

**Erika** Ottaviano

CONTACT

# WORK EXPERIENCE

### APR 2014 - CURRENT

**Member** IFToMM Commission of Computational Kinematics

## FEB 2009 - MAR 2017

# Secretary

IFToMM Commission of Computational Kinematics Cassino, Italy

### 1 MAR 2002 - CURRENT - Cassino, Italy

## **Assistant professor**

DICeM - Department of Civil and Mechanical Engineering, University of Cassino and Southern Lazio

Cassino, Italy

## APR 2016 - CURRENT

# Member of the Editorial Board

International Journal of Advanced Robotic Systems, INTECH Open Access Publisher

## 2011 - CURRENT

# Editor

International Journal of Imaging and Robotics (IJIR) (ISSN 2231-525X)

# SEP 2013

# Member

Scientific World Journal, Hindawi Publishing Corporation, Mechanical Engineering

# SEP 2016

# Editor

American Journal of Engineering and Applied Sciences, Science Publications.

# 6 FEB 2012 - CURRENT

**National Scientific Habilitation as Associate Professor** MIUR

### DEC 2018 - CURRENT - Cassino, Italy

**ERASMUS Departmental Coordinator** University of Cassino and Southern Lazio

# 2018 - 2019

# **Book editor**

"Mechatronics for Cultural Heritage and Civil Engineering (86726336)", Springer

#### FEB 2015

#### **Associate Editor - Mechatronics**

Journal of Applied Sciences, Acta Polytechnica Hungarica

#### JAN 2019 - CURRENT

### **Associate Editor - Medical Robotics**

International Journal of Advanced Robotic Systems (IJARS)

#### JAN 2010 - JAN 2015 - Cassino, Italy

#### Member

Scientific Committee for the University Research and Development Center for Disabled People (CUDARI

Cassino, Italy

# LANGUAGE SKILLS

MOTHER TONGUE(S): Italian

**OTHER LANGUAGE(S):** 

English

Listening C2	Reading C2	Spoken production C1	Spoken interaction C1	Writing C2
Spanish				
Listening A2	Reading B1	Spoken production	Spoken interaction	Writing A2

B1

**B1** 

# EDUCATION AND TRAINING

1 NOV 1998 - 9 OCT 2001 - Cassino, Italy

### Ph.D. in Civil and Industrial Engineering

University of Cassino and Southern Lazio

Ph.D. thesis titled "Progettazione ottimizzata di manipolatori paralleli" (Optimal Design of Parallel Manipulators) on February 28, 2002.

EQF level 8

#### 1 NOV 1995 - 14 NOV 2002 - Cassino, Italy

### **Mechanical Engineering Degree**

University of Cassino

Mechanical engineer degree cum laude at the University of Cassino by discussing the thesis "Experimental Determination of Robot Workspace by Using a Laser Tracking System" developed at Laboratory of Robotics and Mechatronic of University of Cassino also with Socrates-Erasmus grant in A.Y. 1997-98.

EQF level 8

# COMMUNICATION AND INTERPERSONAL SKILLS

## Communication and interpersonal skills

Good communication skills gained through experience as research conference partecipation, international research activity, lectures and international joint research projects.

She served as Member of the Program Committee of the International Conference Controlo 2016, 12th Portuguese Conference on Automatic Control, June 14-16 2016.

She served as Program Committee member for the International conferences: CK 2013, ICEBE 2014.

She served as Associate Editor for the International Conference IEEE/RSJ IROS2011 "IEEE/RSJ International Conference on Intelligent and Robots Systems", held in San Francisco on Sept. 25-30, 2011.

She was member of the Organizing Committee of the International Conference IEEE/RSJ IROS2008 "IEEE/RSJ International Conference on Intelligent and Robots Systems", held in Nice on Sept. 22-26, 2008. In particular, as Chair of Special Events she organized a round table on "Robots in human environment".

She organized the meeting "Women in Mechanism and Machine Science: Status and Perspectives" during the IFToMM World Congress a Besancon, France, on June 19, 2007.

She was co-Chair for the Local Committee of the International Conference CK2005 "Computational Kinematics", held in Cassino on May 3-6 2005.

She was member of Local Committee of the International Congresses RAAD03 "Robotics in Alpe-Adria- Danube Region", held in Cassino in May 7-10 2003, and HMM04 "International Symposium on History of Machines and Mechanisms ", held in Cassino in May 12-15 2004.

