PERSONAL INFORMATION

Ullo Silvia Liberata

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Skype silvia.ullo

Date of birth 05/Aug/1964 | Nationality Italian **C.F. LLUSVL64M45G284W**

PROFILE

Honours Degree in Electronic Engineering addressed in Telecommunications at the University "Federico II" of Naples, March 1989.

Master in Business Administration (Science of Management) from the Sloan School of MIT - Massachusetts Institute of Technology, Cambridge (USA). June 1992.

Assistant Professor in Electronic Engineering for Automation and Telecommunications at the Engineering Department of the University of Sannio since 2004. **Teacher** of "Telecommunication Networks", "Signals", "Signal Theory", "Fundamentals of Telecommunications", "Mathematics", "Signal Theory and Elaboration"; " Optical and radar remote sensing", a course for Ph.D. students.

Research Interests: Signal processing, remote sensing, satellite image and data analysis, machine learning algorithms and machine learning applied to satellite data, ESA Copernicus mission, radar, SAR (Synthetic Aperture Radar), cognitive radars, sensor networks, telecommunications networks, network security, smart grids.

Publications *(the list is at the end of this CV)*

Full list at: https://scholar.google.com/citations?user=EA65dGYAAAAJ&hl=en

List in Scopus: https://www.scopus.com/authid/detail.uri?authorId=6503914067

Scientific Expert since 2011 for MIUR and MISE, for many Italian Regions: evaluation "ex-ante" of projects according to criteria of relevance, efficiency, effectiveness, impact and sustainability, in-loco visits and interviews with the company stakeholders, monitoring and supervision of activities "in itinere" and "ex-post"; **Expert** for the European Commission in the Horizon2020, FP7, Marie-Curie, Eurostars and EUREKA programs. Evaluation of projects for the Denmark Evaluation Fund.

Member of the Expert Group of NetWorld2020 ETP (European Technology Platform for communications networks and services).

IEEE Senior member; associated to the IEEE societies: WIE (Women in Engineering), ComSoc, Aerospace and Electronic Systems (AESS), Signal Processing, GRSS (Geoscience and Remote Sensing)

Promoter of the agreements between University of Sannio and the MAPSAT (a satellite remote sensing center for EO located in Benevento, http://www.mapsat.it/), the CSEO (Cyprus Space Exploration Organisation, https://www.spaceexploration.org.cy/#!/Home), the Italian Atlantic Committee e ATA (Atlantic Treaty Association, http://www.atahq.org/), both related to NATO, ESA (European Space Agency, https://www.esa.int/ESA), the MIT MISTI-Italy (https://misti.mit.edu/mit-italy) to work on research projects of joint interest.

Member of several associations: Atlantic Committee, www.comitatoatlantico.it; AFCEA (Armed Forces Communications & Electronics Association), www.afcea.org; Inner Wheel, www.innerwheel.it ; FIDAPA (Italian Federation of Women Arts and Profession) www.fidapa.com; Dante Alighieri, www.ladante.it; CADMUS of Unisannio (Music Association of Unisannio); UNESCO.

Volunteer for the Italian Red Cross, www.cri.it, from 1993 to 2018.

WORK EXPERIENCE

2004 – to present

Researcher and Aggregate Professor in Electronic Engineering for Automation and Telecommunications

Università degli Studi del Sannio, Engineering Department, TLC and Remote Sensing Lab

- Aggregate Professor with Rector's Decree n.1467 on the 16th of November 2009, under the article 1, paragraph eleventh, Law 230 of 4th November 2005
- Professor of Telecommunication Networks for Telecommunications Engineering since 2001
- Professor of Signals for Computer Engineering since 2004
- Professor of Signal Theory in Electronic Engineering since 2011
  Probability Theory, Estimation Theory and Detection of Signals, Laboratory of Digital Communications and Mobile Radio Systems in bachelor and master program in Computer Engineering, Electronics and Telecommunications since 2004
- Professor of Fundamentals of Telecommunications for bachelor program in Electronic Engineering in the academic year 2010/2011 for 3 over the 9 ECTS (credit units)
- Professor of Mathematics in the pre-courses for OFA (Additional Training Obligations) for the academic year 2013/2014 and 2016/2017
- Professor of Signal Theory and Elaboration in Electronic Engineering since 2016
- Reviewer of PhD thesis, Master and Bachelor Thesis, and scientific publications for the major journals and conferences in the sector of interest; Reviewer Board Member of ISPRS International Journal of Geo-Information (IJGI)

