

# Curriculum Vitae



## Hassan EL FADIL

Professor of Automatic Control.  
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### Personal Data

First name: Hassan  
Family name: EL FADIL  
Birth date: 29 July 1970

### Short Biography

Hassan EL FADIL received the B.S. degree in Electronics, the Aggregation degree in Electrical Engineering, from the ENSET, Mohammed V University, Rabat, Morocco, in 1994 and 1999, respectively. He received the M.S. degree and the Ph.D. degree in Automatic Control from the EMI, Mohammed V University, Rabat, Morocco, in 2003 and 2008 respectively. He is now Professor at the ENSA, Ibn Tofail University, Kénitra, Morocco, and he is responsible of the electrical engineering programs. His research interest includes nonlinear and adaptive control, power converters and electric motors control, renewable energy, distributed energy resources, smart grid, and electric vehicles. He has participated in more than 15 special issues and conference proceedings, and participated in more than 30 international conferences including ten he co-organized. He is member of many international scientific societies and associations in automatic control and renewable energy. He has published over 140 journal/conference papers on his research area and topics.

### Educational qualifications

2019	Passage to the Higher Education Professor, ENSA, Ibn Tofail University, Kénitra, Morocco.
2011-2013	Habilitation Degree, in Automatic Control from the Mohammed V School of Engineers (EMI), Mohammed V University, Rabat, Morocco.
2002-2008	Ph.D. Degree in Automatic Control from EMI, Mohammed V University, Rabat, Morocco.
1999-2002	M.S. Degree, in Control of Industrial Processes, from EMI (Rabat).
1997-1999	Aggregation Diploma in Electrical Engineering (Electronic and Industrial Computing), from the ENSET, Mohammed V University, Rabat.
1990-1994	Diploma of ENSET in Electronic from the ENSET, Mohammed V University, Rabat.

### Professional experience

2019-to present	Higher Education Professor, ENSA (National School of Applied Sciences), Ibn Tofail University, Kénitra, Morocco.
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2013-2019	Habilitated Professor in Automatic Control, ENSA, Ibn Tofail University, Kénitra, Morocco.
2011-2013	Assistant Professor (ENSA, Ibn Tofail University, Kénitra).
1999-2008	Associate Professor in Electrical Engineering (BTS, Salé, Morocco).
1997-1999	Aggregation Diploma in Electrical Engineering (ENSET, Mohammed V University, Rabat).
1994 -1997	Postgraduate Professor (Technical College, Safi, Morocco).

## Responsibilities

2017-Present	Member of the evaluation committee of the National Agency for Evaluation and Quality Assurance of Higher Education and Scientific Research (ANEAQ), Morocco.
2016-Present	Responsible of the double degree program between ESIX (Caen University, France) and ENSA (Ibn Tofail University, Kénitra, Morocco).
2015-2016	Responsible of the double degree program (Master All) between Caen University, France and ENSA (Ibn Tofail University, Kénitra, Morocco).
2016-Present	Member of the council of the department GERST (ENSA, Kénitra).
2014-Present	Responsible of Electrical Engineering (ENSA, Kénitra).
2016-2020	Responsible of research team ESIT of the LGS laboratory (ENSA, Kénitra).
Marsh 2013	Responsible of the first research team in electrical engineering at ENSA, Kénitra, Morocco. The team « Énergie Intelligente, Systèmes Électriques et Industriels (EISEI) » is affiliated with the LGS laboratory.
2014-Present	Member of the council of the National School of Applied Sciences (ENSA, Kénitra).
2011-Present	Member of juries of many competitions in ENSA.
October –December 2015	Member of the commission on training for needs on ecosystems (automobile - Bodywork - ...). Higher Education Ministry (Rabat, Morocco).

## Research and Educational Projects

2018-Present	Main responsible of a research projects Green-Inno-Project IRESEN 2018 « Study and realization of a WPT charger with V2X technology for electric vehicles ».
2015- 2018	Main responsible of a research projects entitled: "Control of Hybrid Energy Storage System in Electric Vehicle" which was supported by the Moroccan Ministry of Higher Education (MESRSFC) and the CNRST under grant number PPR/2015/36.
2009-2011	Member of Project-team "Control of power converters used in renewable energy systems" between the SEPIC laboratory (Sistemes Electronics de Potencia i Control) and the LA2I laboratory of Mohammedia School of Engineers, Rabat, Morocco.
2009-2012	Member of Project-team PICS entitled "Automatic Control of electric systems" between the LA2I laboratory of Mohammedia School of Engineers, Rabat, Morocco and the GREYC laboratory, Caen University, France.
2015-2017	Member of Project-team PHC Projet (Partenariat Hubert Curien « TOUBKAL 2015, TOUBKAL 2015 and TOUBKAL 2017 »
2012-Present	Main responsible of the cooperation agreement between Ibn Tofail University (Kénitra, Morocco) and Caen University (France).

