



Ahmed CHEMORI

IEEE Senior Member

*Senior C.N.R.S. Researcher
(in Automatic Control & Robotics)*

Short Biography

Ahmed Chemori received his M.Sc. and Ph.D. degrees, both in automatic control from Polytechnic Institute of Grenoble, France, in 2001 and 2005 respectively. During the year 2004/2005 he has been a Research and Teaching assistant at Laboratoire de Signaux et Systèmes (LSS - Centrale Supélec) and University Paris 11. Then he joined Gipsa-Lab (Former LAG) as a CNRS postdoctoral researcher.

He is currently a tenured research scientist in Automatic control and Robotics for the French National Center for Scientific Research (CNRS), at the Montpellier Laboratory of Computer Science, Robotics and Microelectronics (LIRMM).

His research interests include nonlinear (adaptive and predictive) control and their real-time applications in different fields of robotics (underactuated robotics, parallel robotics, underwater robotics, humanoid robotics and wearable robotics). He is the author of more than 100 scientific publications, including international journals, patents, book chapters and international conferences. He co-supervised 14 PhD theses (including 6 defended) and more than 38 MSc theses. He served as a TPC/IPC member or associate editor for different international conferences and he organized different scientific events (e.g. PKM 2016 Summer School and WIR 2017 workshop).

He has been a visiting researcher/professor at different institutions (NTNU - Norway, EPFL - Switzerland, TUT - Estonia, HUST - China, UPC - China, CINVESTAV - Mexico, UPT - Mexico, Chiang Mai University - Thailand, KAUST - Saudi Arabia, ENIT - Tunisia, UMC - Algeria, etc). He has also delivered various plenary/keynote lectures at different international conferences.

Resume

Present position : Associate researcher 1st class CNRS since 2010.

Previous positions :

- Associate researcher 2nd class at CNRS (2006 – 2009); tenure position ;
- Post-doctoral researcher, Automatic control laboratory of Grenoble (2005/2006).
- Research and Teaching Assistant, University Paris-Sud and Laboratory LSS (2004/2005).

Education : PhD (INPG, Grenoble/2005) ; MSc in Automatic control (INPG, Grenoble/2001), MSc in control systems (University of Constantine/2000), Electronics engineer (University of Constantine/1998).

Fields of expertise : Nonlinear predictive and adaptive control and their applications in robotic systems (Parallel Kinematic Manipulators, underwater robots, underactuated mechanical systems, humanoid robots and exoskeletons).

Publications : 28 journal papers, 1 patent, 8 book chapters, 65 conference papers.

Supervision of students : 3 postdocs, 14 PhD theses (6 defended) and 38 MSc students.

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Editorship and membership :

- Associate editor, 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2018), October 1–5, 2018, Madrid, Spain.
- Associate editor, The 11th IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles (CAMS 2018), September 10–12, 2018, Opatija, Croatia.
- Track chair at the 23rd International Conference on Methods and Models in Automation and Robotics (MMAR 2018), August 27-30th 2018, Miedzyzdroje, Poland.
- Track chair at the 2nd International Conference on Advanced Systems and Electrical Technologies (IC_ASET 2018), March 22–25 2018, Hammamet, Tunisia.
- Track chair at the 22nd International Conference on Methods and Models in Automation and Robotics (MMAR 2017), 28-31st August 2017, Miedzyzdroje, Poland.
- Associate editor, The 20th IFAC World Congress, July 9-14, 2017, Toulouse, France.
- Track chair at the International Conference on Advanced Systems and Electrical Technologies (IC_ASET 2017), January 14–17th 2017, Hammamet, Tunisia
- Editorial board member, International Journal of Digital Signals and Smart Systems.
- Associate editor, EBM - Journal of Advances in Applied & Computational Mathematics.
- Review editor, Frontiers in Robotics and AI.
- IEEE senior member.
- Member of the IFAC Technical Committee TC 4.2 on Mechatronic Systems.
- Member of the IFAC Technical Committee TC 7.2 on Marine Systems.
- IPC/TPC member of different international conferences.

Research projects and grants :

- HEPHAESTUS H2020 European research project (participant, 2017–2020);
- iREHAB French-Indian International Collaboration research Project (Principle investigator, 2017–2020).
- SUBSEA-TECH industrial contract (CIFRE) on marine robotics (scientific coordinator, 2016–2018).
- OIS industrial contract on marine robotics (Participant, 2016–2017).
- PEPS CyberComp - CNRS / INS2I (participant, 2016);
- ARPE PilotPlus - Languedoc Roussillon region contract (Participant, 2016 - 2017);
- ANR-SEAHAND national research project (participant, 2015–2019);
- ARPE PRADA - Languedoc Roussillon region contract (Participant, 2015 - 2018);
- PHC-PARROT French-Estonian cooperation project (scientific coordinator, 2015–2016);
- KIETTA industrial contract on marine vehicles control (scientific coordinator, 2013–2014).
- SteROV industrial contract on an underwater vehicle (participant, 2012–2014);
- ARPE MiniROV - Languedoc Roussillon region contract (Participant, 2012 - 2014);
- ECHORD-PRADA European research project (responsible of WP2 on control, 2011–2013);
- ANR-ARROW national research project (responsible of WP3 on control, 2011–2015);
- Easy-ROV industrial contract on an underwater vehicle (participant, 2011–2012);
- EGID PHC-GALILIÉE French-Italian cooperation project (participant, 2011–2012);
- EVOM industrial contract on an automated wheelchair (scientific coordinator, 2010–2011);
- ANR-R2A2 national research project (participant, 2009–2013);
- PEPS Control of a CD Player for biology applications - CNRS (participant, 2007);
- ANR-SHERPA national research project (participant, 2007–2011);
- ANR-Objectif 100G national research project (participant, 2007–2010);
- ARAKNES European research project (participant, 2007–2010);
- AccuRobAs European research project (participant, 2006–2009);

Expert evaluator for :

- European Research Council (H2020, Brussels, Belgium);
- National Research Agency (ANR, France) ;
- National Association of Research and Technology (ANRT–CIFRE, France) ;
- 'Centre-Val de Loire' region Research projects (France) ;
- 'Pays de la Loire' region Program RFI Atlantic 2020 (France) ;
- National Science Center, (Poland).

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Organization or co-organisation of scientific events :

- The 2nd Summer School on *Parallel Kinematic Manipulators - PKM 2018*.
- The 2nd 'International Conference on Advanced Systems and Electrical Technologies' - IC_ASET 2018 (General Co-Chair).
- Workshop 'Thai-French Workshop on Industrial Robotics' - WIR 2017.
- Workshop 'Marine robotics' in European Robotics Forum - ERF 2016.
- Spring School on *Parallel Kinematic Manipulators - PKM 2016*.
- Workshop 'Marine robotics' in European Robotics Forum - ERF 2015.
- Workshop 'Recent advances in sensing, localization, and control for underwater robotics' in European Robotics Forum - ERF 2013.
- Invited session on predictive control at the conference CIFA 2010.
- Special issue on 'Advances in predictive control and moving horizon estimation', in JESA, 2012.

Education

PhD in automatic control and robotics

- Grenoble Institute of Technology (INPG), France.
- Thesis title : '*Some Contributions to nonlinear control of underactuated Biped walking robots*'.
- Advisors : Mazen Alamir and Antonio Loria.
- Committee : Didier Georges, Tarek Hamel, Nacer Kouider M'sirdi, Mazen Alamir, Antonio Loria, Christine Chevallereau.
- Qualification : 'Très honorable avec félicitations du jury.' (cum laudae).
- Grenoble, France, June 2005.

M.Sc. in automatic control

- Grenoble Institute of Technology (INPG), France.
- Thesis title : *Control of biped robots*.
- Advisor : Antonio Loria.
- Grenoble, France, September 2001.

Master in Electronic systems engineering

- Department of Electronics, University of Constantine.
- Thesis title : *A CMAC controller with online learning based on the estimation of the control error*.
- Advisor : Khaled Belarbi
- Qualification : 'Très honorable avec félicitations du jury.' (cum laudae).
- Constantine, Algeria, November 2000.

B.Sc. in Electronic Systems Engineering

- Department of Electronics, University of Constantine.
- Main project : *Design of a micro-controller for temperature regulation*.
- Advisor : Nora Mansouri.
- Constantine, Algeria, September 1998.

Work experience

Present position since 2010 :

- Researcher of 1st class at CNRS (National Center for Scientific Research).
- Tenure position.
- Montpellier Laboratory of computer science, robotics and microelectronics (LIRMM)
- Montpellier, France

November 2006-December 2009 :

- Researcher of 2nd class at CNRS
- Tenure position.
- Montpellier Laboratory of computer science, robotics and microelectronics (LIRMM)

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- Montpellier, France

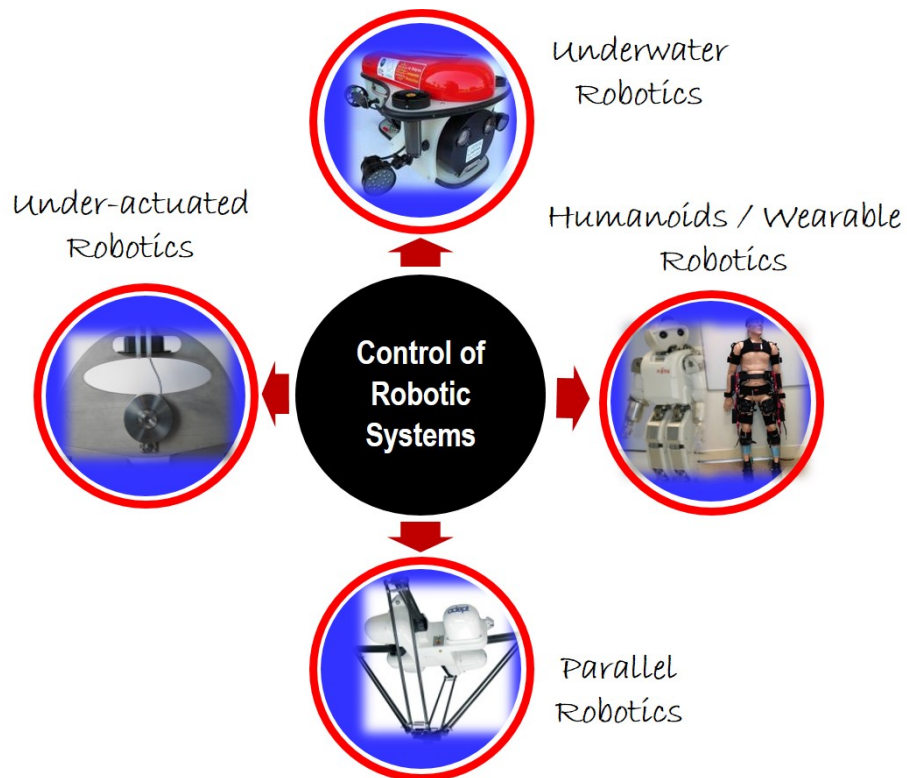
September 2005-August 2006 :

- Postdoctoral fellow researcher
- Laboratory of automatic control of Grenoble (LAG)
- Grenoble, France

September 2004-August 2005 :

- Research and teaching assistant (ATER)
- Laboratory of Signals and Systems (LSS)
- Paris, France

Research interests & applications



Students' supervision & committees' participation

Postdoctoral students :

1. Taavi Salumäe : 'Advanced control design for a biomimetic turtle-like underwater AUV for inspection applications', High Level Scientific Stay, Dec 2015 (1 month), LIRMM CNRS/UM2.
2. Moussab Bennehar : 'Nonlinear adaptive control of Parallel kinematic manipulators', Oct 2015 - April 2016 (6 months), LIRMM CNRS/UM2.
3. Nahla Khraief-Haddad : 'Passivity based control of underactuated mechanical systems', Dec 2013 - June 2014 (6 months), LIRMM CNRS/UM2.