Institutional Roles

- Member of the Commission of Orientation , Traineeships, and Relations with CISIA services, from 2013 to 2020, and Supervisor of part-time students working for the Commission
- Member of the Orientation Commission in *Itinere* from 2009 until 2013 for the Engineering Faculty
- Representative of researchers on the Council of the Engineering faculty from 2007 until 2013
- Member of the Council for the Degree Course in Electronic Engineering for Automation and Telecommunications (from 2008 to date)
- Member of Electronic Engineering Review Group in charge of elaborating the documentation for ANVUR (National Agency of MIUR for the Evaluation of University and Research) since 2013
- Appointed in July 2017 by the Rector component of the Joint Committee inside the agreement signed in February 2017 between the University of Sannio and the Italian Atlantic Committee and the Atlantic Threaty Association (ATA)
- Member of the Quality Commission and the Orientation and Communication Commission of the Council in Electronic Engineering for Automation and Telecommunications (2017 to date)
- Member elected of the Academic Senate (from November 2019 to today)

2018 – to present

External national assignments

- Appointed as Industry Liaison since July 2018 for the IEEE Italy Joint ComSoc/VTS Chapter https://iob.boards.comsoc.org/chapter-liaisons/
- Appointed as National Manager for the Science and Technology Task Force of FIDAPA-BPW Italy, https://www.fidapa.org/index.php/la-federazione/organizzazione/task-force-2019-2021

2019 – to present

Organization and co-organization of national and international Conferences

- Co-organizer of IEEE MetroAeroSpace Workshop in 2014, 2015 and its Military session in 2017
- Organizer of the first Workshop on TLC Networks and Cyber Security in Benevento, 2017
- Special Session organizer and Chair "Wireless Sensor Networks and Remote Sensing for Environmental Applications" within the first IEEE International Environmental Engineering Conference held in Milan, March 2018
- Steering Committee Member for the organization of the MIT Sloan Global Women's Conferences, held in New York, in October 4-5, 2017 and October 2-3, 2019
  https://mitsloan.mit.edu/alumni/mit-sloan-global-womens-conference
- Co-Chair of the Radar Special Session within the MetroAeroSpace Workshop since 2017
- WIE (Women in Engineering) Activity Chair for the IEEE International Radar Conference, that will be held in Florence, in September 21-25, 2020
- Treasurer of IEEE GNSSR+2019 Specialist Meeting held in Benevento, May 20-22, 2019
- Chair of the session on "Signal Estimation Techniques I" within the 2019 IEEE IGARSS Conf.

2018 – to present

Keynote, Invited Speaker and Guest of Honor

- **Keynote Speaker** (in presence) at the IEEE ICEECCOT conference 11-13 Dec.2019 (http://iceeccot.geethashishu.in/, http://www.geethashishu.in/images/ICEECCOT-2019.pdf)
- **Guest of Honor** (in presence) at the International Seminar on Research and Innovation in Engineering and Technology (ISRIET-2019) December 16, 2019 (http://www.geethashishu.in/images/ISRIET-2019.pdf); at the Geetha Shishu Shikshana Sangha (GSSS) Institute of Engineering & Technology for Women, Mysuru, Karnataka, India.
- **Keynote Speaker** (in presence) at the East Point College of Engineering & Technology, Bangalore, Karnataka, India on December 17, 2019. Delivered a lecture on “Satellite Remote Sensing for Monitoring our Planet”
- **Keynote Speaker** (online) in the “Webinar series on Satellite and Automation” organized by the GSSSIETW IEEE Student Branch in association with IEEE Bangalore Section and CAS Bangalore chapter, on May 12, 2020
- **Keynote Speaker** and **Guest of Honor** (online) in the 1st International Conference on Recent Trends in Electronics and Communication Engineering (ICRTECE 2020) held online/virtually due to the pandemic COVID-19 on June 11, 2020, and organized by the REVA University, Bengaluru, India. Talk title: "The fascinating world of satellite remote sensing. The role of space agencies and the Copernicus mission of the European Space Agency (ESA)".
- **Invited Speaker at the First** International Summer School on Advanced Technologies Based on Internet of Things (June 21-27, 2018) organized by the Technische Universitat Chemnitz in Germany, the DAAD (Deutscher Akademischer Austausch Dienst - German Academic Exchange Service) and the IM Chapter IEEE Germany Section, for a tutorial entitled: Application of Wireless Sensor Networks to Environmental Monitoring for Sustainable Mobility: the NETCHIP Research Project.
- **Invited Speaker at the Second** International Winter School on Advanced Technologies Based on Internet of Things (December, 2019), organized by the Technische Universitat Chemnitz in Germany
- **Invited Speaker** at Workshop Industry 4.0, at CIRA (Centro Italiano Ricerche Aerospaziali), Capua (CE), Italy, on December 11, 2018, with a Tutorial entitled: The Big Data Revolution and Industry 4.0 Impact on Operative Fields and Advanced Tools for Data Collection and Analysis.