## International Cooperation

- Guest professor to the GREYC laboratory (Caen University, France) from June 16 to July 15, 2013.
- Research visit to the GREYC laboratory (Caen University, France) from 2 to 7 September, 2012.
- Research visit to the laboratory "Laboratorio de Energías Renovables de la Universidad Politécnica de Cataluña, UPC, Barcelona", Spain, from June 5 to July 5, 2011.
- Research visit to the GREYC laboratory (Caen University, France) from August 25 September 15, 2011.
- Research visit to the laboratory "Laboratorio de Energías Renovables de la Universidad Politécnica de Cataluña, UPC, Barcelona", Spain, from June 25 to July 25, 2010.
- Research visit to the GREYC laboratory (Caen University, France) from July 25 to August 25, 2010.
- Research visit to "Departament Matemàtica Aplicada III" UPC. Universitat Politècnica de Catalunya, Jordi Girona, 31. 08034 Barcelona (Campus Nord), Spain, from July 10 to August 10, 2007.
- Research visit to "Departament Matemàtica Aplicada III" UPC. Universitat Politècnica de Catalunya, Barcelona (Campus Nord), Spain, from June 28 to July 28, 2006.
- Educational visit to BTS of « Lycée Benjamin Franklin à Orléans », France, from November 20 to December 18, 2001.

## International Visibility

- Chair of ACET 2023: International Symposium on Automatic Control and Emerging Technologies - July. 11-13, 2023, in Kenitra, Morocco : <https://www.acet-conf.org/>
- Chair of the Workshop (Responsible): International Workshop on Simulation using COMSOL Multiphysics, , ENSA, Kénitra, Morocco, Thursday, December, 7th, 2017
- Member of the National Advisory Committee (NAC) and Scientific Committee of the 3rd International Conference on Innovative Research in Applied Science, Engineering and Technology - IRASET'2023, May 18-19, 2023, Mohammedia, Morocco. (<http://iraset.org/2023/>)
- The National Organizing Committee (NOC) of the 14th IFAC Workshop on Adaptive and Learning Control Systems - ALCOS 2022, June 29th – July 1<sup>st</sup>, 2022, Casablanca, Morocco (<https://www.alcos2022.org/index.html>)
- Member of the National Advisory Committee (NAC) of the 2nd International Conference on Innovative Research in Applied Science, Engineering and Technology - IRASET'2022, Meknes, Morocco, March 03-04, 2022. (<http://iraset.org/2022/>)
- Member of the International Program Committee (IPC) of the International Conference on Energy and Green Computing (ICEGC-2021), Meknes, Morocco, December 09-10, 2021. (<https://www.iraset.org/icegc2021/>)
- Member of the International Program Committee (IPC) of the 4th International Conference on Electrical and Information Technologie (ICEIT'20), Rabat-Salé, Morocco, March 4-7 2020, (<http://webcache.googleusercontent.com/search?q=cache:http://www.iceit-conference.org/ICEIT20/>)
- Member of the International Program Committee (IPC) of the 7th International Conference on Control Engineering & Information Technology (CEIT2019) 24-26 October 2019, Tetouan – Morocco; ([http://ensate.uae.ac.ma/CEIT2019/?page\\_id=43](http://ensate.uae.ac.ma/CEIT2019/?page_id=43))
- The International Program Committee (IPC) of the 13th IFAC Workshop on Adaptive and Learning Control Systems - ALCOS 2019, 04 - 06 December 2019, Guildhall Winchester, Winchester, United Kingdom (<https://sites.google.com/site/2019alcos/>)

