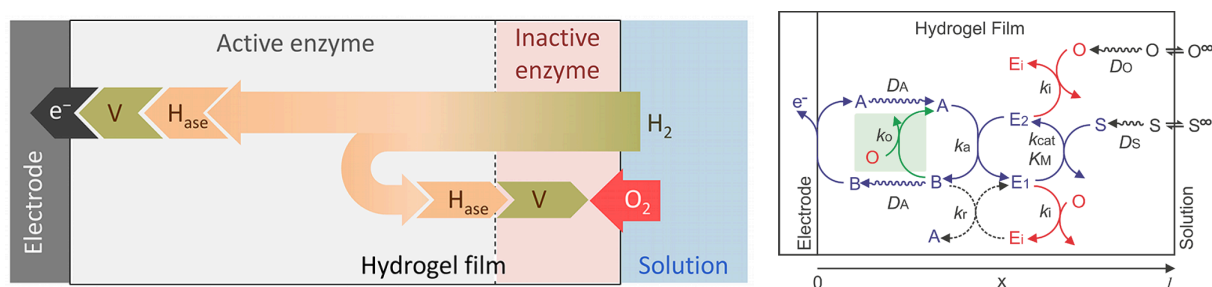


Post-doctoral position: modeling of enzymatic reactions embedded in redox polymers

Embedding O_2 -sensitive enzymes in polymers bearing redox groups has proven to be a successful strategy to protect them from oxidative damage^[1]. The group «*Reaction dynamics of multicenter redox enzymes, electrochemical kinetics*» (<https://bip.cnrs.fr/groups/bip06/>) has over the years developed the theoretical description of the interaction with O_2 , in the case of unidirectional oxidative catalysis inside a film immobilized on an electrode^[2,3]. Within a consortium including groups from TU Munich (Germany), Fraunhofer IGB Straubing and Denmark Technical University, the team is looking for a post-doctoral researcher to extend the theoretical understanding to other situations, like the case when catalysis is bidirectional, or even when the electrons are not provided from an electrode but from mediators in solution.



The post-doctoral researcher to be hired is expected to run the simulations (using an in-house software) of the reaction-diffusion system describing the system, divide the responses in relevant cases and derive the analytical equations describing the behaviour of the system in the cases.

Candidates

We are looking for candidates holding a PhD in chemistry or physics, with experience in handling numerical simulations and no fear of differential equations.

Funding

Funding is available for about 22 months from European funds.

To apply, please send a CV and motivation letter to vincent.fourmond@imm.cnrs.fr

Bibliography

- [1] N. Plumeré, O. Rüdiger, A. A. Oughli, R. Williams, J. Vivekananthan, S. Pöller, W. Schuhmann, W. Lubitz, *Nat. Chem.* **2014**, *6*, 822–827.
- [2] V. Fourmond, S. Stapf, H. Li, D. Buesen, J. Birrell, O. Rüdiger, W. Lubitz, W. Schuhmann, N. Plumeré, C. Léger, *J. Am. Chem. Soc.* **2015**, *137*, 5494–5505.
- [3] H. Li, D. Buesen, S. Dementin, C. Léger, V. Fourmond, N. Plumeré, *J. Am. Chem. Soc.* **2019**, *141*, 16734–16742.