Chimie de la Matière Condensée de Paris – UMR 7574

Directeur : Christian Bonhomme, **directeur adjoint :** François Ribot

- ✓ Elaboration par des voies de **chimie douce** de **matériaux fonctionnels inorganiques ou hybrides organiques-inorganiques**, et sur l'évaluation de leurs **propriétés physico-chimiques à différentes échelles**

- ✓ **5** équipes :
  - **MATériaux et BIOlogie (MATBIO):** Gervaise Mosser
  - **Matériaux Hybrides et Procédés (MHP)** : Cédric Boissière
  - **Novel advanced NANO objets (NANO)**: Corinne Chanéac
  - **Reactive Materials for Energie devices (REMES)**: Christel Laberty-Robert
  - **Spectroscopies, Modélisation, Interfaces pour l'environnement et la santé (SMILE)**: Thierry Azais

- ✓ **Thèmes transversaux** : Biominélarisation, ***Cellules et synchrotron***

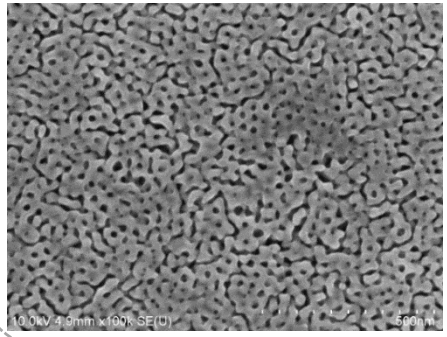
- ✓ Quelques chiffres : **46** permanents et **65** non-permanents

Chimie de la Matière Condensée de Paris

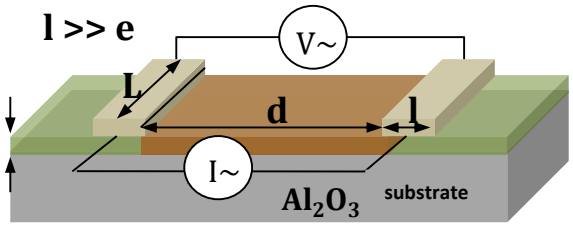
Reactive Materials for Energy DeviceS — RMES

Conception, Synthèse, Mise en forme, Intégration de Matériaux Fonctionnels dans les Dispositifs de Stockage et de Conversion de l'Energie

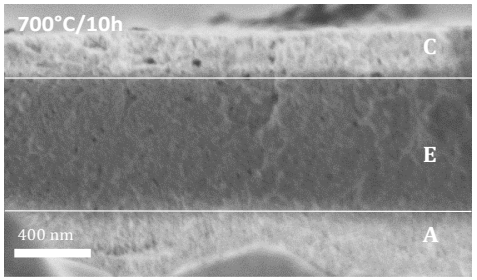
Synthèse



Caractérisation Electrochimique



Dispositifs Stockage/Conversion



Permanents / Non Permanents

Damien Brégiroux (MCF.)
Natacha Krins (MCF.)
Arnaud Perez (CR.- RS2E)
Christel Laberty-Robert (Pr.)
5 thèses, 3 post-docs

Plateforme Electrochimique

Conductivité protonique (T et RH%)
Conductivité électrique (T et PO_2)
Mesure thermoélectrique
Photoélectrochimie
Rhéométrie – Conductivité Electrique

Moyens Financiers

2 ANRs
2 Contrats Industriels
3 Contrats Labex

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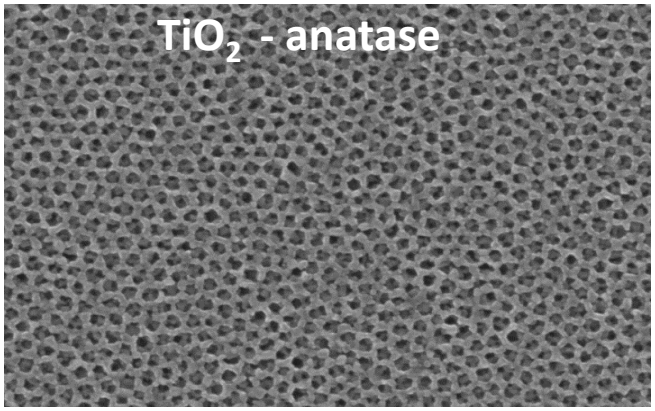
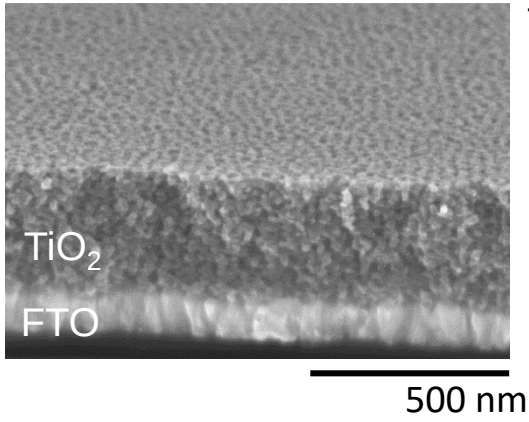
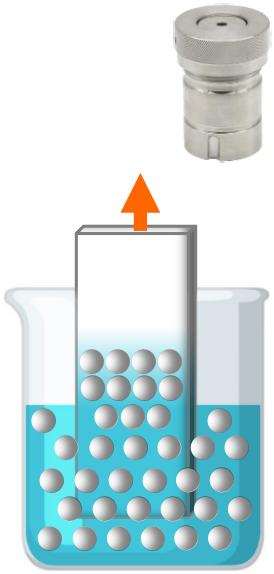
Topic 2 : Semi-conducting Mesostructured Films
WO_3, TiO_2, $BiVO_4$, CuO/Cu_2O,…