- Member of the Organizing Committee of the International Workshop on Artificial intelligence and renewable energies for smart agriculture; ENSA Kénitra, Monday 29 April 2019.
- Member of "Organizing Local committee" of The 5th Edition of the International Conference on Optimization and Applications (ICOA2019) 25-26 April 2019, Kénitra (<http://ensa.uit.ac.ma/icoa2019/#comite>)
- Member of the International Program Committee (IPC) of the IFAC Workshop on Control of Smart Grid & Renewable Energy Systems (CSGRES 2019), Jeju Island, Korea, June 10-12, 2019: (<http://www.CSGRES2019.com>)
- Member of the TECHNICAL PROGRAM COMMITTEE of the 3rd Edition of the International Conference on: Renewable Energies, Power Systems and Green Inclusive Economy (REPS & GIE-2018), 23-24 APRIL 2018, CASABLANCA – MOROCCO (<http://www.reps-gie.ma/>).
- Organizer and chair of a special session: SS4: Renewable Energy : Modelling, Design, Control and Applications" in the 3rd Edition of the International Conference on: Renewable Energies, Power Systems and Green Inclusive Economy (REPS & GIE-2018), 23-24 APRIL 2018, CASABLANCA – MOROCCO
- Chair of Conference Track T6 "Renewable Energies Storage" 3rd Edition of the International Conference on: Renewable Energies, Power Systems and Green Inclusive Economy (REPS & GIE-2018), 23-24 APRIL 2018, CASABLANCA – MOROCCO.
- Member of the TECHNICAL PROGRAM COMMITTEE of the 5th International Conference on Control Engineering & Information Technology (CEIT-2017), December 17-19, 2017 Sousse - Tunisia
- Member of the TECHNICAL PROGRAM COMMITTEE of the conférence « 6<sup>ème</sup> Conférence Internationale en Automatique & Traitement de Signal (ATS-2018), 28-30 Mars 2018 Tanger Morocco» (<http://ipco-co.com/ATS.html>).
- Member of the TECHNICAL PROGRAM COMMITTEE of « The International Conference on Electrical and Information Technologies, ICEIT' 17, ENSET, Rabat, from 15th to 18th November 2017 ».
- IPC member of the 4th International Conference on Automation, Control, Engineering and Computer Science, Tangier, Morocco (ACECS-2017), <http://ipco-co.com/ACECS.html>.
- Session chair of four sessions in the 4th International Conference on Automation, Control, Engineering and Computer Science, Tangier, Morocco (ACECS-2017), <http://ipco-co.com/ACECS.html>.
- Session chair in the WITS 2016 (Third international conference on Wireless Technologies embedded and intelligent Systems), ENSA, Kénitra, Morocco.
- IPC member of the Third international conference on Wireless Technologies embedded and intelligent Systems (WITS 2016).
- IPC member of the IFAC Symposium on Power Plants and Power Systems Control (PPPSC-09): <http://pppsc09.automaatioseura.fi/>, 5-8 July 2009, Tampere, Finland.
- Session chair of (DISTRIBUTED GENERATION), IFAC Symposium on Power Plants and Power Systems Control (PPPSC-09), 5-8 July 2009, Tampere, Finland.
- Steering committee member of « Colloque International sur la Sécurité des Systèmes d'Information (CISSI) : Second Edition, with thematic ICT Security & Computer Forensic, 12-13-14 March 2014, ENSA de Kénitra
- Steering committee member of « Colloque de Cybercriminalité CIC 2014 », June 24-25, ENSA, Kénitra.
- Review activity for international conferences and journals.
- Member of the openLab PSA@Maroc (2016 ~ now).
- Member of the SMADER association (2015 ~ now).

## Conferences attendance

I have made presentations at several international conferences and seminars:

- International congress: "World Power-to-X Summit" 22-24 June 2022 - Marrakech
- Keynote speaker at the International Conference on Energy and Green Computing (ICEGC-2021), Meknes, Morocco, December 09-10, 2021. Title of the presentation: **Advanced control of power converters for electric vehicle applications**. <https://www.iraset.org/icegc2021/>
- Presentations of a paper at the conference « The 16th International Multi-Conference on Systems, Signals and Devices, SSD 2019, March 21 - 24, 2019 – Istanbul, Turkey. Paper : "Adaptive Sliding Mode Control of Power System with Photovoltaic Generator"
- Workshop « MENA SELECT / Moyen orient et Afrique du nord trajectoires durables d'électricité » Discussion about Moroccan energy system today and in the future. Modeling and development of future energy systems. May 23-24, 2016
- Presentations of two papers at the conference ALCOSP-2013, Caen (France), July 2-5, 2013:
- Presentations of two papers at the conference PP&PSC-2012, Toulouse, France, September 2-5, 2012.
- Participation in the Open Day, ONE (office National de l'Electricité). Chair of the session on renewable energies, Casablanca, October 19, 2011.
- Presentation of six papers at the IFAC Symposium on Power Plants and Power Systems control (PPPSC'09), Tampere, Finland, 5-8 July, 2009.
- Presentation of the paper "Robust and Nonlinear Control of PWM DC-to-DC Boost Power Converters". Conference on Systems and Control, Marrakech, May 16, 2007.
- "Accounting for Input Constraints in Controlling Buck Power Converter", By: H. El Fadil (GREYC-ISMRA, Caen (France)). (Seminar on power converters) .Dep. Matemàtica Aplicada III, Campus Nord-UPC, 08034-Barcelona, Spain. Date: Friday 30 June, 2006, 16:30H (<http://www-ma3.upc.es/codalab/sem.php?aaa=v9#>).

