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Multiscale analysis and hybrid simulations of neuronal microdomains: from molecular dynamics to function



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# Multiscale analysis and hybrid simulations of neuronal microdomains: from molecular dynamics to function

# Rendicontazione

Informazioni relative al progetto

### ADVANCEDMODNEURO

ID dell'accordo di sovvenzione: 623228

#### Progetto chiuso

Data di avvio 8 Maggio 2015 Data di completamento 7 Maggio 2017

#### Finanziato da

Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Costo totale € 309 235,20

**Contributo UE** € 309 235,20

Coordinato da THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD

Final Report Summary - ADVANCEDMODNEURO (Multiscale analysis and hybrid simulations of neuronal microdomains: from molecular dynamics to function) -My main training objective was achieved and consisted in learning and developing novel methods in asymptotic and numerical simulations to enhance my skills in complex and heavy numerical simulations applied to cellular microdomains. The specific objectives are methods in asymptotic to analyze diffusion around three-dimensional cusps, the theory of simulations to study the reflection of shaped object and to perform simulations in crowded environment, learning the theory of electro-diffusion (coupled Poisson-Nernst-Planck), image reconstruction to reconstruct the PSD organization, learning how to develop stochastic simulations on confocal and superresolution image domains and finally learn how to do fast and realistic multiscale simulations. Specifically, I have now gained the background in numerical simulations toward complex network of chemical reactions. Training methods include learning from articles, informal discussions, programming, guided reading of the literature, and courses offered by the University of Oxford.

## Ultimo aggiornamento: 24 Ottobre 2017

## Permalink: https://cordis.europa.eu/project/id/623228/reporting/it

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