2019 - to present

Associate Editor and Guest Editor of Special Issues

- Wireless Sensor Networks and Remote Sensing for Environmental Applications, in the IEEE Aerospace and Electronic System Magazine (AESS), Aug. - Oct. 2019
- Advances in Remote Sensing for Damage Assessment, Monitoring, and Preservation of Cultural Heritage, in the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS), Dec. 2019-May 2020
- Applications and New Trends in Metrology for Radar/LiDAR-Based Systems, in the MDPI Remote Sensing online journal, Nov. 2020
- Multimedia Vision and Machine Learning for Remote Sensing, in MDPI Remote Sensing online journal, Dec.2020
- Video On Demand and Over the Top media Service Providers and Publishers, in journal Multimedia Tools and Applications of Springer Nature, Dec. 2020
- Theory and Applications for Learning Guided Evolutionary Optimization in multi modal data science, in SN Applied Sciences (SNAS) of Springer Nature, Oct. 2020

Member of scientific committees (with reference to the last two years)

- IEEE I2MTC 2019 (https://i2mtc2019.ieee-ims.org)
- IEEE IGARSS 2019 (https://igarss2019.org)
- IEEE RTSI 2019 (http://rtsi2019.ieeesezioneitalia.it/)
- IEEE CIVEMSA 2019 (http://civemsa2019.ieee-ims.org/)
- IEEE MetroAeroSpace 2019 (www.metroaerospace.org/mas2019/)
- IEEE IGARSS 2020 (https://igarss2020.org)
- IEEE MetroAeroSpace 2020 (www.metroaerospace.org/)
- 1st International Conference on Recent Trends in Electronics and Communication Engineering (ICRTECE 2020), https://reva.edu.in/event/first-international-conference-on-recent-trends-in-electronics-and-communication-engineering-virtual-conference

PhD Students Supervisor (present)

Satellite data processing based on Machine Learning algorithms for environmental classification.

- Chiara Zarro, Master Graduated in Electronic Engineering, 2nd Year PhD Student
  She is carrying on a joint PhD with Unisannio, MapSat (http://www.mapsat.it/)and the Earth Observation Center of the DLR (German Aerospace Center) in Oberpfaffenhofen (http://www.dlr.de/eoc).
- Alessandro Sebastianelli, Master Graduated in Electronic Engineering, 1rst Year PhD Student
- Maria Pia Del Rosso, Master Graduated in Electronic Engineering, 1rst Year PhD Student
  They are carrying on their PhD under the agreement between Unisannio and the European Space Agency (ESA) in the Phi-Lab of ESA Esrin in Frascati, Rome (https://www.esa.int/About_Us/ESRIN)

Prizes or awards

- 4th IEEE International Workshop on Metrology for Aerospace (MetroAeroSpace) 2017, Padua (italy), 21-23 June
  Best Paper Award in the Poster Session with the paper: P. Addabbo, A. Angrisano, M.L. Bernardi, G. Gagliarde, Alberto Mennella, Marco Nisi, S.L.Ullo, "A UAV Infrared Measurement Approach for Defect Detection in Photovoltaic Plants"

- ITALTEL SpA
  Marisa Bellisario scholarship, May 1990, issued once a year just for one female engineer overall Italy. This scholarship was finalized to attend the Master program at the Massachusetts Institute of Technology (MIT) in Boston, USA from September 1990 to June 1992.