Reviewer for the of several indexed Journals, as: Journal of Bionic Engineering; Future Generation Computer Systems; Gait and Posture Information Sciences; Mechatronics; Mechanism and Machine Theory; Mechanics Research Communications; Robotics and Computer Integrated Manufacturing; Robotics and Autonomous Systems; Robotics and Autonomous Systems;

# JOB-RELATED SKILLS

# Job-related skills

Excellent abilities obtained during working and collaboration experiences with universties and joint projects, at national and international level.

# ACTIVITY

### SUPERVISION and ACADEMIC CONTRIBUTIONS

Since 2003 she has been Tutor and co-Tutor for the development of more than 40 Master Thesis and Bachelor Thesis in the field of Robot Mechanics and Mechanics of Machinery.

She served as supervisor for the PhD thesis of Eng. Gianni Castelli (2007-2010).

She served as external referee for the Doctoral Tribunal of the PhD defense by Eng.Soheil Sarabandi, Technical University of Catalonia (UPC), Barcelona, Spain, 27-04-2021.

She served as external referee for the Doctoral Tribunal of the PhD defense by Eng. George Krait, University of Lorraine, Nancy, France, 04-05-2021.

She served as external referee for the Doctoral Tribunal of the PhD defense by Eng.Patrick Grosh, Technical University of Catalonia (UPC), Barcelona, Spain in 2016.

She was member of the MS defense by Mr. Alvaro Burcio-Crespo at University of Castilla-La Mancha, campus of Toledo, Spain, on July 13, 2015.

She was member of the Doctoral Tribunal of the international PhD defense by Eng. Ivan Gonzalez Luchena of University of Castilla-La Mancha, campus of Ciudad Real, Spain, on July 24, 2015.

She served as external referee for the Doctoral Tribunal of the PhD defense by Eng. Júlia Borràs Sol, Technical University of Catalonia (UPC), Barcelona, Spain in 2012.

She was member of the Doctoral Tribunal of the PhD defense by Eng. Nuria Rosillo Guerrero, Dept. Ingenieria de Sistemas y Automatica, Politecnico di Valencia, Valencia, Spain, on July17, 2009.

She was member of the Doctoral Tribunal of the PhD defense by Eng. Silvia Elizabeth Rodrigo of San Juan University, Argentina, on April 7, 2008.

She was member of the Doctoral Tribunal of the PhD defense by Eng. Maher Baili of IRCCyN – CNRS, Ecole Centrale de Nantes, Nantes, France, on 13 December 2004.

She was member of the Doctoral Tribunal of the PhD defense by Eng. Osvaldo Hugo Penisi of San Juan University, Argentina, on May 27, 2004

#### PARTICIPATION ON RESEARCH PROJECTS

- METAFORE project (Methods and instruments for the design of families of robots for medical uses) founded by Italian Ministry MURST in the frame of PRIN 1999-2000;

- "Integrated design of robotic architectures and industrial manipulators" project funded for the years 1998-2001 by the University of Cassino;

- "Optimum design of grasping mechanisms" project funded within a bilateral Italy-Spain agreement for the years 1999-2000 between the department DiMSAT of the University of Cassino, Italy, and Department of Mechanical Engineering of the University of Coruña, Spain;

- "Design of wire parallel measuring architectures for determining robot's characteristics" project funded within a bilateral CNR-CSIC agreement between the department DiMSAT of the University of Cassino, Italy, and Instituto de Robòtica y Informàtica Industrial of Barcellona, Spain, for the years 2001-2002 and 2003-2004;

- "Design of robotic structures for medical applications" project funded within a bilateral CNR-MOS agreement between the department DiMSAT of the University of Cassino, Italy, and Department of Mechanical Engineering of Israel Institute of Technology at Technion City, Israel, for the years 2001-2002.

- "Use and analysis of robots for restoration of historical buildings" project funded within a bilateral agreement between the department DiMSAT of the University of Cassino, Italy, and Polytechnic University of Valencia, Spain, for the years 2002-2003;

- PRIN project on "Design and experimental characterization of polycentric cams", for the years 2003-2005;

- "Design and simulation of microsystems" project funded within a bilateral agreement between the department DiMSAT of the University of Cassino, Italy, and Slovak Academy of Science, Bratislava, Slovakia, for the years 2004-2006.

- Team leader for the research Activity on "A study of Feasibility of a Robotized Deburring for Plastic components", project funded by Italian Company SPV – Soluzioni Plastiche Vittoria, 2006.

- "A Mechatronic system based on a cable-driven robot for small scale automation in agriculture", International project funded by the Universidad de Ibagué, Colombia, 2017-2018.

