



ABCDE



Scientific Report

First name / Family name

Tu Dac Ho

Nationality

Vietnam

Name of the *Host Organisation*

Norwegian University of Science and
Technology- NTNU

First Name / family name
of the *Scientific Coordinator*
Period of the fellowship

Tor Arne Johansen

11/04/2012 to 10/04/2013



I – SCIENTIFIC ACTIVITY DURING YOUR FELLOWSHIP

- Joint the research group of Professor Tor Arne Johansen (http://www.itk.ntnu.no/ansatte/Johansen_Tor.Arne/) (The department of Engineering Cybernetics, Norwegian University of Science and Technology-NTNU). I have conducted following major contributions at this group:
 - o Regular scientific work and activities
 - o Experiment and outside measurements
 - o Publications (international conferences, workshop, and journals)
 - o Project application assistance (EU FP7, Norwegian Research Fund).

II – PUBLICATION(S) DURING YOUR FELLOWSHIP

1. D.T. Ho, E. I. Grøtli, P.B. Sujit, T.A. Johansen, J.B. Sousa “Optimal Communication Topology Selection and UAV Path Planning in Wireless Sensor Network,” *Journal of Intelligent and Robotic System*, Sep. 2013 (conditional acceptance).
2. A. Grancharova, E. I. Grøtli, D.T. Ho, T. A. Johansen “Distributed MPC-Based Path Planning for UAVs under Radio Communication Path Loss Constraints,” submitted to *Journal of Intelligent and Robotic System*.
3. D.T. Ho, E. I. Grøtli, P.B. Sujit, T.A. Johansen, J.B. Sousa “Performance Evaluation of Cooperative Relay and Particle Swarm Optimization Path Planning for UAV and Wireless Sensor Network,” accepted to *IEEE GLOBECOM 4th Workshop: Wireless Networking for Unmanned Aerial Vehicles: Architectures, Protocols and Applications*, Atlanta, December 2013.
4. D.T. Ho, E. I. Grøtli, P.B. Sujit, T.A. Johansen, J.B. Sousa “Optimal Communication Topology Selection and UAV Path Planning in Wireless Sensor Network,” in *Proc. International conference on Unmanned Aircraft Systems, ICUAS'13*, pp. 58-67, Atlanta, May 2013.
5. D.T. Ho, E. I. Grøtli, T.A. Johansen “Heuristic Algorithm and Cooperative Relay for Energy Efficient Data Collection with a UAV” in *Proc. IEEE Conference on Computing, Management, and Telecommunication*, Jan. 2013.
6. D.T. Ho, E. I. Grøtli, S. Shimamoto, and T.A. Johansen “Optimal Relay Path for Cooperative Communications among a Swarm of UAVs,” in *Proc. IEEE GLOBECOM 3rd Workshop: Wireless Networking for Unmanned Aerial Vehicles: Architectures, Protocols and Applications*, Dec. 2012.

III – ATTENDED SEMINARS, WORKHOPS, CONFERENCES

- IEEE Wi-UAV (<http://www.wi-uav.org/>) in 2012, 2013.
- IEEE/AIAA ICUAS (in 2013, <http://www.uasconferences.com/>)
- IEEE CoMmandTel 2013 conference
- ERCIM seminar in Nice, Oct. 2012

IV – RESEARCH EXCHANGE PROGRAMME (REP)

- Two weeks of participation at REP12 (*Rapid Environment Picture*) (in July 2012), was hosted by FEUP (Faculdade de Engenharia da Universidade do Porto). FEUP is a member of ERCIM:
 - o Join the outside activity during REP12



- Initialized a scientific collaboration between research group at NTNU and the visited group at FEUP leading by Professor João Tasso Borges de Sousa (http://sigarra.up.pt/feup/pt/func_geral.formview?P_CODIGO=211164)
- Cooperate and have joint publication with FEUP
- One week visiting at Communication System Group (CSG) at the Zurich ETH during the end of March 2013. This group is leading by Professor Bernhard Plattner (<http://www.csg.ethz.ch/people/plattner>).
 - Further cooperation is being developed via some joint research work and publication