catalyzed by Polyoxometalates Associated to an Artificial Reductase at Room Temperature and in Water. A. NAIM, Y. CHEVALIER, Y. BOUZIDI, P. GAIROLA, P. MIALANE, **A. DOLBECQ**, F. AVENIER, J.-P. MAHY, *Inorg. Chem. Front.* 2020, 7, 2362-2369.

- P11 Directing the solid-state photochromic and luminescent properties of spiromolecules with Dawson and Anderson polyoxometalate units. H. DRIDI, A. BOULMIER, P. BOLLE, **A. DOLBECQ**, P. MIALANE, J.-N. REBILLY, F. BANSE, L. RUHLMANN, H. SERIER-BRAULT, R. DESSAPT, O. OMS, *J. Mat. Chem. C.* 2020, 8, 637-649.

2019----

- P10 Thin Films of Fully Noble Metal-Free POM@MOF for Photocatalytic Water Oxidation. G. PAILLE, M. GOMEZ-MINGOT, C. ROCH-MARCHAL, M. HAOUAS, Y. BENSEGHIR, T. PINO, M.-H. HA-THI, G. LANDROT, P. MIALANE, M. FONTECAVE, **A. DOLBECQ**, C. MELLOTT-DRAZNIIEKS, *ACS Appl. Mat. Int.* 2019, 11, 47837-47845.
- P9 One-pot Synthesis of a New Generation of Hybrid Bisphosphonate Polyoxometalate Gold Nanoparticles as Antibiofilm Agents. S. TOMANE, E. LOPEZ-MAYA, S. BOUJDAY, V. HUMBLOT, J. MARROT, N. RABASSO, J. CASTELLS-GIL, C. SICARD, **A. DOLBECQ**, P. MIALANE, A. VALLEE, *Nanoscale Adv.* 2019, 1, 3400-3405.
- P8 Photoactive Polyoxometalate/DASA Covalent Hybrids for Photopolymerization in the Visible Range. A. BOULMIER, M. HAOUAS, S. TOMANE, L. MICHELY, **A. DOLBECQ**, A. VALLEE, V. BREZOVA, D.-L. VERSACE, P. MIALANE, O. OMS *Chem Eur J.* 2019, 25, 14349-14357.
- P7 An Unprecedented [Ni₁₄SiW₉] Hybrid Polyoxometalate with High Photocatalytic Hydrogen Evolution Activity. G. PAILLE, A. BOULMIER, A. BENSALID, M.-H. HA-THI, T.-T. TRAN, T. PINO, J. MARROT, E. RIVIERE, C. H. HENDON, O. OMS, M. GOMEZ-MINGOT, M. FONTECAVE, C. MELLOTT-DRAZNIIEKS, **A. DOLBECQ**, P. MIALANE, *Chem. Commun.* 2019, 55, 4166-4169.

2018----

- P6 Polymorphism and Structural Filiations in New Supramolecular Assemblies of Phosphorescent Cyclometalated Ir(III) Complexes and Polyoxometalates. P. BOLLE, H. SERIER-BRAULT, A. BOULMIER, M. PUGET, C. MENET, O. OMS, J. MARROT, P. MIALANE, **A. DOLBECQ**, R. DESSAPT, *Cryst. Growth Des.* 2018, 18, 7426-7434.
- P5 A Multifunctional Dual-Luminescent Polyoxometalate@Metal Organic Framework EuW₁₀@UiO-67 Composite as Chemical Probe and Temperature Sensor. W. SALOMON, **A. DOLBECQ**, C. ROCH-MARCHAL, G. PAILLE, R. DESSAPT, P. MIALANE, H. SERIER-BRAULT, *Frontiers in Chemistry* 2018, 6, 425. Special Issue "Polyoxometalates in Catalysis, Biology and Materials Science"
- P4 Bicapped Keggin Polyoxomolybdates: Discrete Species and Investigations on the Electronic Delocalization in a Chain Compound. W. SALOMON, E. RIVIERE, X. LOPEZ, N. SUAUD, P. MIALANE, M. HAOUAS, A. SAAD, J. MARROT, **A. DOLBECQ**, *Dalton Trans.* 2018, 47, 10636-10645. Special Issue "New Talent: Europe",
- P3 Simple and Efficient Polyoxomolybdate-Mediated Synthesis of Novel Graphene and Metal Nanohybrids for Versatile Applications. S. ZHANG, R. LIU, S. LI, **A. DOLBECQ**, P. MIALANE, L. SUO, L. BI, B. ZHANG, T. LIU, C.-X. WU, L.-K. YAN, Z. S. WU, G. ZHANG, B. KEITA, *J. Colloid and Interface Sci.* 2018, 514, 507-516.
- P2 Anderson-type Polyoxometalates Functionalized by Tetrathiafulvalene Groups : Synthesis, Spectroelectrochemical Studies and NLO Properties. A. BOULMIER, A. VACHER, D. ZANG, S. YANG, A. SAAD, J. MARROT, O. OMS, P. MIALANE, I. LEDOUX, L. RUHLMANN, D. LORCY, **A. DOLBECQ** *Inorg. Chem.* 2018, 57, 3742-3752.
- P1 A Fully Noble Metal-Free Photosystem Based on Cobalt-Polyoxometalates Immobilized in a Porphyrinic Metal-Organic-Framework for Water Oxidation. G. PAILLE, M. GOMEZ-MINGOT, C. ROCH-MARCHAL, B. LASSALLE-KAISER, P. MIALANE, M. FONTECAVE, C. MELLOTT-DRAZNIIEKS, **A. DOLBECQ**, *J. Am. Chem. Soc.* 2018, 140, 3613-3618.