PhD students :

1. *João C. Santos* : 'Control of a cable-driven parallel robot applied to the construction and maintenance of building facades' (with Marc Gouttefarde), ongoing (2017 – 2020), University of Montpellier, France.
2. *Ines Jammeli* : 'Human assistance based on a nonlinear model predictive control of a lower-limb exoskeleton' (with Samer Mohamed and Salwa Elloumi), ongoing (2017-2020), ENICARTHAGE, University LIRMM CNRS/University of Montpellier – 161 rue Ada, 34095 Montpellier Cedex 5, France

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of Carthage, Tunisia.

3. *Maxence Blond* : 'Control of an underwater vehicle with orientable propellers' (with Daniel Simon and Vincent Creuze), ongoing (2016-2019), CIFRE Industrial Contract thesis: LIRMM - University of Montpellier/Subsea Tech Company, France.
4. *Afef Hfaiedh* : 'Advanced Control of Underactuated Mechanical Systems' (with Afef Abdelkrim), ongoing (2016-2019), ENICARTHAGE, University of Carthage, Tunisia.
5. *Noussayba Ben Ali* : 'Teleoperated Control of a robotic hand for underwater manipulation' (with Afef Abdelkrim), ongoing (2016-2019), ENICARTHAGE, University of Carthage, Tunisia.
6. *Hussein Saied* : 'Control of extremely fast parallel robots' (with François Pierrot and Clovis Francis), ongoing (2016-2019), Joint thesis between University of Montpellier, France & Lebanese University, Lebanon.
7. *Boutheina Maalej* : 'Walking training with a robotized system for children suffering from cerebral palsy' (with Nabil Derbel), ongoing (2016 – 2019), University of Sfax, Tunisia.
8. *François Leborne* : 'Coordinated Control of Two Robotic Arms for Underwater Manipulation of Deformable Biological Specimens' (with Lorenzo Brignone and Vincent Creuze), ongoing (2015-2018), University of Montpellier/IFREMER, France.
9. *Moussab Bennehar* : 'Some contributions to nonlinear adaptive control of PKMs: From design to real-time experiments' (with François Pierrot), defended : 17 December 2015, actual position : Postdoctoral fellow, LIRMM - CNRS/University of Montpellier, France.
10. *David Galdeano* : 'Contribution to whole-body control of humanoid robots: From concept to real-time implementation' (with Philippe Fraise and Sébastien Krut), defended : 13 November 2014, actual position : Postdoctoral fellow, Joint Robotics Laboratory (JRL), Japan.
11. *Manel Taktak-Meziou* : 'Contribution to nonlinear control of the read/write head of a hard disc drive' (with Nabil Derbel and Jawhar Ghommam), University of Sfax, defended : 10 May 2014, actual position : Assistant professor, University of Kairouan, Tunisia.
12. *Sébastien Andary* : 'Contribution to the control of underactuated mechanical systems : from concept to real-time experiments' (with René Zapata), defended : 10 April 2014, actual position : Research Engineer at NaturalPad company, Montpellier, France.
13. *Divine Maalouf* : 'Contribution to nonlinear adaptive control of low inertia underwater robots' (with René Zapata and Vincent Creuze), defended : 22 November 2013, actual position : Research Engineer at Kietta company, Marseille, France.
14. *Guilhreme Sartori-Natal* : 'Control parallel robots : towards very high accelerations' (with François pierrot), defended: 26 November 2012, actual position : Research engineer at Universal Robots, Odense, Denmark.

Master students : The training periods/internships took place mainly at LIRMM CNRS/UM, Montpellier, France

1. Jedjiga Belmiloud : "Study and synthesis of a nonlinear scheme for dynamic control of a reconfigurable AUV, Student from University of Montpellier, Internship performed at IFREMER (with Lorenzo Brignone), La Seyne-sur-Mer, In progress.
2. Walid Remmas : 'High-Level Control of a Biomimetic Turtle-Like AUV based on Data-Fusion', Student from University of Montpellier, Internship performed at LIRMM - France and the center for Biorobotics (with Maarja Kruusmaa) - Estonia, In progress.
3. Weiyu Li : 'Calibration and Advanced Control for Dynamic Performances Improvement of PICKABLE Robot', Student from Université de Technologie de Compiègne, France, Internship in collaboration with Tecnalía - France, In progress.
4. Nadjah Roula : 'Assistive advanced control of a lower limb exoskeleton', Student from Lebanese university, Internship performed at Lebanese university (with Rany Rizk) - Lebanon, October 2017.
5. Oussama Yaakoubi : 'Modelling and control of a varying-payload marine vehicle', Student from University Claude Bernard - Lyon 1, France, Internship in collaboration with IADYS Company (with Nicolas Carlési), September 2017.
6. Walid Remmas : 'Advanced control of a bioinspired underwater vehicle', Student from Polytechnical School of Constantine, Algeria, July 2017.

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7. Sifan Wang : 'Control of an omnidirectional underwater robot for inspection tasks', Student from Université de Technologie de Compiègne, France, Internship in collaboration with Tecnelia France, February 2017.
8. Sonia Ghazzai : 'Teleoperation-based remote control of L2ROV underwater vehicle augmented with a manipulator for robust underwater grasping', Student from ENIT - University of Tunis EL Manar, Tunisia, July 2016.
9. Jihed Aloui : 'Advanced control of a lower limb exoskeleton', Student from ENICAR - University of Carthage, Tunisia, September 2016.
10. Wafa Mensi : 'Study and modelling of a human-exoskeleton system with the aim of developing an assistive controller', Student from INSAT - University of Carthage, Tunisia, September 2016.
11. Vatea Ropiteau : 'Human assistance and rehabilitation by adaptive control of a lower body wearable robot', Student from University Montpellier 2, France, September 2015.
12. Jyothsna Padmakumar Bindu : 'Hydrodynamic modelling and control of a flow sensing bioinspired fish-type underwater robot', Student from National Institute of Technology (NIT), Warangal, India, July 2015.
13. Chaimaa Mohamed-Hamroune : 'Predictive control of an underactuated mechatronique system : The inertia wheel inverted pendulum', Student from University of Montpellier, France, July 2015.
14. Nahla Tabti : 'Advanced control of the bio-inspired underwater robot U-CAT', Student from University of Montpellier, France, July 2015.
15. Mohamed-Sabri Ben Abdesslem : 'Adaptive functional assistance with a wearable robot of lower limbs', Student from École Supérieure de Technologie et d'Informatique (ESTI), Tunis, Tunisia, In progress.
16. Andrés Enriquez Cobo : 'IMU measurements in control of biped walking robots', Student from CINVESTAV, Mexico, June 2014.
17. Ana Lucia Maubecin : 'Trajectories generation and control of parallel robots for pick-and-place tasks', Student from University Montpellier 2, France, September 2014.
18. Lisa Simoussi : 'Trajectories generation for dynamic walking of a humanoid robot', Student from University Montpellier 2, France, September 2014.
19. Mahdi Abid : 'Advanced control of parallel robots for machining applications', Student from ENIT - University of Tunis EL Manar, Tunisia, September 2014.
20. Juan José Pena Martinez : 'Nonlinear robust control of underactuated mechanical systems : Real-time application to the inertia wheel inverted pendulum', Student from University of Vigo, Spain, June 2014.
21. Lovatiana Andriatsihoarana : 'Trajectories generation and control of a SCARA robot for laser cutting tasks', Student from University Montpellier 2, France, September 2013.
22. Shreeyash Uday Lalit : 'Control of a biped walking robot SHERPA', Student from IIT-Guwahati, India, July 2013.
23. Javier Grande Rodriguez : 'Sliding mode control of an underwater vehicle : Application to the modified AC-ROV', Student from University of Vigo, Spain, June 2013.
24. Meriem Zhioua : 'Trajectories generation and control of high speed, high precision parallel robots', Student from ENIT - University of Tunis EL Manar, Tunisia, September 2012.
25. Moussab Bennehar : 'From human walking to humanoid walking : trajectories generation and control', Student from University of Constantine, Algeria, September 2012.
26. Abdelmoumen Derbal : 'ZMP-based control architecture for SHERPA robot', Student from University of Constantine, Algeria, September 2011.
27. Khaoula Brahim : 'Analysis and modeling : From wheeled inverted pendulum to the automated wheelchair', Student from University Montpellier 2, France, April 2011.
28. Nahla Touati : 'Design of predictive/adaptive control strategies for the inertia wheel inverted pendulum', Student from ENISO - University of Sousse, Tunisia, September 2012.
29. Souhila Bacha : 'Design and implementation of a pattern generator for dynamic walking in humanoid robotics', Student from University Montpellier 2, France, September 2010.
30. David Galdeano : 'Trajectories generation for dynamic walking of SHEPRA biped robot', Student from University Montpellier 2, France, July 2010.
31. Rachid Bakhti : 'Control of parallel robot for pick-and-place tasks', Student from University Montpellier

- 2, France, July 2010.
32. Zeineb Zarrouk : 'Adaptive Force Feedback Control for 3D Compensation of Physiological Motion in Beating Heart Surgery', Student from INSAT - University of Carthage, Tunisia, June 2010.
 33. Nicolas Carlési : 'Control for the stabilization of periodic motions of a one-leg hopping robot', Student from University Montpellier 2, France, July 2008.
 34. Ines Douania : 'A predictive control design for stabilization of the inertia wheel inverted pendulum', Student from ENIG - University of Gabes, Tunisia, July 2008.
 35. Sébastien Le Floch : 'ZMP-based trajectories generation and control of SHERPA biped robot', Student from University Montpellier 2, France, June 2008.
 36. Sihem Mallek : 'Control of a CD player for biological data reading', Student from University Montpellier 2, France, July 2008.
 37. Sylvio Lavature : 'Discrete time control design for the stabilization of the ECP 505 inverted pendulum', Student from University Montpellier 2, France, July 2007.
 38. Nabil Haddad : 'Limit cycle generation in the control of the inertia wheel inverted pendulum', Student from University of Nice Sophia Antipolis, France, June 2007.

Other students (middle and high schools for short periods) :

1. Loïc Bullier : One-week observation training-period, Collège de l'Assomption, Montpellier – France, January 2018.
2. Marianne Robin : One-week observation training-period, Lycée Emile PEYTAVIN, Mende – France, June 2016.
3. Jules Viot : One-week observation training-period, Lycée Jean Jaurès, Saint-Clément-de-Rivière – France, June 2016.
4. Jean Soubielle : One-week observation training-period, Collège Jeu de Mail, Montpellier – France, December 2015.
5. Djibril Azib : One-week observation training-period, Collège Clémence Royer, Montpellier – France, December 2015.
6. Chaker El-Molghy : One-week observation training-period, Collège les Garrigues, Montpellier – France, January 2015.
7. Ahmed Mechid : One-week observation training-period, Collège la Providence, Montpellier – France, January 2015.
8. Linda Delimi : One-week observation training-period, Collège Camille Claudel, Montpellier – France, December 2014.
9. Houriya El-Ouadghiri : One-week observation training-period, Collège des Escoliers, Montpellier – France, December 2012.
10. Thomas Bouche : One-week observation training-period, Collège de l'Assomption, Montpellier – France, January 2009.
11. Jules Monoury : One-week observation training-period, Collège Louis Lumière, Echirrolles – France, March 2002.