- Fondazione Marisa Bellisario
  Marisa Bellisario prize from the homonymous Foundation, March 1990, as best female student graduated in Engineering for the South of Italy. Every year this Foundation rewards women who have distinguished themselves in purely male careers, and among these three young graduates, for Northern, Central and Southern Italy

- MIT Sloan School (USA)
  Scholarship to participate at the 1992 Japan and Korea trip for study and comparison of the models of economic and technological development of the two countries with respect to the American models (30 students selected over 200)

- ITALTEL SpA
  Prize in 1988 offered from Italtel SpA for Awarded Thesis in Telecommunications

- SIP SpA
  In 1988, a **scholarship** for the participation in a summer course on "Telecommunication Systems, transputers and the OCCAM language" at the "Scuola Superiore Guglielmo Reiss Romoli (SSGRR)" of Coppito (L'Aquila)

2018– 2020

Engaged in International projects (with reference to the last two years)

- Coordinator of the project "Connecting Unisannio and MIT" between MIT (Massachusetts Institute of Technology-USA) and University of Sannio (Unisannio), which hosted in January 2019, and in January 2020, 30 MIT students at Unisannio Departments to collaborate on research projects.
- Coordinator of the project: "Understanding our Planet: knowing it and respecting it to defend ourselves from environmental upheavals", that involved the MIT students and 300 students from the schools of Benevento, in January 2019, with teachers and students from Unisannio.
- Member of the project: "Environmental monitoring through combination of Satellite and Geotechnical data", developed in January 2019, that involved 2 MIT students, a colleague of Geotechnical Engineering, and two Master students from University of Sannio, graduating in Electronic Engineering.
- Co-organizer of the "Math in Italy" project, that welcomed about twenty students from the Texas Tech University (USA) and their Professor Ram Iyer to the Department of Engineering for a month and a half (15 May-30 June 2018 and 2019).
- Member of the project: "Application of DInSAR technique to high coherence satellite images for strategic infrastructure monitoring ", developed in January 2020, that involved 2 MIT students, a colleague of Geotechnical Engineering, a colleague of Infrastructure Engineering, two Bachelor students from Unisannio, graduating in Electronic Engineering, and three PhD students from Unisannio.
- Member of the project: "Using remote sensing data to measure growth and development of nations", developed in January 2020, that involved 5 MIT students, a colleague of Transport Engineering, a colleague of Economic department, and two colleagues from ESA.

Engaged in national projects (with reference to the last two years)

Innovative methods and tools for the REACTive Product Design and Manufacturing (REACT), financed under the Call of MIUR for the presentation of industrial research and experimental development projects in the 12 areas of specialization identified by the 2015-2020 NRP, the National Operational Program Research and Innovation 2014-2020, issued in 2017, specialization area: "Smart Factory".

2011 – to present

Scientific Expert (for MIUR, MISE, European Commission)

Ministry of Education, University and Research - Ministry of Economic Development- European Commission

- Expert in the **"*ex-ante*"** , **"*in itinere*"** and **"*ex-post*"** evaluation of technical and strategic proposals, projects and programs of research and innovation
- Expert for **MIUR** in the research and innovation project evaluation through the **SIRIO** system of the CINECA University Consortium
- Expert for **MIUR** and **MISE** in the evaluation of the "Start Up" Call projects (P.A.C. 2011-2013/D.D.436 on March 13th 2013)
- Expert for the **Calabria Region** in the project evaluation of the Call "Granting of contributions to the financing of Research Grants with obligatory itinerary abroad " (CAP 2011-2013 / DD 12088/2012, PO Calabria ESF 2007-2013, AXIS IV-Human Capital-Operational Objective-M2)
- Expert for the **Tuscany Region** in the evaluation of *in itinere* and *ex-post* projects for the Call "Bando Unico R&S 2012" (POR FESR 2007-2013 CReO, Lines of Business 1.5.a e 1.6./D.D.6408 of December 30th 2011)
- Expert for the **Tuscany Region** in the evaluation of projects for the Call "Bando RSI 2014" – first stage- (POR FESR 2014-2020 / D.D.3389 of July 30th 2014 modified with D.D. 4131 of October the 1rst 2014) appointed by D.D. 5275 of November 18th 2014
- Expert for the **Tuscany Region** in the evaluation of projects for the Call "Bando RSI 2014" – second stage- (POR FESR 2014-2020 / D.D.3389 of July 30th 2014 modified with D.D. 4131 of October the 1rst 2014) appointed by D.D. 9th of June 2015
- **Joined** the Register of Experts for the European Commission and EUREKA Program (Horizon2020, EACEA, FP7, Eurostars Programmes) since 2012
- Evaluated projects for the European Commission Program **Marie Sklodowska-Curie (H2020-MSCA-IF Call**) in 2016, 2017, 2018 and **Marie Sklodowska-Curie (H2020-MSCA-ITN Call**) in 2019 and 2020.
- **Scientific Expert** since July 2013 for the evaluation of the **Eurostars Joint Programme** projects as High-Level Technical Expert EUREKA (Expert ID 1444280)

