

# CV | Mahmoud ABDELRAHIM

## Personal Data

---

Place and Date of Birth: Egypt | 10 May 1983  
Work Address: Mechanical Engineering Department, Assiut University,  
Assiut, Egypt  
Phone: +2 088-241 1708  
Email: [m.abdelrahim@aun.edu.eg](mailto:m.abdelrahim@aun.edu.eg)  
Personal Page: <https://sites.google.com/site/abdelrahim583/>

## Research Interests

---

- Networked control systems
- Event-triggered control
- Hybrid dynamical systems
- Singularly perturbed systems
- Nonlinear control
- Optimization
- Robust stabilization

## Education

---

Oct 2011- July 2014	<b>PhD</b> in Control Theory, <b>CRAN-CNRS-Université de Lorraine</b> , France Thesis: "Output feedback event-triggered control"
2006-2010	<b>M.Sc.</b> degree in Mechatronics Engineering, <b>Assiut University</b> , Egypt Thesis: "Fuzzy Control of 2-DOF Robotic Arm"
2000-2005	<b>B.Sc.</b> in Mechatronics Engineering, <b>Assiut University</b> , Egypt Cumulative Average Grade: 80.77/100 (with honor's degree)

## Professional Positions

---

November 2016-present	Lecturer at the Department of Mechanical Engineering, Assiut University, Egypt
July 2015-October 2016	Post-doc at the Eindhoven University of Technology (TU/e), The Netherlands
Sep 2014-June 2015	ATER, ESSTIN, Université de Lorraine, France
Oct 2011-July 2014	PhD Student, CRAN-CNRS-Université de Lorraine, France
Sep 2010-Sep 2011	Assistant Lecturer, Assiut University, Egypt
Jan 2006-Sep 2010	Demonstrator, Assiut University, Egypt

## Teaching Experience

---

Year	Position	University	Volume
2015-2016	Post-doc	TU/e (Netherlands)	52h (Tut.)
2014-2015	ATER	ESSTIN (France)	96h (Lab hours)
2006-2011	Teaching assistant	Assiut University (Egypt)	2400h (Tut. + Labs)

## Publications

---

### Journal papers

- M. Abdelrahim, R. Postoyan and J. Daafouz and D. Nešić and W.P.M.H. Heemels, “Co-design of output feedback laws and event-triggering conditions for the L2-stabilization of linear systems”, *Automatica*, submitted.
- M. Abdelrahim, R. Postoyan and J. Daafouz and D. Nešić, “Robust event-triggered output feedback controllers for nonlinear systems”, *Automatica*, 75, 96-108, 2017.
- M. Abdelrahim, R. Postoyan, J. Daafouz and D. Nešić, “Stabilization of nonlinear systems using event-triggered output feedback controllers”, *IEEE Transactions on Automatic Control*, 61(9), 2682-2687, 2016.
- M. Abdelrahim, R. Postoyan and J. Daafouz, “Event-triggered control of nonlinear singularly perturbed systems based only on the slow dynamics”, *Automatica*, 52, 15-22, 2015.
- A. B. Sharkawy, M. M. Othman and A. A. Khalil, “A Robust Fuzzy Tracking Control Scheme for Robotic Manipulators with Experimental Verification”, *Intelligent Control and Automation*, 2, 100-111, 2011.

### Conference papers

- M. Abdelrahim, V.S. Dolk and W.P.M.H. Heemels, “Input-to-state stabilizing event-triggered control for linear systems with output quantization”, *In Proceedings of the 55th IEEE Conference on Decision and Control, Invited Paper, Las Vegas, U.S.A*, PP. 483-488, 2016.
- M. Abdelrahim, R. Postoyan, J. Daafouz and D. Nešić, “Event-triggered dynamic feedback controllers for nonlinear systems with asynchronous transmissions”, *In Proceedings of the 54th IEEE Conference on Decision and Control, Invited Paper, Osaka, Japan*, PP. 5494-5499, 2015.
- M. Abdelrahim, R. Postoyan, J. Daafouz and D. Nešić, “Input-to-state stabilization of nonlinear systems using event-triggered output feedback controllers”, *In Proceedings of the 14th European Control Conference, Linz, Austria*, PP.2185-2190, 2015.
- M. Abdelrahim, R. Postoyan, J. Daafouz and D. Nešić, “Co-design of output feedback laws and event-triggering conditions for linear systems”, *In Proceedings of the 53rd IEEE Conference on Decision and Control, Invited Paper, Los Angeles, U.S.A*. PP.3560-3565, 2014.