- Sub-Contracting of UCLM- University of Castilla-La Mancha, within the DESDEMONA – DEtection of Steel Defects by Enhanced MONitoring and Automated procedure for self-inspection and maintenance, EU project, Call: RFCS (Research Fund for Coal and Steel) – 2017, Grant number: 800687, 2018-2021.

# INTERNATIONAL ACTIVITIES

# PERIODS OF STUDY ABROAD

Aug.-Sept. 1995 Technical University of Ostrava – VSB, Faculty of Material and Metallurgic Engineering (Czech Rep.) with Tempus grant.

August 1997 City University in London (UK).

Sept.–1997 Polytechnic of Valencia (Spain) with Socrates-Erasmus grant.

Dec.1999-June. 2000 PLaboratory of Robotics, Department of Mechanical Engineering, Laval University, Quebec, Canada during the Ph.D.

Jan. 2001 Field and Space Robotics Laboratory, Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge (USA).

May 2001 PInstituto de Robòtica y Informàtica Industrial of Barcelona (Spain) within the frame of 2001-2002 bilateral CNR-CSIC agreement.

June- 2002 Instituto de Robòtica y Informàtica Industrial of Barcelona (Spain) within the frame of 2001-2002 bilateral CNR-CSIC agreement.

June 2003 Instituto de Robòtica y Informàtica Industrial of Barcelona (Spain) within the frame of 2001-2002 bilateral CNR-CSIC agreement.

Sept. 2003 Institute for Engineering Mathematics Geometry and Computer Science, University of Innsbruck, Austria.

Dec. 2003 Panamerican University of Mexico City, Mexico.

May 2004 Mechanical Engineering Department at University of San Juan, Argentina.

June 2004 Informatics Institute of Slovak Academy of Science (Slovak), within the frame of bilateral CNR SAV- CNR agreement.

July 2004 National University of Mechanical Engineering in Lima, Peru. Sept. 2004 INRIA, Sophia Antipolis, France.

Nov. 2004 Instituto de Robòtica y Informàtica Industrial of Barcelona (Spain) within the frame of 2003-2004 bilateral CNR-CSIC agreement.

Dec. 2004 IRCCyN – CNRS, Ecole Centrale de Nantes, Nantes, France.

Oct 2005 Institute for Engineering Mathematics Geometry and Computer Science, University of Innsbruck, Austria.

Dec. 2005 INRIA, Sophia Antipolis, France.

Nov. 2006 Instituto de Robòtica y Informàtica Industrial of Barcelona (Spain)

July 2007 Instituto de Robòtica y Informàtica Industrial of Barcelona (Spain)

Apr. 2008 University of Castilla-La Mancha, Ciudad Real, Spain.

July 2009 Institute for Engineering Mathematics Geometry and Computer Science, University of Innsbruck, Austria.

Feb. 2010 LMS: Laboratoire de Mécanique de Solides University of Poitiers, France.

Feb. 2011 Institut de Recherche en Communications et en Cybernétique de Nantes., ECOLE CENTRALE DE NANTES Nantes, France.

Sept 2012 <u>University of the Basque Country</u>, Bilbao, Spain.

Sept 2013 Polytechnic of Valencia, Spain.

May 2014 Polytechnic of Valencia, Spain.

May 2015 Institute for Engineering Mathematics Geometry and Computer Science, University of Innsbruck, Austria.

July 2015 Visiting Professor at the School of Industrial Engineering, University of Castilla-La Mancha, Campus of Toledo, Spain.

January 2019 Silesian University of Technology, Gliwice, Poland.

June 2019 Silesian University of Technology, Gliwice, Poland.

# TEACHING

# **TEACHING ACTIVITY**

She gave the courses of "Mechanisms Design" for Mechanical Engineering and "Fundamentals of Mechanics of Machinery" for Production Engineering and Mechanical Engineering since 2002/2003. Since 2012 she gives the course of "Mechanics of actuation systems". Since 2019 she gives the course of "Kinematics and Dynamics of Mechanisms" in English, for MS Mechanical Engineering. She gives Lectures within the PhD program of Mechanical and Biomechanical engineering at University of Cassino

She gave the course of "Applied Physics" within the course of Informatics and Statistic Physics for Medical Academy, University of Tor Vergata, Rome, during the A.A. 2002/2003.

She gave a course on "Mechanisms Kinematics for non conventional Robotics", within the Ph.D. Course on Mechatronics at the School of Industrial Engineering, University of Castilla La-Mancha, Ciudad Real, in the year 2008.