Jury member in doctoral and habilitation committees :

- Examiner : Yassine Bouteraa, 'Control and robotics for assistive and rehabilitation applications', University of Sfax, Tunisia, 2017.
- Examiner : Benyamine Allouche, 'Modélisation et commande des robots : Nouvelles approches basées sur les modèles Takagi-Sugeno', University of Valenciennes, France, 2016.
- Examiner : Walid Hassani, 'Contribution to the modeling and assistive control of a lower member exoskeleton', University Paris Est Créteil, France, 2014.
- Examiner : Johann Lamaury, 'Contribution to the control of redundantly actuated cable-driven parallel robots', University of Montpellier 2, Montpellier, France, 2013.
- Examiner : Warody Lombardi, 'Constrained control for time-delay systems', SUPELEC, Paris, France, 2011.

Member of recruitment committees :

- MCU Chaire CNRS-University Henri-Poincaré, Nancy, France, 2009.

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Awards

- Finalist Best Automation Paper Award, IEEE ICRA'12, St Paul, Minnesota, USA, 2012.
- Best Master student in Automatic control at INPG - Grenoble, France, 2001.
- Best student in Electrical engineering, University of Mentouri - Constantine, Algeria, 1998.

Collaborations (National & International – Academia & Industry)



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International mobility

Visiting researcher/ professor at :

- Central Scientific Instruments Organisation, at Council of Scientific & Industrial Research (CSIR-CSIO), Chandigarh, India (1 week), September 2018.
- Department of Engineering Cybernetics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway (1 week), March 2018.
- Polytechnic University of Tulancingo, Tulancingo, Mexico (1 week), February 2018.
- EMAN group – Computer, Electrical and Mathematical Sciences & Engineering (CEMSE) division, King Abdullah University of Science and Technology (KAUST), Saudi Arabia (1 week), November 2017.
- Central Scientific Instruments Organisation, at Council of Scientific & Industrial Research (CSIR-CSIO), Chandigarh, India (1 week), December 2017.
- Process Modelling and Control Laboratory, China University of Petroleum, Qingdao, China (2 weeks), September 2017.
- Department of Mechanical Engineering, Chiang Mai University, Thailand (1 week), May 2017.
- School of Naval architecture and ocean engineering, Huazhong University of Science & Technology (HUST, one of TOP 10 Chinese universities), Wuhan, China (1 month), April 2017.
- Centre for Biorobotics, Tallinn University of Technology, Tallinn, Estonia (1 week), November 2016.
- School of automation and School of Naval architecture and ocean engineering, Huazhong University of Science & Technology, Wuhan, China (1 week), November 2016.
- Centre for Biorobotics, Tallinn University of Technology, Tallinn, Estonia (1 week), August 2016.
- École National d'Ingénieur de Tunis (ENIT Engineering school), University of Tunis El Manar, Tunisia (invited lecturer, 1 week), April 2016.
- Laboratoire de systèmes robotiques (LSRO), EPFL, Lausanne, Switzerland (1 week), January 2016.
- Centre for Biorobotics, Tallinn University of Technology, Tallinn, Estonia (1 week), November 2015.
- École National d'Ingénieur de Tunis (ENIT Engineering school), University of Tunis El Manar, Tunisia (invited lecturer, 1 week), September 2015.
- Centre for Biorobotics, Tallinn University of Technology, Tallinn, Estonia (1 week), June 2015.
- Centre for Autonomous Marine Operations and Systems (AMOS) and Engineering Cybernetics department, Norwegian University of Science and Technology (NTNU), Trondheim, Norway (1 week), May 2015.
- Centre for Biorobotics, Tallinn University of Technology, Tallinn, Estonia (1 week), October 2014.
- Laboratoire de systèmes robotiques (LSRO), EPFL, Lausanne, Switzerland (1 week), June 2014.
- École National d'Ingénieur de Tunis (ENIT Engineering school), University of Tunis El Manar, Tunisia (invited lecturer, 1 week), May 2014.
- Winter Enrichment Program (WEP), King Abdullah University of Science and Technology (KAUST), Saudi Arabia (1 week), January 2014.
- Laboratoire Franco-Mexicain d'Informatique et d'Automatique (LAFMIA) at CINVESTAV, Mexico-city, Mexico (1 week), November 2013.
- École National d'Ingénieur de Tunis (ENIT Engineering school), University of Tunis El Manar, Tunisia (invited lecturer, 1 week), April 2013.
- EMAN group – Computer, Electrical and Mathematical Sciences & Engineering (CEMSE) division, at King Abdullah University of Science and Technology (KAUST), Saudi Arabia (1 week), March 2013.
- École Supérieure de Technologie et d'Informatique (ESTI), Tunisia (invited lecturer, 1 week), May 2012.
- Laboratory of Locomotor Apparatus Bioengineering (LABLAB) at the University of Rome, Italy (1 week), November 2011.
- Laboratoire d'Automatique et de Robotique (LARC), Université de Contantine, Algeria (invited lecturer, 1 week), November 2011.

Invited plenaries and keynotes at international conferences :

- 'Control of Complex Robotic Systems: From Challenges to Experiments', at the 5th International Conference on Robotics and Computing (CIRC 2018), May 2–4th, 2018, Los Cabos, Mexico.
- 'Robotics Today: Research and Applications', at the 15th International Multi-Conference on Systems Signals and Devices (SSD 2018), March 19–22nd, 2018, Hammamet, Tunisia.

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- 'Control of Wearable Robotic Devices: Challenges, Design and Experiments', at the 2nd International Conference on Advanced Systems and Electrical Technologies (IC_ASET 2018), March 22–25th, 2018, Hammamet, Tunisia.
- 'Advanced Control of High-Speed Parallel Robots: From Challenges to Experiments', 10th International Research Conference (COINVEST 2018), February 12–16, 2018, Tulancingo, Mexico.
- 'Recent Advances in Robot Control: From Challenges to Real-Time Experiments', 2nd International Conference on Automatic Control, Telecommunication and Signals (ICATS 2017), December 11–12, 2017, Annaba, Algeria.
- 'Sensing and Control in Underwater Robotics: Challenges, Some Solutions and Experiments', KAUST - NSF Research Conference, November 6–8, 2017, Thuwal, Saudi Arabia.
- 'Control of High-Speed Parallel Robots for Automated Food Packaging', International Conference on Industrial Automation, Robotics and Control Engineering, October 20-22, 2017, Budapest, Hungary.
- 'Advanced Control of Complex Robotic Systems' at the 1st International Congress for the Advancement of Mechanism, Machine, Robotics and Mechatronics Sciences (ICAMMRMS 2017), October 17-19th, 2017, Beirut, Lebanon.
- 'Control of Complex Robotic Systems: Challenges, Design and Experiments' at the 22nd International Conference on Methods and Models in Automation and Robotics (MMAR 2017), August 28-31st, 2017, Miedzyzdroje, Poland.
- 'Recent Advances in Control of Robotic Systems' at the 14th International Multi-Conference on Systems Signals and Devices (SSD 2017), March 28-31st, 2017, Marrakech, Morocco.
- 'Control of Biomimetic Underwater Robots for Inspection Applications' at the International Conference on Advanced Systems and Electrical Technologies (IC_ASET 2017), January 14-17th, 2017, Hammamet, Tunisia.
- 'Control of Parallel Robots for Extremely Fast Operations' at the International Conference on Mechanical Design and Control Engineering (MDCE 2016), November 19-20th, 2016, Wuhan, China.
- 'From Challenges to Control Solutions in Underwater Robotics: Beyond the Lab Experiments' at the 12th International Multi-Conference on Systems Signals and Devices (SSD 2015), March 16-19th, 2015, Mehdia, Tunisia.
- 'Control of parallel robots: Towards very high accelerations' at 10th International Multi-Conference on Systems Signals and Devices (SSD 2013), March 18-21st 2013, Hammamet, Tunisia.
- 'Pattern generation and control of humanoid robots: Towards human-like walking' at the International Conference on Electrical Engineering and Control Applications (ICEECA 2012), November 20-22nd, 2012, Khenchela, Algeria.
- 'Control of underactuated mechanical systems for stabilization and limit cycle generation' at the International Conference on Electromechanical Engineering (ICEE 2012), November 20-22nd, 2012, Skikda, Algeria.

Invited seminars / guest lectures :

1. *Control of Complex Robotic Systems*, at Punjab Engineering College, Chandigarh, India, September 2018.
2. *Control of Complex Robotic Systems: Challenges, Design and Experiments*, at Laboratory of Informatics and Systems (LIS - UMR 7020), Aix Marseille University, France, May 2018.
3. *Control of Complex Robotic Systems*, at ENIT Engineering school, University of Tunis El Manar, Tunis, Tunisia, April 2018.
4. *Adaptive Control of Extremely-Fast Parallel Kinematic Manipulators*, at ENICarthage Engineering school, University of Carthage, Tunis, Tunisia, April 2018.
5. *Control of High-Speed Parallel Kinematic Manipulators*, at Department of Engineering Cybernetics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, March 2018.
6. *Advanced Control of Robotic Systems: Challenges, Design and Experiments*, at CINVESTAV, Mexico city, Mexico, February 2018.
7. *Advanced Control of Underwater Robots: From the Lab to the Sea*, at IRSEEM - ESIGELEC, Saint-Etienne-Du-Rouvray, France, January 2018.
8. *Walking Control: From Human to Humanoid and Augmented Human*, at Central Scientific Instruments LIRMM CNRS/University of Montpellier – 161 rue Ada, 34095 Montpellier Cedex 5, France

