



L'université de Guyane recrute

Postdoctorant(e) en « Contrôle optimal pour la gestion d'énergie »

L'Université de Guyane est l'unique établissement universitaire francophone et européen en Amérique du Sud. Sa vision audacieuse est de devenir une université de référence en Amazonie. Fière de sa dimension à taille humaine, elle en fait sa force grâce à un accueil chaleureux et une proximité privilégiée avec ses étudiants, favorisant ainsi les échanges avec les enseignants. Animée par une démarche d'amélioration continue, l'Université valorise l'échange, la diversité culturelle et l'épanouissement individuel.

L'Université de Guyane, c'est :



4420
étudiants et
étudiantes



300
personnels
titulaires ou
contractuels



4 composantes
3 instituts
1 école



4 laboratoires



3 sites
2 campus

Poste ouvert aux

Contractuels - Contrat à Durée Déterminée

Localisation

UNIVERSITE DE GUYANE
Campus de Troubiran
Cayenne - Guyane française

Catégorie

A

**Groupe
RIFSEEP**

NC

Sujétion

NC

Corps

Date de prise de poste souhaitée

01/09/2025

Emploi type REFERENS

Quotité de travail

37H30

Le poste à pourvoir

Le service recruteur

Laboratory: Unité Mixte de Recherche Espace-Dev, Energy Transition Team.
Job type: Postdoctoral in automatic control and systems modelling applied to Smartgrid.
Contract: The position is a fixed-term contract.

Candidate Criteria

The recruited candidate must hold a PhD in a field such as Electricity, Automation, and Energy Engineering applications for smart energy grids (Smartgrid and smart Microgrid) with strong skills on Machine Learning. He/she will have to demonstrate relevant and original research contributions in the required field, to show capabilities in both research methodology aspects and artificial intelligence applications to the Smartgrid. The candidate must have an excellent publication record. Recruitment will be based in French Guiana and will also involve occasional assignments at regional partner sites, as well as in France and Brazil.

Missions principales

Key Responsibilities Description

Context

The stabilization and management of electrical grids, with intermittent sources, involves the use of storage systems (particularly hydrogen), and requires a deep knowledge of their various components' physics in order to contribute to the scientific problems resolution associated with the development of Smartgrid.

Objectives

Accordingly, the postdoc's mission is to develop an advanced energy management strategy based on the prediction of photovoltaic production, the cost of electricity, the stability of the power grid, and the state of charge of storage (batteries and hydrogen). The main objective is to produce hydrogen from photovoltaic panels production and minimize the number of START/STOP cycles of the electrolyzer. The strategy must be capable of maximizing panel output and electrolyzer lifetime as a function of the number of START/STOP cycles (minimum possible). Optimization methods and artificial intelligence will be used for this predictive energy management strategy.

Activités principales de l'agent

Key duties

The postdoctoral aims to develop expertise in three areas:

(i) modeling and simulation of the multi-source, multi-storage system; (ii) development of an innovative strategy for predictive energy management in a multi-source, multi-storage park; (iii) testing and validation of the strategy on a prototype in collaboration with other partners. In collaboration with two research laboratories, two pilot systems, one at UNICAMP in Brazil and the other at INESC-ID in Portugal, may enable the implementation of the developed energy management system strategy probably on experimental sites in French Guiana.

In addition, implementation of the strategy described above requires power production forecasts, on a daily time horizon and measures that influence the system dynamics (e.g., state of charge, electricity cost, production stability). Machine Learning algorithms for time series forecasting will be developed by the post-doc.

The recruited candidate may also participate in the laboratory research projects writing.

Application Files

To submit :

- Detailed CV with biography and a list of the scientific publications,
- Cover letter along with a synthetic presentation of the research works,
- The dissertation summary and the defense report,
- Reference letters are a plus.

Exclusively, Applications must be sent by email in electronic format (.pdf files) to:

The President of the University of French Guiana, - recrutement@univ-guyane.fr - Application Deadline: 06/06/2025

Scientific contacts: abdellatif.elmouatamid@univ-guyane.fr - antoine.primerose@univ-guyane.fr

Logiciels ou matériels spécifiques utilisés

Conditions particulières d'exercice

- Detailed CV with biography and a list of the scientific publications,
 - Cover letter along with a synthetic presentation of the research works,
 - The dissertation summary and the defense report, • Reference letters are a plus.
- Exclusively,

Le profil recherché

Diplôme (contractuels)

- Diploma of Doctor or Doctor of Engineering

Expérience dans le domaine

Compétences attendues

Skills and Attributes

- Excellent written and verbal communication skills (English and French),
- Publish research findings in peer-reviewed journals, books, international conferences, or other academic platforms,
- Demonstrated programming skills (Python, Matlab), and Machine Learning,
- Ability to work independently and as part of a team in a collaborative research environment.

Connaissances

Savoir faire

Savoir être

Rejoindre l'Université de Guyane, c'est :



Engagement

Diversité et égalité
—
Laïcité
—
Lutte contre
toutes formes de
discrimination et de
harcèlement
...



Conditions de travail

37h30 de travail
hebdomadaire
—
45 jours de fermeture
annuelle
—
3 jours de télétravail
sous conditions,
...



Accompagnement professionnel

Assistante sociale
—
Correspondant
handicap
—
Priorité sur le
développement des
compétences
...



Comité des œuvres sociales

Tarifs préférentiels sur
les loisirs,
—
Événements de
cohésion
—
Chèques cadeau
—
Arbre de Noël
...



Accessibilité

Campus desservis
par les transports en
commun
—
Parkings et bornes de
recharge électrique
—
Situé à proximité d'un
éco-quartier et d'un
parcours sportif
...

Pour postuler

Envoyer lettre de motivation, CV, diplôme le plus élevé et le cas échéant, le dernier arrêté d'avancement d'échelon exclusivement par voie électronique à :

Monsieur le Président de l'Université de Guyane
Direction des Ressources Humaines et des Moyens
recrutement@univ-guyane.fr

Date limite d'envoi des candidatures 23/08/2025 - 18h00 (GMT+1)

Renseignements

Contact

abdellatif.elmouatamid@univ-guyane.fr
antoine.primeroise@univ-guyane.fr