- **Scientific Expert** in 2013 for the **European Commission** in the **Horizon 2020** program (Expert ID EX2013D138480) in the areas of Business and Innovation Management, Science / Engineering and Technology and Cross-Cutting Issues; in EACEA program (Education, Audiovisual and Cultural Executive Agency) for the sectors Creative Europe, Erasmus and Generic Skills; in the Seventh Framework Program (FP7) for Research; in Marie-Curie Program; in the "Innovative Training Networks" (ITN)
- **Scientific Expert** since August 2016 for **The Danish Council of Independent Research, Innovation Fund Denmark and The Danish Agency of Research, Science and Innovation**
- **Scientific Expert** for the **Puglia Region**; task conferred on September 24th , 2015 through the Puglia Development agency, for the technical evaluation of the projects out of the Title II "Regional aid - Chapter 1- aid to the investment programs of Large Enterprises" (supplement BU Region Puglia n .139 of October the 6th , 2014 establishing the Regional Regulation for aid compatible with the internal market within the meaning of the TFEU 17 of September 30th , 2014 and implementation of the EU Regulation 651/2014 of June 17 th , 2014)
- Since December 2015 **enrolled in** the **New Register of Experts in Technological Innovation,** created by **MISE** following the Ministerial Decree of October 7th , 2015
- **Scientific Expert** for the **Friuli-Venezia-Giulia Region**; task conferred with Regional Council Resolution n.1398 of July 26th , 2016, article 15 of L.R. November 10th , 2005, 26 et seq .; component appointment of the Technical Evaluation Committee as an expert for the Electronics Engineering profile. Evaluated projects within the following sectors: 1) Incentives to companies for activities of Industrial Research and Experimental Development- specialization areas: agriculture, food and strategic production chains; 2) grant contributions for activities of Industrial Research and Experimental Development for companies in the crisis area of Trieste; 3) Incentives for standard and strategic R & D projects to be implemented through public-private partnerships - Areas of Specialization: Maritime Technologies and Smart Health.
- **Scientific Expert** for the **Lazio Region**; in the evaluation of projects for the Call "Aerospace and Security", appointed as component of the evaluation commission on the basis of D.D. n.G8328 of 14th June 2017 of Lazio Region, POR FESR LAZIO 2014-2020. **Scientific Expert for the European Commission** in the evaluation of H2020 SME Instrument Project-Sentinel 2 of Copernicus program, February 2018

Research Activities related to the proposal submitted to the MIUR FISR Covid Call

I am collaborating with Marco Carminati since three years. He attended the conference IEEE International Environmental Engineering Conference held in Milan on March 2018, in which I organized the special session "Wireless sensor networks and remote sensing for environmental applications". We submitted to IEEE AESS Magazine the request for a Special Issue, which resulted into two editions, in August and October, and two joint articles combining miniaturization with the development of new-generation satellites. His research topics focus on nanosensors and electronic instrumentation and methods for the electrical characterization and detection of samples on a nanoscale, microfabrication, X-ray and gamma-ray detectors.
Holder of a patent "Method for detecting and measuring a layer deposited on a surface in contact with a liquid medium and detection and measuring sensor implementing the same", http://hdl.handle.net/11311/1130383

The collaboration with Fabrizio Passarini is more recent, and concerns the impact of anthropic activities on the environment, in terms of pollution, and the studies carried out by his group on the correlation between pollution and the spread of Covid. He is a Chemist, Director of CIRI FRAME (RENEWABLE SOURCES, ENVIRONMENT, SEA AND ENERGY). The Interdepartmental Center for Industrial Research (CIRI) Renewable Sources, Environment, Sea and Energy (FRAME), part of the network of structures for research and innovation in the Emilia Romagna region. The primary objective of CIRI FRAME is to provide scientific and technical support to promote innovation in the energy sector, the development of renewable sources, the optimization of production processes and anthropic activities to minimize their environmental impact.