RMES

Precursors in Solution

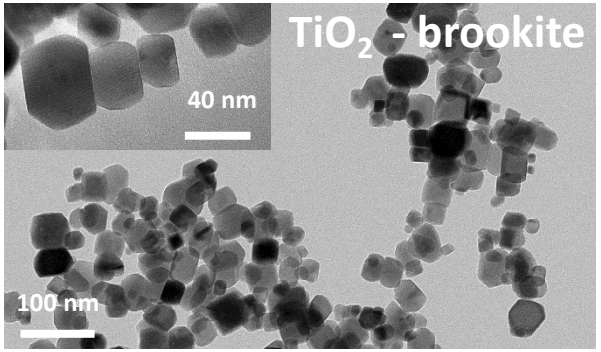


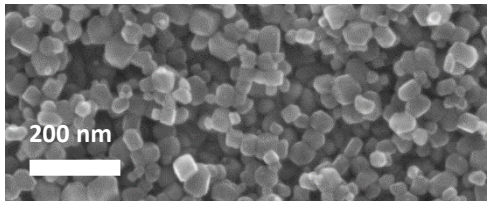


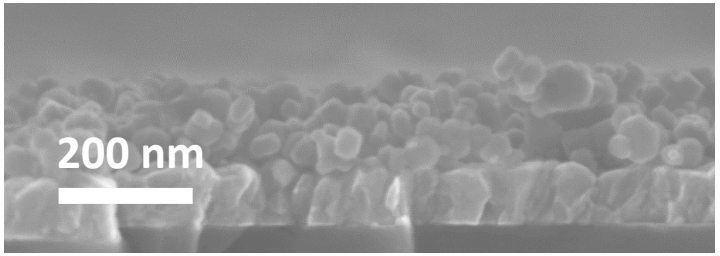


« Dip-coating »

Pre-formed Nano-objects







Toupin, Journal of sol-gel science and technology, 89 ***(2019)*** *255, Phys. Chem. Chem. Phys.,19* ***(2017)*** *30675*
Hilliard, Sustainable Energy and Fuels, 1 ***(2017)*** *145, ChemPhotoChem, 1* ***(2017)****.*
*Petit, Journal of Physical Chemistry C, 120 (****2016****) 24521.*

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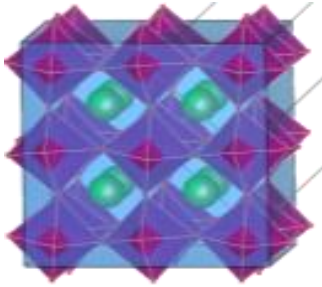
Chimie de la Matière Condensée de Paris

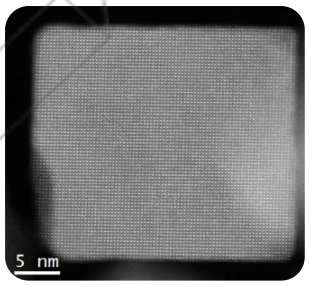
Advanced liquid-phase Synthesis (molten-salt) for Electocatalysis

RMES

Equipe Nano
D. Portehault

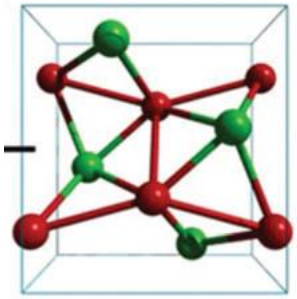
Transition metal oxide-based electrocatalysts

