

# Application BASTRI

## Fiches Equipes

### COFFEE (SR0472AR)

COMplex Flows For Energy and Environment  
SIMPAF (SR0038YR) □ COFFEE □ COFFEE (SR0578RR)

**Statut:** Terminée

**Responsable :** Thierry Goudon

**Mots-clés de "A - Thèmes de recherche en Sciences du numérique - 2023" :** *Aucun mot-clé.*

**Mots-clés de "B - Autres sciences et domaines d'application - 2023" :** *Aucun mot-clé.*

**Domaine :** Mathématiques appliquées, calcul et simulation  
**Thème :** Modélisation, simulation et analyse numérique

**Période :** 01/07/2011 -> 31/12/2012  
**Dates d'évaluation :**

**Etablissement(s) de rattachement :** U. NICE SOPHIA ANTIPOLIS (UNS), CNRS  
**Laboratoire(s) partenaire(s) :** LJAD (UMR7351)

**CRI :** Centre Inria d'Université Côte d'Azur  
**Localisation :** Laboratoire JA Dieudonné- Université Côte d'Azur  
**Code structure Inria :** 041139-0

**Numéro RNSR :** 201121214R  
**N° de structure Inria:** SR0472AR

### Présentation

The project aims at studying mathematical models issued from environmental and energy management questions. We consider systems of PDEs of hydrodynamic type or hybrid fluid/kinetic systems. The problems we have in mind involve unusual coupling, which in turn leads to challenging difficulties for mathematical analysis and the need of original numerical solutions. By nature many different scales arise in the problems, which allows to seek hierarchies of reduced models based on asymptotic arguments. The topics require a deep understanding of the modeling issues and, as far as possible boosted by the mathematical analysis of the equations and the identification of key structure properties, we wish to propose innovative and performing numerical schemes.

### Axes de recherche

The COFFEE team is particularly interested in the modeling and simulation of \* Particulate flows, Mixture flows \* Low Mach flows, radiative transfer \* Biological degradation (biological damage on monuments, biofilms formation and algae proliferation) \* Flows in porous media \* Plasma physics

### Relations industrielles et internationales

The project has established collaborations with several institutes and companies, like ANDRA, CEA, Total, GdF-Suez...

### Contact

- **Responsable :** Thierry Goudon
- **Tél :**
- **Secrétariat Tél :**

### En savoir plus

- Site de l'équipe
- Site sur [inria.fr](http://inria.fr)
- Site du responsable
- Derniers Rapports d'Activité : 2015 , 2016 , 2017 , 2018 , 2019 , 2020 , 2021 , 2022 , 2023

### Documents sur la structure

- [Intranet](#)
- [Privés](#)

### Décisions

- **8123** (30/08/2011) : création
- **8868** (29/08/2012) : prolongation

### Localisation

- **Adresse postale :** Université Côte d'Azur Campus Valrose Parc Valrose, 28, avenue Valrose 06108 Nice Cedex 2 France
- **Coordonnées GPS :** 43.717, 7.268