## Scientific and pedagogical supervision

- Thesis supervision 30+ (2009 ~ now).
- Master project and end of studies' project (engineers) 25+ (2011 ~ now).
- Member of jury of thesis defense (examiner and reviewer) 30+ (2016 ~ now).

## Research Topics

- Linear, Nonlinear, Robust, and Adaptive control,
- Nonlinear observers.
- Identification Techniques.
- Optimization Techniques
- Sampled data and Digital control and observation.
- Applications: power converters and electric motors control, renewable energy, distributed energy resources, smart grid, electric vehicles.

## Publications

- Book chapters (2)
- Journal papers (68)
- Conference papers (84)
- Citations:
  - **Google scholar:** <https://scholar.google.com/citations?user=E07R90sAAAAJ&hl=en>  
1813 Citations;            20 *h*-index;            53 i10-index.
  - **Scopus:** <https://www.scopus.com/authid/detail.uri?authorId=57202209984>  
1282 Citations by **890** documents;            142 Documents;            18 *h*-index.

## Publication list (recent)

### Book chapters:

- [B1] Fatima Zahra Belhaj, **Hassan El Fadil**, Abdelouahad Tahri, Khawla Gaouzi, Aziz Rachid, Fouad Giri, "Sliding Mode Control of a Cascade Boost Converter for Fuel Cell Energy Generation System", Published in: *Recent Advances in Electrical and Information Technologies for Sustainable Development*, Springer International Publishing, 2019
- [B2] Aziz Rachid, **Hassan El Fadil**, Fatima Zahra Belhaj, Khawla Gaouzi, Fouad Giri, "Lyapunov-Based Control of Single-Phase AC–DC Power Converter for BEV Charger", Published in: *Recent Advances in Electrical and Information Technologies for Sustainable Development*, Springer International Publishing, 2019.

### Peer-reviewed journal papers:

- [R1] Rachid, A.; El Fadil, H.; Gaouzi, K.; Rachid, K.; Lassioui, A.; El Idrissi, Z.; Koundi, M. Electric Vehicle Charging Systems: Comprehensive Review. *Energies* **2023**, *16*, 255. <https://doi.org/10.3390/en16010255>
- [R2] Benabdelhadi Abdeljalil , Fouad Giri, Miroslav Krstic, Fatima-Zahra Chaoui, Kamal Rachid, Hassan El Fadil, "Adaptive observer design for uncertain nonlinear ODE-PDE cascades", *International Journal of Adaptive Control and Signal Processing*, Volume 37, Issue 1, January 2023, Pages 77-104, <https://doi.org/10.1002/acs.3516>
- [R3] K. Rachid, A. Benabdelhadi, F. Giri, M. Krstic, H. El Fadil, F-Z. Chaoui, Observer Design for ODE-PDE Cascade with Lipschitz ODE Nonlinear Dynamics and Arbitrary Large PDE Domain, *IFAC-PapersOnLine*, Volume 55, Issue 12, 2022, Pages 208-213, ISSN 2405-8963, <https://doi.org/10.1016/j.ifacol.2022.07.313>.
- [R4] A. Kabba, H. El Fadil, A.M. Hamed, A. Yahya, F. Giri, A high gain observer design for the three-phase shunt active power filter interfacing a photovoltaic source, *IFAC-PapersOnLine*, Volume 55, Issue 12, 2022, Pages 306-311, ISSN 2405-8963, <https://doi.org/10.1016/j.ifacol.2022.07.329>.
- [R5] K. Rachid, H. El Fadil, F. Giri, A. Rachid, A. Kabba, A. Intidam, F.Z. Chaoui, Boundary Observer Design for Fleets of Plug-in Electric Vehicles in Bidirectional Charging Stations, *IFAC-PapersOnLine*, Volume 55, Issue 12, 2022, Pages 432-437, ISSN 2405-8963, <https://doi.org/10.1016/j.ifacol.2022.07.350>.
- [R6] I. Bentalhik, H. El fadil, A. Lassioui, M. Koundi, Z. El idrissi, F. Giri, Adaptive Observer Design for a Bidirectional AC/DC totem pole PFC Power Converter, *IFAC-PapersOnLine*, Volume 55, Issue 12, 2022, Pages 438-443, ISSN 2405-8963, <https://doi.org/10.1016/j.ifacol.2022.07.351>.