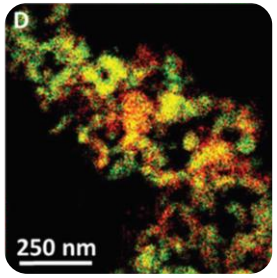




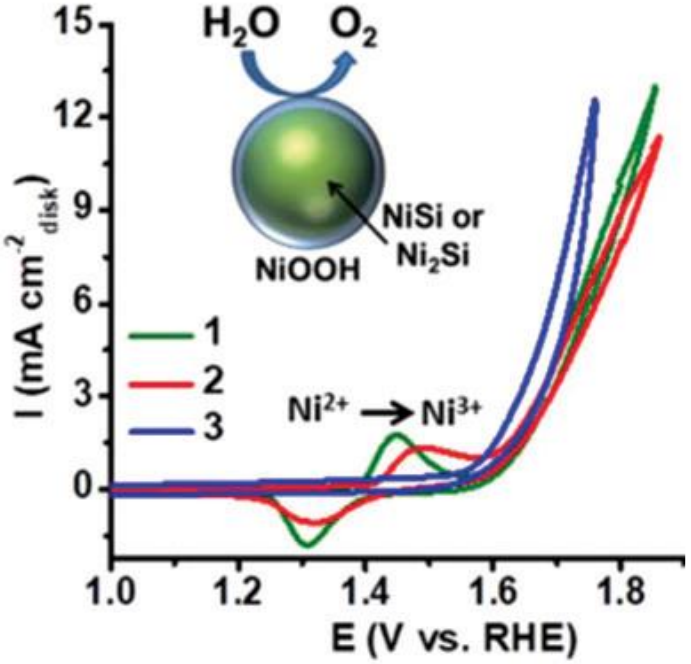
$La_{2/3}Sr_{1/3}MnO_3$

Transition-metal / p-block element compounds





NiSi



Gonell, Chemistry of Materials, 32 (**2020**) 4241
Kumar, Nanoscale, 12 (**2020**) 15209, ACS applied Nanomaterials, 3 **(2020)** 7482

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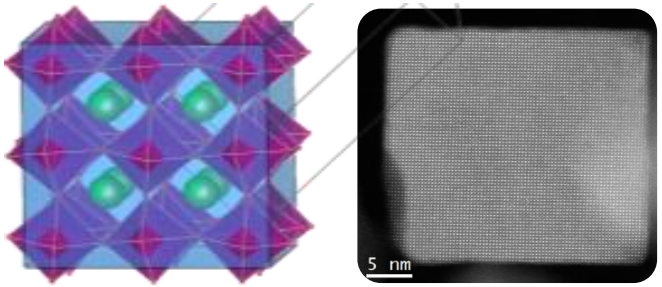
Understanding mechanism of electrocatalysis through the development of operando tools

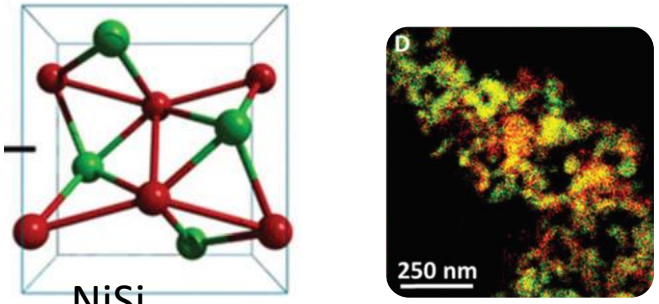
RMES

Transition metal oxide-based electrocatalysts



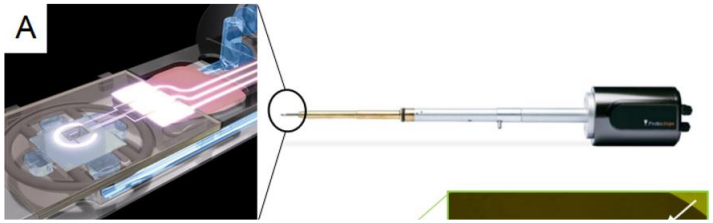
$La_{2/3}Sr_{1/3}MnO_3$

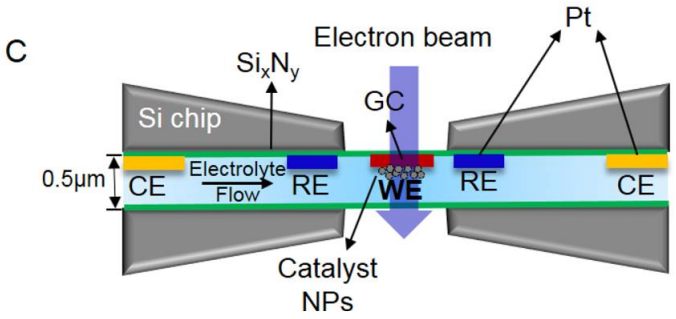
Transition-metal / p-block element compounds



NiSi

In situ electrochemical Microscopy TEM, spectroscopy XAS





Orsen Ovidiu (ICPMS) &
Benedikt Lasalle (Soleil)

*Ortiz-Pena, ACS Nano, 13 (**2019**) 11372*

Gonell, Chemistry of Materials, 32 (**2020**) 4241

Kumar, Nanoscale, 12 (2020) 15209, ACS applied Nanomaterials, 3 (**2020**) 7482

Merci pour votre attention

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