She gave the International course on "Kinematics of Mechanisms for Robotics", at National University of Mechanical Engineering in Lima, Peru, 2004.

# CONFERENCES AND SEMINARS

## LECTURES

6 April 2000 She gave the lecture titled "Grasp Force Control in Two-Finger Grippers with Pneumatic Actuation" at the Department of Mechanical Engineering, Laval University, Quebec, Canada.

14 April 2000 She gave the lecture titled "Mechanical Characteristics and Optimum Design of CAPAMAN (Cassino Parallel Manipulator)" at the Centre for Intelligent Machines, McGill University, Montreal, Canada.

16 September 2002 She gave the lecture titled "Design Considerations on Parallel Manipulators" at Queretaro University, Mexico.

14 November 2002 She gave the lecture titled "Experience, Teaching, and Research at LARM, University of Cassino, Italy", at Polytechnic of Braunschweig, Germany.

15 November 2002 She gave the lecture titled "Design Considerations on Parallel Manipulators", presso il Politecnico di Braunschweig, Germania.

2 December 2003 She gave the lecture titled "CaTraSys (Cassino Tracking System): a wire parallel architecture for the determination of position and orientation of moving objects" e "CaPaMan (Cassino Parallel Manipulator): a 3-DOF spatial parallel architecture", at Panamerican University, Mexico city, Mexico

23 November 2006 She gave the seminar "LARM Research Activities on Cable-Based Parallel Manipulators", at IRI: Robotics and Informatics Institute, Polytechnic of Catalunia, Spain.

23 February 2010 She gave the seminar "LARM: Research and Teaching Activities" at LMS: Laboratoire de Mécanique de Solides University of Poitiers, France.

8 February 2011 She gave the seminar "Cable-Based Parallel Manipulators: New Trends and Applications" at at Institut de Recherche en Communications et en Cybernétique de Nantes, France.

24 September 2013 She gave the seminar "Cable-Based Parallel Manipulators: Research Activity and New Trends" at Polytechnic of Valencia, Spain.

26 May, 2015 She gave the seminar "Dynamic analysis of robots" at the Institute for Engineering Mathematics Geometry and Computer Science, University of Innsbruck, Austria.

10 July 2015 She gave the seminar "Research and teaching Activities" at the School of Industrial Engineering, University of Castilla-La Mancha, Toledo, Spain.

24 Oct 2015 She gave the seminar " Cable-driven manipulators: from basics to industrial and non-conventional applications" at DLUT, Dalian, China.

May 2017 She gave the seminar "Cable-driven manipulators, new trends and applications" at IRCCyN-CNRS Ecole Centrale de Nantes, Nantes, France.

31 July 2019 Invited lecture at APESS 12<sup>th</sup> Asia-Pacific Euro Summer School on Smart Structures Technology at Faculty of Civil Engineering at Sapienza University of Rome, Italy.

# HONOURS AND AWARDS

### GRANTS

Best Paper Award for the article presented at EUCOMES 2018, the 7<sup>th</sup> European Conference on Mechanism Science, Aachen, Germany, 2018.

Best Paper Award for the article presented at MUSME 2008, the International Symposium on Multibody Systems and Mechatronics San Juan, Argentina, 2008.

Best Paper Award for the article presented in Robotics at CIM dell'IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, AQTR 2006, Cluj-Napoca, Romania, 2006.

Employed as Engineer by contract for research activities on "Hybrid Serial-Parallel Manipulators" within the project "Prime Prin 2001-02" on February 2002.

Grant by Young Delegate IFToMM Award for the participation to the International Conference ARK 2002, 8<sup>th</sup> Int. Symposium on Advances in Robot Kinematics, June 24-28, 2002, Caldes de Malavella, Spain.

Grant by Young Delegate IFToMM Award for the participation to the International Conference IFToMM 2004, 11th World Congress in Machine Science and Mechanisms, April 1-4 2004, Tianjin, China.

Grant by Young Delegate IFToMM Award for the participation to the International Conference ARK 2006, 10<sup>th</sup> International Symposium on Advances in Robot Kinematics, **June 25-29 2006**, **Ljubljana**, **Slovenia**.

Grant by Young Delegate IFToMM Award for the participation to the International Conference IFToMM 2007, 12th World Congress in Machine Science and Mechanisms, **June 17-21 2007**, **Besancon**, **France**.

Grant by Fondo Europeo de Desarrollo Regional. Castilla-La Mancha [2014/14752] through the University of Castilla-La Mancha for a period of research and teaching activity as Visiting Professor for the month of July 2015.