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- Organisation (CSIR-CSIO), Chandigarh - India, December, 2017.
9. *Robot Control: From Challenges to Real-Time Experiments*, at Indian Institute of Technology Ropar (IIT-Ropar), Ropar - India, December, 2017.
 10. *Control of Complex Robotic Systems: Design and Experiments*, at Centre for Biomedical Engineering, Indian Institute of Technology Delhi (IIT-Delhi), New Delhi - India, December, 2017.
 11. *Robotic Control Systems: Challenges, Design and Experiments*, at King Abdulah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, November 2017.
 12. *Robot Control: From Problems to Solutions*, at Faculty of Engineering - Lebanese University, Lebanon, October 2017.
 13. *Robotics Today: Stakes and Applications*, at Faculty of Engineering - Lebanese University, Lebanon, October 2017.
 14. *Advanced Control of Underwater Robots: From the Lab to the Sea*, at Faculty of Engineering - Lebanese University, Lebanon, October 2017.
 15. *Advanced Control of Robotic Systems: Challenges, Solutions and Experiments*, at Beirut Arab University, Lebanon, October 2017.
 16. *Recent Advances in Robot Control: Challenges, Design and Experiments*, at China University of Petroleum, Qingdao, China, September 2017.
 17. *Recent Advances in Control of Underwater Robots for Inspection Applications*, at China University of Petroleum, Qingdao, China, September 2017.
 18. *Robotics Today ...*, at China University of Petroleum, Qingdao, China, September 2017.
 19. *Marine Robot Control: Challenges, Some Solutions and Experiments*, at School of Naval Architecture and Ocean Engineering, Huazhong University of Science & Technology, Wuhan, China, April 2017.
 20. *Control of Complex Robotic Systems: From Concept to Real-Time Experiments*, at Digital Research Center of Sfax (CRNS) and at ENIS, Sfax, Tunisia, January 2017.
 21. *Robot Control: From concept to Real-Time Experiments*, at IRSEEM - ESIGELEC, Saint-Etienne-Du-Rouvray, France, December 2016.
 22. *Nonlinear Adaptive Control of Small Tethered Autonomous Underwater Vehicles*, at School of Naval Architecture and Ocean Engineering, Huazhong University of Science & Technology, Wuhan, China, November 2016.
 23. *Advanced Control of Biomimetic Underwater Vehicles U-CAT Case Study*, at School of Naval Architecture and Ocean Engineering, Huazhong University of Science & Technology, Wuhan, China, November 2016.
 24. *Robotic Systems: Challenges, Control Design, and Experiments*, at Process Modelling and Control Laboratory, College of Chemical Engineering, China University of Petroleum, Qingdao, China, November 2016.
 25. *Adaptive control: Design and real-time applications in robotics*, at LAMIH laboratory, Valenciennes, France, September 2016.
 26. *At the Heart of Robots Control: From Concept to Experimental Validation*, at Polytechnic School of Constantine, Algeria, April 2016.
 27. *Advanced Control of Mechatronic Systems*, at ULT (Université Libre de Tunis), Tunisia, April 2016.
 28. *Recent Advances in Control of Underwater Robots*, at ENIT Engineering school, University of Tunis El Manar, Tunisia, April 2016.
 29. *At the Heart of Control of Complex Robotic Systems*, at INSAT Engineering school, University of Carthage, Tunisia, April 2016.
 30. *Humanoid Robotics: Pattern Generation and Walking Control*, at École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, January 2016.
 31. *Advanced Control strategies: From Humanoids to Mobile Robotics*, at École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, January 2016.
 32. *Robots' Control: Challenges, Design and Real-Time Experiments*, at LAMIH laboratory, Valenciennes, France, January 2016.
 33. *Robotics and archeology: CORSAIRE Concept Project*, at Haapsalu museum, Haapsalu, Estonia, November 2015.

34. *Adaptive Control of Extremely Fast PKMs: From Concept to Real-Time Experiments*, STP GDR-MACS, Nantes, France, November 2015.
35. *New Advances in Control of Underwater Robots*, at INSAT Engineering school, University of Carthage, Tunisia, September 2015.
36. *At the Heart of Robots Control: From Concept to experimental validation*, at ENICATHAGE Engineering school, University of Carthage, Tunisia, September 2015.
37. *At the Heart of Robots Control: From Concept to experimental validation*, at ENIT Engineering school, University of Tunis El Manar, Tunisia, September 2015.
38. *Control of Underwater Vehicles: From Design to Real-time Experiments*, at Centre for Autonomous Marine Operations and Systems (AMOS), Norwegian University of Science and Technology (NTNU), Trondheim, Norway, May 2015.
39. *Complex Robotic Systems : Challenges, Control Design and Experiments*, at Laboratory of automatic control and Robotics (LARC), University of Constantine 1, Algeria, April 2015.
40. *Saturation based depth and yaw control of underwater vehicles*, GDR-ROB : GT2 Meeting at IFRMER, La Seyne-sur-Mer, France, April 2015.
41. *Advanced control of underwater vehicles: Beyond the Lab experiments*, GDR-ROB : GT2/GT6 Meeting at ISIR, Paris, France, November 2014.
42. *Foundations of control of robot manipulators*, in industry at SYMÉTRIE Company (for positioning and motion applications), Nîmes, France, November 2014.
43. *Advanced control of Parallel Kinematic Manipulators*, in industry at SYMÉTRIE Company (for positioning and motion applications), Nîmes, France, November 2014.
44. *Force control of robot manipulators in interaction*, in industry at SYMÉTRIE Company (for positioning and motion applications), Nîmes, France, November 2014.
45. *Control challenges of robotic systems: From design to real-time experiments*, at Center for Biorobotics, Tallinn University of Technology, Tallinn, Estonia, October 2014.
46. *Complex robotics systems: Challenges and some advanced control solutions*, at Faculty of information technology, Tallinn University of Technology, Tallinn, Estonia, October 2014.
47. *Pattern generation and control of humanoid robots: Towards human-like walking*, at École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, June 2014.
48. *Control challenges in underwater robotics*, at ENIT Engineering school, University of Tunis El Manar, Tunisia, May 2014.
49. *Challenges in automatic control of underwater vehicles for inspection applications*, at King Abdulaziz University (KAU), Jeddah, Saudi Arabia, January 2014.
50. *Control challenges and applications of underwater robots*, at King Abdulah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, January 2014.
51. *Adaptive control of underwater vehicles : From design to real-time experiments*, at LAFMIA - UMI CNRS 3175, Mexico city, Mexico, December 2013.
52. *Adaptive control of parallel robots for extremely fast packaging applications*, at LAFMIA - UMI CNRS 3175, Mexico city, Mexico, December 2013.
53. *Pattern generation and dynamic walking control in humanoid robotics*, at Departamento de Control Automático, CINVESTAV, Mexico city, Mexico, December 2013.
54. *Human-like pattern generation and dynamic walking control in humanoid robotics*, at University Paris-Est - Créteil, Paris, France, November 2013.
55. *Underwater robotics : Challenges and control solutions*, at Laboratory of automatic control and Robotics (LARC), University of Constantine 1, Algeria, October 2013.
56. *Compensation of Physiological Motions with a Force Feedback Control in Beating Heart Surgery*, at ENIT Engineering school, University El Manar, Tunis, Tunisia, April 2013.
57. *Control of humanoid robots for human-like dynamic walking*, at ENIT Engineering school, University El Manar, Tunis, Tunisia, April 2013.
58. *From stabilization to limit cycle generation in control of underactuated mechanical systems*, at INSAT Engineering school, University of Carthage, Tunis, Tunisia, March 2013.
59. *Nonlinear adaptive control of underwater vehicles*, at INSAT Engineering school, University of Carthage,

- Tunis, Tunisia, March 2013.
60. *Pattern generation and dynamic walking control of humanoid robots : Towards human-like walking*, at King Abdulah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, March 2013.
 61. *Adaptive control of underwater robots for inspection applications*, at King Abdulah University of Science and Technology (KAUST), Thuwal, Saudi Arabia, March 2013.
 62. *Parallel Robot with Adaptive Dynamic Accuracy (PRADA)*, at Workshop (IEEE/RSJ IROS 2012) TW9 : ECHORD - Scientific results and tech transfer opportunities, Vila Moura - Algarve, Portugal, October 2012.
 63. *Trajectory generation and control for dynamic walking in humanoid robotics*, at INSAT Engineering school, University of Carthage and Polytechnical School of Tunis, Tunisia, May 2012.
 64. *Control of Mechatronic systems : From theory to practice*, at ESTI and INSAT Engineering schools, University of Carthage, Tunisia, May 2012.
 65. *Automation of Mechatronic systems : From theory to practice*, at University Montpellier 2, France, January 2012.
 66. *Control of an underactuated mechanical system for stabilization and stable limit cycle generation: from simulation to real-time experiments*, at University of Rome "La Sapienza", Italy, November 2011.
 67. *Design of optimal pattern generators for stable dynamic walking in humanoid robotics*, at University of Rome, Laboratory of Locomotor Apparatus Bioengineering (LABLAB), Italy, November 2011.
 68. *Force Feedback Control for Compensation of Physiological Motions in Beating Heart Surgery*, at University of Constantine, Algeria, November 2011.

Scientific animation and responsibilities

Expert evaluator for :

- European Research Council (H2020, Brussels, Belgium);
- National Research Agency (ANR, France) ;
- National Association of Research and Technology (ANRT-CIFRE, France) ;
- 'Centre-Val de Loire' region Research projects (France) ;
- 'Pays de la Loire' region Program RFI Atlantic 2020 (France) ;
- National Science Center, (Poland).

Work group animation :

- Animator (with Dr Sorin Olaru) of the work group 'Nolinear Model Predictive Control' (GT-NMPC) of GDR-MACS (2007-2011);
- Animator of periodic seminars within DEXTER team at LIRMM (2009 – 2015);

IPC/TPC member in the following international conferences :

- The 1st Unmanned Vehicles Systems Conference (UVS-Oman 2019).
- The 11th IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles (CAMS 2018).
- The 6th International Conference on Control, Engineering and Information Technology (CEIT 2018).
- The 3rd International Conference on Electromechanical Engineering (ICEE 2018).
- The 15th International Multi-Conference on Systems, Signals and Devices (SSD 2018).
- The 2nd International Conference on Advanced Systems and Electrical Technologies (IC_ASET 2018).
- The 2nd International Conference on Automatic Control, Telecommunications and Signals (ICATS 2017).
- The 1st International Congress for the Advancement of Mechanism, Machine, Robotics and Mechatronics Sciences (ICAMMRMS 2017).
- 5th International Conference on Control, Engineering and Information Technology (CEIT 2017 - Advisory committee chairs).
- The 3rd International Conference on Electrical Engineering and Control Applications (ICEECA 2017).
- The 3rd International Conference of Engineering Sciences for Biology and Medicine (ESBM 2017).
- The 14th International Multi-Conference on Systems, Signals and Devices (SSD 2017).
- The 1st International Conference on Advanced Systems and Electrical Technologies (IC_ASET 2017).

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- The 1st International Congress for the Advancement of Mechanism, Machine, Robotics and Mechatronics Sciences (ICAMMRMS 2017).
- Colloquium of Applied Research and Technological Transfer (CRATT'17).
- The 4th International Conference on Control, Engineering and Information Technology (CEIT 2016 - Advisory committee chairs).
- The 7th IFAC Symposium on Mechatronic Systems & 15th Mechatronics Forum International Conference (Mechatronics 2016).
- 5th International Conference on Advances in Computing, Communications and Informatics (ICACCI 2016).
- International Conference on Mechanical Design and Control Engineering (MDCE 2016).
- The 13th International Multi-Conference on Systems, Signals and Devices (SSD 2016).
- Symposium on Embedded Systems, Robotics and Automation (ESRA'15) at CoCoNet 2015.
- International Symposium on Emerging Topics in Circuits and Systems (SET-CAS 2015).
- The 12th International Multi-Conference on Systems, Signals and Devices (SSD 2015).
- The 3rd International Conference on Control, Engineering and Information Technology (CEIT 2015).
- International Conference on Electro-Energy (ICEE 2014).
- The 2nd International Conference on Electrical Engineering and Control Applications (ICEECA 2014).
- The 11th International Multi-Conference on Systems, Signals and Devices (SSD 2014).
- The 10th International Multi-Conference on systems, signals and Devices (SSD 2013).
- International Conference on Electromechanical Engineering (ICEE 2012).
- Conférence Internationale Francophone d'Automatique (CIFA 2012).
- The 2nd International Conference on Information Processing and Electrical Engineering (ICIPEE 2012).
- IEEE/RAS-EMBS Int. Conf. on Biomedical Robotics and Biomechatronics (IEEE BIOROB 2010).