- M. Abdelrahim, R. Postoyan, J. Daafouz and D. Nešić, “Stabilization of nonlinear systems using event-triggered output feedback controllers”, *In Proceedings of the 21th International Symposium on Mathematical Theory of Networks and Systems, Groningen, The Netherlands, PP.274-281, 2014.*
- M. Abdelrahim, R. Postoyan and J. Daafouz, “Event-triggered control of nonlinear singularly perturbed systems based only on the slow dynamics”, *In Proceedings of the 9th IFAC Symposium on Nonlinear Control Systems, Invited Paper, Toulouse, France, PP.347-352, 2013.*

## Book contribution

- M. Abdelrahim, R. Postoyan, J. Daafouz and D. Nešić, “Output feedback event-triggered control”, in “Delays In Networked Control Systems”, Editors: A. Seuret, L. Hetel, J. Daafouz and K.H. Johansson, Springer International Publishing Switzerland, PP.113-131, 2016.

## Other research activities

---

- **Qualified** as an assistant professor (**Maitre de Conférences**) in the 61st section (Information engineering, Automatic control, Signal processing), with the qualification number: 15261271558, valid until 31 Decembre 2019.
- **Reviewer for:** IEEE Transaction on Automatic Control; Automatica; Journal of the Franklin Institute; IET Control Theory and Applications; Nonlinear Analysis: Hybrid Systems; International Journal of Robust and Nonlinear Control; IEEE Conference on Decision and Control; European Control Conference; IFAC; American Control Conference; SIAM conference.

## Seminars/Workshops

---

- 55th IEEE Conference on Decision and Control (CDC 2016), Las Vegas, U.S.A.
- 14th European Control Conference (ECC 2015), Linz, Austria.
- 54th IEEE Conference on Decision and Control (CDC 2015), Osaka, Japan.
- 53rd IEEE Conference on Decision and Control (CDC 2014), Los Angeles, U.S.A.
- 21th International Symposium on Mathematical Theory of Networks and Systems (MTNS 2014), Groningen, The Netherlands.
- 9th IFAC Symposium on Nonlinear Control Systems, 2013 (Toulouse, France).
- International Graduate School on Control 2013, EECI (Gif-sur-Yvette, France): *Event-triggered and Self-triggered Control*, W.P.M.H. Heemels, Karl-Henrik Johansson, Paulo Tabuada.
- EECI-HYCON2 Graduate School on Control 2012, EECI (Gif-sur-Yvette, France): *Introduction to Nonlinear Control*, Hassan Khalil.
- EECI-HYCON2 Graduate School on Control 2012, EECI (Gif-sur-Yvette, France): *Hybrid Dynamical Systems: Stability and Control*, Andrew Teel.
- Architecture Hybride et Contraintes (ArHyCo) workshop (Paris, France), June 4th-5th 2012.

- BioVision Alexandria International Conference (Bibliotheca Alexandrina, Egypt), 13-15 December 2010.

## Research groups

---

Control systems technology (CST); HYCON 2; SDH du GdR MACS; Control and OPTimization of HYbrid systems (COPHY).

## Scholarships and Projects

---

Sep 2013-Aug 2014 Centre de Recherche en Automatique de Nancy

Sep 2011-Jul 2013 Erasmus Mundus Flow By Flow EU-Egypt Bridge Building

## Programming

---

MATLAB, C++, FORTRAN

## Languages

---

English: Very good

French: Intermediate

Arabic: Mother tongue