

Research Grants for PhD students from the China Scholarship Council

Information Form (please read the guidelines carefully on the website www-csc.utt.fr)

Supervisor's name : Given names :

Status (prof., assistant prof., ...) :

Laboratory : Website address :

Institution : Website address :

Scientific competence of the supervisor:

The ERA team focuses in managing autonomous networks. Samiha AYED research topics concern specifically the specification, the medelling and deployment of security policies. The application contexts are e-health, vehicular networks and UAV.

Two major publications in the field proposed for the PhD :

1.
2.

Website address of the personal page :

Supervisor's email :

Description of the research work proposed for a PhD **Topic # (see list) :**

Title :

Subject :

This thesis proposal aims to design and to validate a secure framework using new security approaches to manage security requirements in Unmanned Aerial Vehicles context based on artificial intelligence. Several scenarios have to be defined to pinpoint the different security requirements and study the proposed solutions.

- 1) To elaborate a state of the art related to the security requirements and proposed solutions to solve security attacks.
- 2) To elaborate a state of the art related to the use of the artificial intelligence techniques related to the energy consumption in UAV.
- 3) To design and validate a secure framework to improve and secure intra and inter communications in the unmanned aerial vehicles.
- 4) To propose, specify and validate a new security approach to secure the UAV based on one of the artificial intelligence techniques.
- 5) To study the energy impact of the solution proposed through a performance evaluation and improve the green aspects of the proposals.

Keywords :

Expected collaborations :

A co-direction of this Phd may be possible with the Stevens Institute of Technology - New Jersey- USA. Co-director: Hakim Ghazzai (<https://sites.google.com/kaust.edu.sa/hakim-ghazzai/home>)

Background required from the applicant :

The applicant should have a good knowledge about computer networks and specifically in wireless networks. Knowledge about system security will be highly appreciated.

Existence of a PDF file detailing the proposal ("yes" or "no") :

(see guidelines on the website www-csc.utt.fr)