Peer-reviewing activities :

- For the following journals :
 - Transactions on Automatic Control (IEEE)
 - Transactions on Robotics (IEEE)
 - Journal of Oceanic Engineering (IEEE)
 - Robotics and Automation Letters (IEEE)
 - Transactions on Control Systems Technology (IEEE)
 - Transactions on Mechatronics (IEEE/ASME)
 - Control Systems Letters (IEEE)
 - Automatica (Elsevier)
 - Ocean Engineering (Elsevier)
 - International Journal of Control (Taylor & Francis)
 - International Journal of Robust and Nonlinear Control (John Wiley & Sons)
 - Robotics and Autonomous Systems (Elsevier)
 - Robotics and Computer Integrated Manufacturing (Elsevier)
 - Mechatronics (Elsevier)
 - Displays (Elsevier)
 - Mechanism and Machine Theory (Elsevier)
 - Journal of Mechanisms and Robotics (ASME)
 - Artificial Intelligence in Medicine (Elsevier)
 - Nonlinear Dynamics (Springer)
 - Electrical Engineering (Springer)
 - Journal of Intelligent and Robotics Systems (Springer)
 - International Journal of Fuzzy Systems (Springer)
 - Control Theory and Applications (IET)
 - International Journal of Advanced Robotic Systems (InTech)
 - Mathematical Problems in Engineering (Hindawi)
 - Aerospace Lab journal

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- Of some parts of the following books :
 - 'New Trends in Medical and Service Robots', under the series *Mechanisms and Machine Science*, Springer, 2014.
- And for the following international conferences :
 - IEEE Conference on Decision and Control CDC'06, CDC'07, CDC'09, CDC'11, CDC'12, CDC'13, CDC'14, CDC'15, CDC'16, CDC'17, CDC'18
 - European Control Conference ECC'11, ECC'14, ECC'15, ECC'16, ECC'18.
 - IEEE Multi-conference on Systems and Control MSC'08, MSC'09, MSC'13, MSC'14, MSC'15, MSC'16
 - American Control Conference ACC'08, ACC'09, ACC'10, ACC'12, ACC'13, ACC'14, ACC'16
 - IEEE International Conference on Automation Science and Engineering CASE'12, CASE'15
 - IEEE Conference on Control Technology and Applications CCTA'17, CCTA'18
 - IFAC World Congress IFAC-WC'08, IFAC-WC'11, IFAC-WC'14, IFAC-WC'17
 - IFAC Symposium on Robot Control SYROCO'15
 - IFAC Symposium on Nonlinear Control Systems NOLCOS'13
 - IFAC Conference on Nonlinear Model Predictive Control NMPC'18
 - IFAC International Workshop on Periodic Control Systems PSYCO'16
 - IEEE/RAS International Conference on Robotics and Automation ICRA'11, ICRA'12, ICRA'13, ICRA'14, ICRA'15, ICRA'16, ICRA'17, ICRA'18
 - IEEE/RSJ International Conference on Intelligent Robots and Systems IROS'08, IROS'09, IROS'10, IROS'11, IROS'12, IROS'13, IROS'14, IROS'15, IROS'16, IROS'18
 - IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechanics BioRob'10
 - IEEE International Conference on Advanced Intelligent Mechatronics AIM'16
 - Indian Control Conference ICC'18
 - International Conference of the IEEE Engineering in Medicine and Biology Society EMBC'10, EMBC'14, EMBC'15, EMBC'17
 - IEEE/RAS International Conference on Humanoid Robots Humanoids'10, Humanoids'12, Humanoids'14
 - International Multi-Conference on Systems, Signals and Devices SSD'13, SSD'14, SSD'15, SSD'16, SSD'18
 - International Conference on Advances in Computing, Communications and Informatics ICACCI'16
 - International Conference on Mechanical Design and Control Engineering (MDCE 2016).
 - International Conference on Control, Engineering and Information Technology CEIT'15
 - IFAC Symposium on System Structure and Control SSSC'13, SSSC'16
 - International Conference on Advanced Robotics ICAR'09, ICAR'11, ICAR'15
 - International Conference on Control, Automation, Robotics and Vision ICARCV'08, ICARCV'10, ICARCV'14
 - International Conference on Automatic Control, Telecommunications and Signals (ICATS 2017).
 - The 19th World Multi-Conference on Systemics, Cybernetics and Informatics WMSCI'15
 - IFAC International Symposium on Dynamics and Control of Process Systems, DYCOPS'10
 - Conférence Internationale Francophone d'Automatique CIFA'08, CIFA'10, CIFA'12
 - Mediterranean Conference on Control & Automation MED'14, MED'17
 - Middle East Conference on Biomedical Engineering MECBME'14
 - Vienna Conference on Mathematical Modeling MATHMOD'15
 - Mediterranean Green Energy Forum MGEF'15
 - The 3rd International Conference on Technological Advances in Electrical, Electronics and Computer Engineering TAECE'15
 - 15th ACS/IEEE International Conference on Computer Systems and Applications AICCSA'18
 - International Conference on Electrical Engineering and Control Applications ICEECA'12, ICEECA'14
 - International Conference on Electromechanical Engineering ICEE'12
 - International Conference on Information Processing and Electrical Engineering ICIPPE'12
 - IFAC workshop on Nonlinear Model Predictive Control for Fast Systems NMPC_FS'06
 - International Conference on Systems and Control ICSC'13
 - International Symposium on Emerging Topics in Circuits and Systems SET-CAS'15

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- Colloquium of Applied Research and Technological Transfer CRATT'17

Chairman or Co-chairman of the following sessions :

- Session 'SAC 4: Robotics I' at the 15th International Multi-Conference on Systems, Signals and Devices: SSD 2018.
- Session (Keynote KL-SAC-2) 'Dealing with nonlinearities in dynamic system, modelling, identification and control - Linear approaches' by Quanmin Zhu at SSD 2018.
- Session 'Robotics and Automation' at the 2nd International Conference on Advanced Systems and Electrical Technologies - IC_ASET 2018.
- Session Room 1 - Monday afternoon and session Room 2 - Tuesday morning at the 2nd International Conference on Automatic control, Telecommunication and Signals - ICATS 2017.
- Session B at Int. Conf. on Indust. Automation, Robotics and Control Eng. - IARCE 2017.
- Session 'Navigation systems' at MMAR 2017.
- Session SAC 8 'Industrial & practical Applications' at SSD 2017.
- Session 8 'Industrial Informatics & Robotics' at IC_ASET 2017.
- Session 11 'Industrial Informatics & Robotics' at IC_ASET 2017.
- Session (Plenary) 'Stabilization of time-varying and nonlinear systems with pointwise and distributed delays through the reduction of the model' by Frédéric Mazenc at International Multi-Conference on Systems, Signals and Devices: SSD 2015.
- Session (Keynote lecture) 'Control and optimization of distributed generation systems' by Magdi Mahmoud at SSD 2015.
- Session 'Robotic applications' at SSD 2015.
- Session 'Model predictive control' at SSD 2015.
- Session 'Maritime Control' at IEEE CDC 2013.
- Session 'Visual servoing and vision control application' at SSD 2013.
- Session 'Fault tolerant control and diagnosis theory' at SSD 2013.
- Session 'Automatic Robotic Industrial' at ICEECA 2012.
- Session 'Fault Tolerant Control and Sustainability' at ICEECA 2012.
- Session 'Oral session II' at ICEE 2012.
- Session 'Marine Robotics I' at IEEE/RSJ IROS 2012.
- Session 'Medical Robots and Systems' at IEEE/RSJ IROS 2010.
- Session 'Predictive Control' at CIFA 2010.
- Session 'Walking robots' at IEEE/RSJ IROS 2009.

Organization of scientific events :

- Co-organization of the second Summer School on *Parallel Kinematic Manipulators - PKM 2018*, <http://www.lirmm.fr/pkm-2018/>, 17-21 September 2018, La Grande Motte, France.
- General Co-Chair of *The 2nd International Conference on Advanced Systems and Electrical Technologies* - IC_ASET 2018, Hammamet, Tunisia, <http://aset.ieee.tn/>
- Co-organization of the Workshop '*Thai-French workshop on Industrial Robotics*' - WIR 2017, Chiang Mai, Thailand, <http://www.lirmm.fr/wir-2017/>
- Co-organization of the workshop '*Marine robotics*' in European Robotics Forum - ERF 2016, Ljubljana, Slovenia. <http://www.issia.cnr.it/workshop/erf16>, 23rd March 2016, Ljubljana, Slovenia.
- Co-organization of a Spring School on *Parallel Kinematic Manipulators - PKM 2016*, <http://www.lirmm.fr/pkm-2016/>, 14-18 March 2016, La Grande Motte, France.
- Co-organization of the workshop '*Marine robotics*' in European Robotics Forum - ERF 2015, <http://www.lirmm.fr/~creuze/ERF2015/>, 11th March 2015, Vienna, Austria.
- Co-organization of the workshop '*Recent advances in sensing, localization, and control for underwater robotics*' in European Robotics Forum - ERF 2013, <http://www.lirmm.fr/~creuze/ERF2013/>, 21st March 2013, Lyon, France.

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- Co-organization of an invited session on *Predictive control* at the conference CIFA 2010, Nancy, France.
- Special issue on 'Advances in predictive control and moving horizon estimation', in European Journal of Automation, Volume 46-n 2-3/2012.

Scientific popularization conferences (*'Vulgarisation scientifique'* in French):

- Conference of scientific popularization : *'The wonders of robotics'*, Lycée pilote de l'Ariana, Tunis, Tunisia, March the 26th, 2018.
- Conference of scientific popularization : *'A trip in the world of robotics'*, University Badji Mokhtar - Annaba, Algeria, December the 13th, 2017.
- Conference of scientific popularization : *'The wonders of robotics'*, Jean Vilar Engineering school, Villeneuve Lès Avignon, France, October the 9th, 2017.
- Conference of scientific popularization : *'Bioinspired Robotics: Stakes and Realizations'*, Arts Center of La-Grande-Motte, France, October the 3rd, 2017.
- Conference of scientific popularization : *'The wonders of robotics'*, In 'Tournoi National de Robotique', Milhaud, France, May 13th, 2017.
- Conference of scientific popularization : *'The wonders of robotics'*, Industry Village - IUT of Montpellier, Montpellier, France, March 20th, 2017.
- Conference of scientific popularization : *'At the heart of robotics'*, National Polytechnical School of Constantine, Constantine, Algeria, February 21st, 2017.
- Conference of scientific popularization : *'A trip in the world of robotics'*, UTT (Université du Tiers Temps), Montpellier, France, February 15th, 2017.
- Conference of scientific popularization : *'The wonders of robotics'*, Digital Research Center of Sfax, Tunisia, January 18th, 2017.
- Plenary of scientific popularization : *'The wonders of robotics'*, Astronomical Observatory of Aniane, France, October 15th, 2016.
- Plenary of scientific popularization : *'Explore the world of robotics'*, Campus 500 places, University of Constantine 1, Algeria, April the 26th, 2016.
- Plenary of scientific popularization : *'A trip in the world of robotics'*, Arts Center of La-Grande-Motte, France, March the 29th, 2016.
- Media report on France 3 channel in TV news, 17th of June 2016.
- Media report on ETV Estonia channel in TV news, 21st of November, 2015.



(Left) on FR3 French TV, (right) on ETV Estonian TV

Teaching activities

International Courses :

- 2017-2018 : - 'Robot control', College of Chemical Engineering, China University of Petroleum, Qingdao, China.
- Short course 'Motion control of marine vehicles', Computer, Electrical and Mathematical Sciences & Engineering Division, King Abdulah University of Science and Technology (KAUST), Saudi Arabia.
- One lecture in the Master course 'Modeling and control of robots (TTK4195)', Norwegian University

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- od Science and Technology (NTNU), Norway.
- Modelling and advanced control of robots, ENSIT Engineering school, University of Tunis, Tunisia.
- Advanced control of underwater robots, ENIT Engineering school, University of Tunis El Manar, Tunisia.
- o 2016-2017 : 'Modelling and motion control of marine vehicles', School of Naval architecture and ocean engineering, Huazhong University of Science & Technology (HUST), Wuhan, China.
- o 2015-2016 : 'Matlab/Simulink for scientific computing', STI Doctoral school, ENIT Engineering school, University El Manar, Tunisia.
 - 'Control of parallel kinematic manipulators, Short course in Spring School on Parallel kinamtic Manipulators (PKM 2016), Montpellier, France.
 - 'Humanoid robotics', STI Doctoral school, ENIT Engineering school, University El Manar, Tunisia.
- o 2013-2014 : 'Writing scientific documents with \LaTeX ', STI Doctoral school, ENIT Engineering school, University El Manar, Tunisia.
 - 'Control of Mechatronic Systems: From theory to real-time applications', in WEP 2014, King Abdulah University of Science and Technology (KAUST), Saudi Arabia.
- o 2012-2013 : 'Writing scientific documents with \LaTeX ', STI Doctoral school, ENIT Engineering school, University El Manar, Tunisia.
 - 'Introduction to control of robot manipulators', King Abdulah University of Science and Technology (KAUST), Saudi Arabia.
- o 2011-2012 : 'Advanced control in robotics', ESTI Engineering school, University of Carthage, Tunisia.
 - 'Control of robot manipulators', University of Constantine, Algeria.

Lectures and courses in France :

- o 2016-2017 : A teaching load of 30 hours in different courses: Robotics for mechatronics, Robotics for mobility assistance and rehabilitation.
- o 2015-2016 : A teaching load of 40 hours in different courses: Robotics for mobility assistance and rehabilitation, Matlab/Simulink (CNRS Formation).
- o 2014-2015 : A teaching load of 50 hours in different courses: Advanced control of Dynamical systems, control of robot manipulators, \LaTeX (CNRS Formation).
- o 2014-2015 : A teaching load of 63 hours in different courses and lab courses: linear algebra, control of robot manipulators, advanced control of Dynamic systems, \LaTeX .
- o 2013-2014 : A teaching load of 100 hours in different courses and lab courses: Linear control systems, linear algebra and probability, control of robot manipulators.
- o 2012-2013 : A teaching load of 90 hours in different courses: \LaTeX , control of robot manipulators, linear algebra and probability, automatic control;
- o 2011-2012 : A teaching load of 130 hours in different courses: \LaTeX , control of robot manipulators, linear algebra and probability, automatic control;
- o 2010-2011 : A teaching load of 80 hours in different courses: Linear systems, discrete time systems, advanced robotics, digital control;
- o 2009-2010 : A teaching load of 60 hours in different courses: Advanced robotics, dynamic modeling, scientific symbolic computation;
- o 2008-2009 : A teaching load of more than 70 hours in different courses: Advanced robotics, nonlinear control, dynamic modeling;
- o 2007-2008 : A teaching load of more than 60 hours in different Lab courses: Automatic control, advanced robotics, dynamic modeling, scientific symbolic computation;
- o 2006-2007 : A teaching load of more than 60 hours in different Lab courses: Automatic control, scientific symbolic computation;

List of publications

International journals :

- [J 1]. E. Campos, J. Monroy, H. Abundis, A. Chemori, V. Creuze, J. Torres, "A Nonlinear Controller Based on Saturation Functions With Variable Parameters to Stabilize an AUV", International Journal of Naval Architecture and Ocean Engineering, In press, 2018.

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- [J 2]. T. Salumäe, A. Chemori, and M. Kruusmaa, "Motion Control of a Hovering Biomimetic 4-fin Underwater Robot", *IEEE Journal of Oceanic Engineering*, to appear, 2018.
- [J 3]. N. Khraief-Haddad, A. Chemori and S. Belghith, "Robustness enhancing of IDA-PBC controller for stabilizing the inertia wheel inverted pendulum : Theory and real-time experiments", *International Journal of Control*, DOI 10.1080/00207179.2017.1331378, 2017.
- [J 4]. E. Campos, A. Chemori, V. Creuze, J. Torres, R. Lozano, "Saturation Based Nonlinear Depth and Yaw Control of Underwater Vehicles with Stability Analysis and Real-time Experiments", *Mechatronics (Elsevier)*, Vol 45, pp. 49-59, 2017.
- [J 5]. J. Ghommam and A. Chemori, "Adaptive RBFNN Finite-Time Control of Normal Forms for Underactuated Mechanical Systems", *Nonlinear Dynamics (Springer)*, DOI 10.1007/s11071-017-3662-3, 2017.
- [J 6]. N. Khraief-Haddad, S. Belghith, H. Gritli and A. Chemori, "From the Hopf-bifurcation to the control of limit cycles in underactuated mechanical systems", *International Journal of Bifurcation and Chaos*, Vol 27, Issue 07, DOI 10.1142/S0218127417501048, 2017.
- [J 7]. H. Gritli, N. Khraief-Haddad, A. Chemori and S. Belghith, "Self-generated limit cycle tracking of the underactuated inertia wheel inverted pendulum under IDA-PBC and subject to unilateral constraints", *Nonlinear Dynamics (Springer)*, DOI 10.1007/s11071-017-3578-y, 2017.
- [J 8]. M. Bennehar, A.Chemori, M. Bouri, L.F. Jenni and F. Pierrot, "A New RISE-based Adaptive Control of PKMs: Design, Stability Analysis and Experiments", *International Journal of Control*, DOI: 10.1080/00207179.2017.1286536, 2017.
- [J 9]. Y. Bensafia, S. Ladaci, K. Khettab and A. Chemori, "Fractional Model Reference Adaptive Control for SCARA Robot Trajectory Tracking", *International Journal of Industrial and Systems Engineering*, to appear, 2017.
- [J 10]. M. Bennehar, A.Chemori, F. Pierrot, "A New Revised Desired Compensation Adaptive Control for Enhanced Tracking: Application to RA-PKMs", *Advanced Robotics*, DOI: 10.1080/01691864.2016.1204248, July 2016.
- [J 11]. H. Truong Xuan, A. Chemori, T. Pham Anh, H. Le Xuan, T. Phan Hoai, P. Vu Viet, "From PID to L1 Adaptive Control for Automatic Balancing of a Spacecraft Three-axis Simulator", *International Journal of Emerging Technology and Advanced Engineering*, vol 6, Issue 1, pp. 77-86, January 2016.
- [J 12]. M. Bennehar, A.Chemori, F. Pierrot and V. Creuze, "Extended Model-Based Feedforward Compensation in L1 Adaptive Control for Mechanical Manipulators: Design and Experiments", *Frontiers in Robotics and AI - Robotic Control Systems*, vol 2, pp. 1-11, doi: 10.3389/frobt.2015.00032, December 2015.
- [J 13]. G. Sartori-Natal, A.Chemori and F. Pierrot, "Dual-Space Control of Extremely Fast Parallel Manipulators: Payload Changes and the 100G Experiment", *IEEE Transactions on Control Systems Technology*, Vol 23, Issue 4, pp. 1520-1535, 2015.
- [J 14]. D. Maalouf, A.Chemori and V. Creuze, "L1 Adaptive Depth and Pitch Control of an Underwater Vehicle with Real-Time Experiments", *Ocean Engineering (Elsevier)*, DOI: 10.1016/j.oceaneng.2015.02.002, pp. 66-77, 2015.
- [J 15]. M. Taktak-Meziou, A.Chemori, J. Ghommam and N. Derbel, "RISE Feedback with NN Feedforward Control of a Servo-Positioning System for Track Following in HDD", *Transactions on Systems, Signals and Devices*, Vol 10, N 1, pp. 1-23, 2015.
- [J 16]. M. Bennehar, A. Chemori, S. Krut and F. Pierrot, "Control of Redundantly Actuated PKMs for Closed-Shape Trajectories Tracking with Real-Time Experiments," *Transactions on Systems, Signals and Devices*, to appear, 2015.
- [J 17]. D. Maalouf, V. Creuze, A.Chemori, E. Campos, I. Torres Tamanja, J. Torres Munoz, R. Lozano and O. Tempier, "Real-time experimental comparison of two depth control schemes for underwater vehicles", *International Journal of Advanced Robotics Systems*, DOI: 10.5772/59185, pp. 1-15, 2015.
- [J 18]. D. Maalouf, V. Creuze, A. Chemori and O. Tempier, "Feedforward Inertial Actuation for Roll Stabilization of an Underactuated Underwater Vehicle", *International Journal of Robotics and Automation*, Vol. 30, N° 1, pp. 1-8, 2015.
- [J 19]. D. Galdeano, A.Chemori, S. Krut and P. Fraise, "Optimal Pattern Generator For Dynamic Walking in Humanoid Robotics", *Transactions on Systems, Signals and Devices*, Vol. 9, N° 1, pp. 117-142, 2014.
- [J 20]. M. Taktak-Meziou, A.Chemori, J. Ghommam and N. Derbel, "Linear and Nonlinear MPC for track following

in the design of HDD servo systems", *International Journal of Systems, Control and Communications*, Vol. 6, N° 1, pp. 20–47, 2014.

- [J 21]. G. Sartori Natal, A. Chemori and F. Pierrot, "Nonlinear Control of Parallel Manipulators for Very High Accelerations Without Velocity Measurement: Stability Analysis and Experiments on Par2 Parallel Manipulator", *Robotica*, DOI: 10.1017/S0263574714001246, pp. 1–28, 2014.
- [J 22]. S. Andary, A. Chemori and S. Krut "Control of the Underactuated Inertia Wheel Inverted Pendulum for Stable Limit Cycle Generation", *Advanced Robotics*, vol 23, N° 15, pp. 1999–2014, 2009
- [J 23]. A. Chemori and N. Marchand "A prediction based controller for stabilization of a non-minimum phase PVTOL aircraft", *International Journal of Robust and Nonlinear Control*, vol 18, N° 8, pp. 876–889, 2008.
- [J 24]. N. Marchand and A. Hably and A. Chemori, "Global stabilization with low computational cost of the discrete-time chain of integrators by means of bounded controls", *IEEE Transactions on Automatic Control*, vol 52, N° 5, pp. 948–952, 2007.
- [J 25]. G. Poulin and A. Chemori and N. Marchand, "Minimum energy oriented global stabilizing control of the PVTOL aircraft", *International journal of Control*, vol 80, N° 3, pp. 430–442, 2007.
- [J 26]. A. Chemori and M. Alamir "Multi-step limit cycle generation for Rabbit's walking based on a nonlinear low dimensional predictive control scheme", *Mechatronics (Elsevier)*, vol 16, pp. 259–277, 2006.
- [J 27]. A. Chemori and M. Alamir "Limit cycle generation for a class of nonlinear systems with jumps using a low dimensional predictive control", *International Journal of Control*, vol 78, N° 5, pp. 1206–1217, 2005.
- [J 28]. A. Chemori and A. Loria, "Control of a planar underactuated biped on a complete walking cycle", *IEEE Transactions on Automatic Control*, vol 49, N° 5, pp. 838–843, 2004.

Patents :

- [P 1]. F. Pierrot, A. Chemori and M. Michelin "Method of controlling a machine with redundant parallel actuation, associated control device and machine", Publication number : WO/2013/024227 A2, 21 February 2013.

Book chapters :

- [B 1]. H. Saied, A. Chemori, M. Michelin, M. El Rafei, C. Francis and F. Pierrot, "A Redundant Parallel Robotic Machining Tool: Design, Control and Real-Time Experiments", in *New developments and Advances in the Field of Robotics*, Springer, editors N. Derbel, J. Ghommam and Q. Zhu, to appear 2018.
- [B 2]. N. Roula, A. Chemori, R. Rizk and Y. Zaatar, "On Control Design for a Lower Limb Orthosis: A Comparative Study in Different Operating Conditions", in *Mechanism, Machine, Robotics and Mechatronics Sciences*, Springer, ISBN-13: 978-3319899107, ISBN-10: 3319899104, 2018
- [B 3]. N. Saied, A. Chemori, M. El Rafei, C. Francis, F. Pierrot, "From Non-model-Based to Model-Based Control of PKMs: A Comparative Study", in *Mechanism, Machine, Robotics and Mechatronics Sciences*, Springer, ISBN-13: 978-3319899107, ISBN-10: 3319899104, 2018
- [B 4]. A. Chemori, "Model-Free Control of the Inertia Wheel Inverted Pendulum with real-time Experiments", in *Inverted Pendulum: From Theory to New Innovations in Control and Robotics*, IET, ISBN: 978-1-78561-320-3, 2017.
- [B 5]. J. Ghommam, A. Chemori, F. Mnif, "Finite time stabilization of underactuated mechanical systems in the presence of uncertainties: Application to the cart pole inverted pendulum", in *Inverted Pendulum: From Theory to New Innovations in Control and Robotics*, IET, ISBN: 978-1-78561-320-3, 2017.
- [B 6]. M. Bennehar, A. Chemori, S. Krut, and F. Pierrot, "Adaptive control of parallel manipulators: Design and real-time experiments", in *Parallel Manipulators: Design, Applications and Dynamic Analysis*, Ed Nova Science Publishers - INC, ISBN: 978-1-63485-926-4, 2017.
- [B 7]. M. Taktak-Meziou, A. Chemori, J. Ghommam and N. Derbel, "Mechatronics of Hard Disk Drives: RISE Feedback Track Following Control of a R/W Head", in *Mechatronics: Principles, Technologies and Applications*, Ed Nova Science Publishers - Inc, ISBN: 978-1-63482-854-3, 2015.
- [B 8]. N. Marchand and A. Chemori and G. Poulin, "Approches prédictives pour la stabilisation en temps discret

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20/25

de l'avion planaire à décollage vertical", dans 'Objets Volants Miniatures - Modélisation Et Commande Embarquée', Rogelio Lozano, Ed Hermes, ISBN: 9782746214668, 2007.

International conferences :

- [IC 1]. Hussein Saied, Ahmed Chemori, Maher El Rafei, Clovis Francis and Francois Pierrot, "Actuator and Friction Dynamics Formulation in Control of PKMs: From Design to Real-Time Experiments", IEEE/RSJ IROS'18, Madrid, Spain, 2018.
- [IC 2]. F. Leborne, V. Creuze, A. Chemori and L. Brignone, "Dynamic Modeling and Identification of an Heterogeneously Actuated Underwater Manipulator Arm", IEEE ICRA'18, Brisbane, Queensland - Australia, 2018.
- [IC 3]. M. Bennehar, G. Elghazaly, A. Chemori, F. Pierrot, "A Novel Adaptive Terminal Sliding Mode Control for Parallel Manipulators: Design and Real-Time Experiments", IEEE ICRA'17, Singapore, 2017.
- [IC 4]. A. Chemori, "Control of Complex Robotic Systems: Challenges, Design and Experiments", 22nd Int. Conf. on Methods and Models in Automation and Robotics (MMAR'17), invited paper, Miedzyzdroje, Poland, 2017.
- [IC 5]. L. Barhoumi, I. Saïdi, A. Chemori and D. Soudani, "PID Controller Tuning Using Genetic Algorithms for Uncertain Systems with Delay", The 5th International Conference on Control & Signal Processing (CSP 2017), Kairouan, Tunisia.
- [IC 6]. H. Saied, A. Chemori, M. El Rafei, C. Francis, F. Pierrot, "From Non-Model-Based to Model-Based Control of PKMs: A Comparative Study", First International Congress for the Advancement of Mechanism, Machine, Robotics and Mechatronics Sciences (ICAMMRMS'17), Beirut, Lebanon, 2017.
- [IC 7]. N. Roula, A. Chemori, R. Rizk, Y. Zaatari, "On control design for a lower limb orthosis: A comparative study in different operating conditions", First International Congress for the Advancement of Mechanism, Machine, Robotics and Mechatronics Sciences (ICAMMRMS'17), Beirut, Lebanon, 2017.
- [IC 8]. T. Salumae, A. Chemori and M. Kruusmaa, "Motion control architecture of a 4-fin U-CAT AUV using DOF prioritizations", IEEE/RSJ IROS'16, Daejeon, Korea, 2016.
- [IC 9]. H. Rifai, M-S. Ben Abdesslem, A. Chemori, S. Mohammed and Y. Amirat, "Augmented L1 Adaptive Control of an Actuated Knee Joint Exoskeleton: From Design to Real-Time Experiments", IEEE ICRA'16, Stockholm, Sweden, 2016.
- [IC 10]. A. Chemori, K. Kuusmik, T. Salumae and M. Kruusmaa, "Depth Control of the Biomimetic U-CAT Turtle-Like AUV With Experiments in Real Operating Conditions", IEEE ICRA'16, Stockholm, Sweden, 2016.
- [IC 11]. C. Zayane-Aïssa, T. M. Laleg and A. Chemori, "Control of a Perturbed underactuated Mechanical System", IEEE Multi-Conference on Systems and Control - IEEE MSC'15, Sydney, Australia, 2015.
- [IC 12]. M. Bennehar, A. Chemori, F. Pierrot, "L1 Adaptive Control of Parallel Kinematic Manipulators: Design and Real-Time Experiments", IEEE ICRA'15, Washington, USA, 2015.
- [IC 13]. N. Khraïef-Haddad, A. Chemori, J. J. Pena and S. Belghith, "Stabilization of Inertia Wheel Inverted Pendulum by Model Reference Adaptive IDA-PBC : From simulation to real-time experiments", 3rd International Conference on Control, Engineering and Information Technology - CEIT'15, Tlemcen, Algeria, 2015.
- [IC 14]. Y. Miladi, A. Chemori and M. Feki, "The compass-like biped robot revisited: Nonlinear control of the disturbed passive dynamic walking", Multi-Conference on Systems, Signals and Devices - SSD'15, Mahdia, Tunisia, 2015.
- [IC 15]. M. Taktak, A. Chemori, J. Ghommam and N. Derbel, "A Prediction-Based Optimal Gain Selection in RISE Feedback Control for Hard Disc Drives", IEEE Multi-Conference on Systems and Control - IEEE MSC'14, Antibes, France, 2014.
- [IC 16]. N. Khraïef, A. Chemori and S. Belghith, "External Disturbance Rejection in IDA-PBC Controller for Underactuated Mechanical Systems: From Theory to Real-Time Experiments", IEEE Multi-Conference on Systems and Control - IEEE MSC'14, Antibes, France, 2014.
- [IC 17]. M. Bennehar, A. Chemori, and F. Pierrot, "A Novel RISE-Based Adaptive Feedforward Controller for Redundantly Actuated Parallel Manipulators", IEEE/RSJ IROS'14, Chicago, Illinois, USA, 2014.

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- [IC 18]. M. Bennehar, A. Chemori, and F. Pierrot, "A New Extension of Direct Compensation Adaptive Control and its Real-Time Application to Redundantly Actuated PKMs", IEEE/RSJ IROS'14, Chicago, Illinois, USA, 2014.
- [IC 19]. D. Galdeano, A. Chemori, S. Krut and P. Fraitse, "A nonlinear PID stabilizer with spherical projection for Humanoids: From concept to real-time experiments" 14th IEEE/RAS Humanoids'14, Madrid, Spain, 2014.
- [IC 20]. M. Bennehar, A. Chemori, S. Krut and F. Pierrot, "Continuous Closed-Form Trajectories Generation and Control of Redundantly Actuated Parallel Kinematic Manipulators", Multi-Conference on Systems, Signals and Devices - SSD'14, Barcelona, Spain, 2014.
- [IC 21]. M. Taktak, A. Chemori, J. Ghommam and N. Derbel, "RISE Feedback Control for a R/W Head Track following in Hard Disk Drives", Multi-Conference on Systems, Signals and Devices - SSD'14, Barcelona, Spain, 2014.
- [IC 22]. D. Galdeano, A. Chemori, S. Krut and P. Fraitse, "Task-based whole body control of humanoid robots with ZMP regulation, real-time application to a squat-like motion", Multi-Conference on Systems, Signals and Devices - SSD'14, Barcelona, Spain, 2014.
- [IC 23]. F. Abdelhedi, Y. Bouteraa, A. Chemori and N. Derbel, "Nonlinear PID and Feedforward control of a robotic manipulator" 15th International Conference on Sciences and Techniques of Automatic control and computer engineering - STA'14, Hammamet, Tunisia, 2014.
- [IC 24]. D. Maalouf, A. Chemori and V. Creuze, "Stability analysis of a new extended L1 controller with experimental validation on an underwater vehicle", IEEE CDC'13, Florence, Italy, 2013.
- [IC 25]. M. Taktak, A. Chemori, J. Ghommam and N. Derbel, "Track Following Using Nonlinear Model Predictive Control in Hard Disk Drives", IEEE/RSJ IROS'13, Tokyo, Japan, 2013.
- [IC 26]. J. Lamaury, M. Gouttefarde, A. Chemori and P-E. Herve, "Dual-Space Adaptive Control of Redundantly actuated Cable-Driven Parallel Robots", IEEE/RSJ IROS'13, Tokyo, Japan, 2013.
- [IC 27]. D. Maalouf, A. Chemori and V. Creuze, "A new extension of the L1 adaptive controller to drastically reduce time lags", 9th IFAC Symposium on Nonlinear Control Systems (NOLCOS'13), Toulouse, France, 2013.
- [IC 28]. Z. Zarrouk, A. Chemori and P. Poignet, "Force Feedback Control for Compensation of Physiological Motions in Beating Heart Surgery with real-time experiments", The third International Conference on Systems and Control (ICSC'13), Algiers, Algeria, 2013.
- [IC 29]. M. Taktak, A. Chemori, J. Ghommam and N. Derbel, "Model Predictive Tracking Control for Head-Positioning in a Hard Drive-Disk Drive", 21st Mediterranean Conference on Control and Automation (MED'13), Crete, Greece, 2013.
- [IC 30]. N. Touati and A. Chemori, "Predictive Control for the Stabilization of a Fast Mechatronic System: From Simulation to Real-time Experiments", International IFAC Symposium on Mechatronic Systems (Mechatronics'13), pp. 237-242, Hangzhou, China, 2013.
- [IC 31]. A. Chemori, G. Sartori-Natal and F. Pierrot, "Control of Parallel robots: Towards Very High Accelerations", Multi-Conference on Systems, Signals and Devices (SSD'13), invited paper, Hammamet, Tunisia, 2013.
- [IC 32]. D. Galdeano, A. Chemori, S. Krut and P. Fraitse, "Optimal Pattern Generator For Dynamic Walking in Humanoid Robotics", Multi-Conference on Systems, Signals and Devices (SSD'13), Hammamet, Tunisia, 2013.
- [IC 33]. D. Maalouf, I. Tamanaja, E. Campos, A. Chemori, V. Creuze, J. Torres and R. Lozano, "From PD to Nonlinear Adaptive Depth-Control of a Tethered Autonomous Underwater Vehicle" IFAC joint conference: SSSC'13, TDS'13, FDA'13, Grenoble, France, 2013.
- [IC 34]. D. Maalouf, V. Creuze and A. Chemori, "A Novel Application of Multivariable L1 Adaptive Control: From Design to Real-Time Implementation on an Underwater vehicle" IEEE/RSJ IROS'12, Algarve, Portugal, 2012
- [IC 35]. S. Andary, A. Chemori, M. Benoit, J. Sallantin, "A Dual Model-free Control of Underactuated Mechanical Systems, Application to the Inertia Wheel Inverted Pendulum" American Control Conference (ACC'12), Montréal, Canada, 2012
- [IC 36]. D. Galdeano, V. Bonnet, M. Bennehar, P. Fraitse and A. Chemori, "Partial Human Data in Design of Human-Like Walking control in Humanoid Robotics" International IFAC Symposium on Robot Control

- (SYROCO'12), Dubrovnik, Croatia, 2012
- [IC 37]. D. Maalouf, V. Creuz and A. Chemori, "State Feedback Control of an Underwater Vehicle for wall following" 20th Mediterranean Conference on Control and Automation (MED'12), Barcelona, Spain, 2012
- [IC 38]. D. Maalouf, A. Chemori and V. Creuze, "L1 Adaptive Control for Small Underwater Vehicles" International Conference on Underwater Remote Sensing - ICOURS'12, Brest, France, 2012.
- [IC 39]. G. Sartori-Natal, A. Chemori, and F. Pierrot, "Dual-space adaptive control of a redundantly actuated parallel Manipulators for extremely fast operations with load changes" IEEE ICRA'12, St Paul, Minnesota, USA, (Finalist Best Automation Paper Award), 2012
- [IC 40]. G. Sartori-Natal, A. Chemori, M. Michelin and F. Pierrot, "Dual-Space Control of a Redundantly Actuated Parallel Manipulator for Very High Speed Applications" IFAC Conference on Advances in PID Control (PID'12), Brescia, Italy, 2012
- [IC 41]. S. Andary, A. Chemori, "A dual Model-free control of non-minimum phase systems for generation of stable limit cycles" IEEE CDC-ECC'11, Orlando, FL USA, 2011.
- [IC 42]. Z. Zarrouk, A. Chemori and P. Poignet, "Adaptive Force Feedback Control for 3D Compensation of Physiological Motion in Beating Heart Surgery" IEEE/RSJ IROS'10, Taipei, Taiwan, 2010.
- [IC 43]. G. Sartori-Natal, A. Chemori, F. Pierrot and O. Company, "An Experimental Comparison of State Observers for the Control of a Parallel Manipulator Without Velocity Measurements" IEEE/RSJ IROS'10, Taipei, Taiwan, 2010.
- [IC 44]. N. Carlesi and A. Chemori, "Nonlinear Model Predictive Running Control of Kangaroo Robot : A One-Leg Planar Underactuated Hopping Robot" IEEE/RSJ IROS'10, Taipei, Taiwan, 2010.
- [IC 45]. A. Chemori, S. Le Floch, S. Krut and E. Dombre, "A Control Architecture With Stabilizer For 3D Stable Dynamic Walking of SHERPA Biped Robot on Compliant Ground" IEEE-RAS Humanoids'10, Nashville, TN, USA, 2010.
- [IC 46]. G. Sartori-Natal, A. Chemori, F. Pierrot, O. Company, "Control of parallel manipulators for very high accelerations : the mechanical vibrations issue " 11th Pan-American Congress of Applied Mechanics, PACAM XI, Foz do Iguaçu, PR, Brazil, 2010.
- [IC 47]. A. Chemori "A discrete-time control strategy for dynamic walking of a planar underactuated biped robot" IEEE/RSJ IROS'09, St-Louis, MO, USA, 2009
- [IC 48]. S. Andary, A. Chemori, S. Krut "Estimation-based Disturbance Rejection in Control for Limit Cycle Generation on Inertia wheel Inverted Pendulum Testbed" IEEE/RSJ IROS'09, St-Louis, MO, USA, 2009
- [IC 49]. G. Sartori-Natal, A. Chemori, F. Pierrot, O. Company "Nonlinear Dual Mode Adaptive Control of PAR2 : a 2-dof Planar Parallel Manipulator, with Real-time Experiments" IEEE/RSJ IROS'09, St-Louis, MO, USA, 2009
- [IC 50]. P. Poignet, A. Chemori, N. Zemiti, C. Liu "Some control-related issues in mini-robotics for endoluminal surgery" IEEE EMBC'09, Mineapolis, MN, USA, 2009.
- [IC 51]. S. Andary, A. Chemori and S. Krut "Stable Limit Cycle Generation for Underactuated Mechanical Systems, Application: Inertia Wheel Inverted Pendulum" IEEE/RSJ IROS'08, Nice, France, 2008
- [IC 52]. M. Bachelier, A. Chemori, S. Krut "A Control Law for Energy Efficient and Human Like Walking Biped Robot SHERPA Based on a Control and a Ballistic Phase - Application on the Cart-Table Model" IEEE/RAS Humanoids'08, Daejeon, Korea, 2008
- [IC 53]. A.Chemori and N. Marchand "Global discrete time stabilization of the PVTOL aircraft based on a fast predictive controller", 17th IFAC World Congress, Seoul, République de Corée, 2008.
- [IC 54]. A.Chemori and N. Marchand "A prediction based controller for stabilization of a non-minimum phase PVTOL aircraft", NMPC-FS'06 (IFAC workshop on Nonlinear Model Predictive Control for Fast System), Grenoble, France, 2006.
- [IC 55]. A.Chemori and M. Almir "A new low dimensional nonlinear predictive control scheme for Rabbit's dynamic walking control", HLR'04, Metz , France, 2004.
- [IC 56]. A.Chemori and M. Almir "Generation of Multi-steps limit cycles for Rabbit using a low dimensional nonlinear predictive control scheme", IEEE/RSJ IROS 2004, Sendai, Japan, 2004.
- [IC 57]. A.Chemori and M. Almir "Low dimensional predictive control scheme for limit cycle generation in nonlinear hybrid controlled systems", CCCT'04, Texas, USA, 2004.

- [IC 58]. A.Chemori and M. Alamir "Nonlinear Predictive Control of Underactuated Mechanical Systems, Application: the ECP 505 inverted pendulum", MTNS'04, Leven, Belgique, 2004.
- [IC 59]. A.Chemori and A. Loria, "Walking control strategy for a planar underactuated biped robot based on optimal reference trajectories and partial feedback linearization", RoMoCo'04, Puszczkowo, Poland, 2004.
- [IC 60]. A. Chemori and A. Loria , "Control of a 7-degrees-of-freedom biped on a complete walking cycle", in Advanced problems in mechanics, St. Petersburg, Russia, 2003.
- [IC 61]. A.Chemori and A. Loria, "Control of a planar five link underactuated biped robot on a complete walking cycle", IEEE CDC'02, pp. 2056-2061, Las vegas-Nevada, USA, 2002.
- [IC 62]. A.Chemori and A. Loria, "Commande d'un robot bipède sur un cycle complet de marche", CIFA'02, pp. 840-845, Nantes, France, 2002.

French conferences :

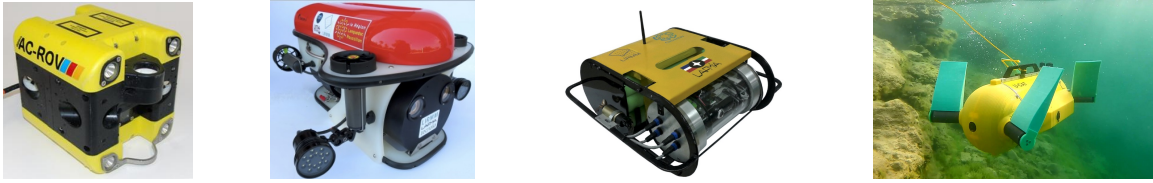
- [FC 1]. K. Brahim, A. Chemori, and C. Desvaux de Marigny, "FreeMove : Un fauteuil roulant de nouvelle génération", Handicap 2014 - 8ème édition, Paris, France, 2014.
- [FC 2]. A. Chemori, S. Krut and N. Touati, "Le pendule inversé stabilisé par volant d'inertie, un système non linéaire sous actionné" 3ème Journées Démonstrateurs en Automatique (Démonstrateur'10), Angers, France, 2010.
- [FC 3]. S. Krut, A. Chemori et al., "Sherpa, un robot marcheur bipède à actionnement réversible" 3ème Journées Démonstrateurs en Automatique (Démonstrateur'10), Angers, France, 2010.

Papers are available upon request on ResearchGate :

https://www.researchgate.net/profile/Ahmed_Chemori

Experimental setups for real-time validation of control schemes

Underwater robots :



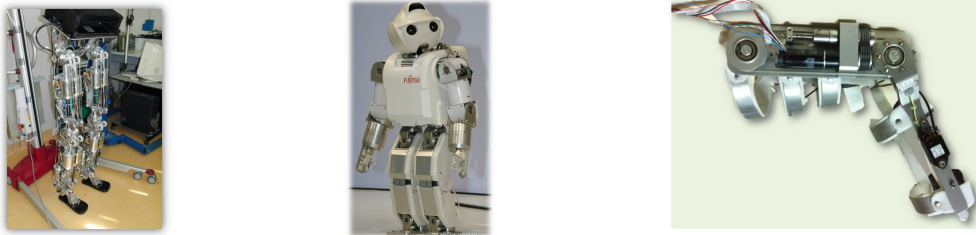
From left to right : AC-ROV, L2ROV (at LIRMM), LIRMIA2 (at LAFMIA, Mexico) and U-CAT(at Centre for Biorobotics - TUT, Estonia) underwater vehicles.

Parallel Kinematic Manipulators (PKMs) :



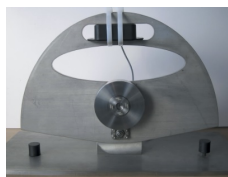
From left to right : PAR2, VELOCE, DUAL-V, R4, ARROW (at LIRMM), and DELTA (at EPFL, Switzerland) PKMs.

Humanoid robots and exoskeletons :



From left to right : SHERPA and HOAP3 (at LIRMM) humanoid robots, and EICOSI (at LISSI - UPEC, France) exoskeleton.

Underactuated mechanical systems :



Inertia wheel inverted pendulum.

Videos of experiments are available on 'Robot Control' YouTube Channel at the link :

https://www.youtube.com/channel/UC870Se7GH9x3xm0_GFRA10g

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