Our work groups are strongly interdisciplinary with competences varying from nanosensors, environmental chemistry, anthropic activities, sensor networks, ICT, Signal Processing, AI / ML, Satellite data analysis. PhD students and/or assignees will be included in the groups. Moreover, we cover geographically areas such as the Campania region, and the Pianura Padana, including Lombardia and Emilia Romagna regions, with very different situations in terms of Covid emergency.

Other collaborations and scientific activities in the academic field (2004 to date)

- Collaboration in the framework of the EASY-PV project sanctioned under H2020-Galileo-2015-1 call for Small and Medium Enterprise (SME) based EGNSS application having grant agreement number 687409. The project started off on Feb. 01, 2016 and ended on Jan. 31, 2018. The project was coordinated by Sistematica S.p.A, with contributions of Aalborg University, TopView srl, DeepBlue, Entec, and Alpha consultants.
- Collaboration with other universities and research institutions. In particular, as part of scientific projects, collaboration with the group of Computer Science and with the group of Electrical Systems for Energy of the Engineering Department of University of Sannio in Benevento; with the group of Telecommunications of the Engineering Department of "Federico II" University of Naples, and the Remote Sensing group of MARSec (today MapSAT) in Benevento
- Participation in the project activities financed within the Pegaso project - PON Research and Competitiveness 2007-2013 (Identification Code - Project PON01_02889), co-financed under Axis I - Support to structural changes, 4.1.1.1 Operational objective "scientific-technological areas generating transformation processes of the production system and creating new sectors - Action II: Interventions to support industrial research
- Participation in the activities of the TEDASS project, a center of excellence for environmental monitoring and development of projects in the field of telecommunications. The "Centre for High Technology for Environmental Diagnostics and Sustainable Development (TEDASS)" was established with the Rector's Decree n.975 on the 12lve of September 2006, in accordance with the Convention signed on the 17th of May 2006 between the University of Sannio and the Ministry for the Environment, Land and Sea, aimed at the creation of a Centre for the reception, processing, archiving and distribution of satellite data for monitoring of the biosphere and sustainable development
- Participation in PADIAMOND project activities (Monitoring and automatic diagnostics for the elderly and / or disabled people in their homes) and the COSMO project (Contract and SLA Management Outlook), both financed by the Campania Region with the Call for the granting of aid to SMEs in implementing operational objective 2.2 of the POR Campania 2007-2013 under the e-Government and information society fields - ICT sector
- Participation in the activities of several projects of POR FSER 2007-2013, Priority 2, Operative Object 2.2., (Interventions Strengthening system and chain of R&D)- Regional Planning Contract for the Innovative Development of Strategic Networks in Campania, called by D.D.n.31 of September 14th 2012: project MBDA1 "Engineering research related to the study, development, integration and testing of complex systems and associated algorithms" CUP B88C14000260007; project INTECS "System and Supply Chain Improvement works for R&D referred to D.D.n.54 of June 26th 2014" CUP B68C14000280007
- Collaboration with the group of Manufacturing Operations of the Sloan School of the Massachusetts Institute of Technology (MIT), Boston (USA)
- Collaboration with Prof. Paolo Antonelli, University of Wisconsin-Madison (USA)
- Participation in the organization of international conferences including:
  - the conference "Advanced High Spectral Resolution Infrared Observations" held in Ravello and Benevento between 24th and 26th of May 2004;
  - the conference "International EOS / NPP Direct Readout Meeting", held in Benevento at MARSec, between 3rd and 6th of October 2005, in collaboration with Prof. Paolo Antonelli, University of Wisconsin-Madison and the group of researchers of MARSec;
  - the first IEEE International Workshop on Metrology for Aerospace, held in Benevento on 29th and 30th of May 2014
  - the second IEEE International Workshop on Metrology for Aerospace, held in Benevento on 4rd and 5th of June 2015
  - the first Workshop on Networks and Cyber Security to be held in Benevento, on February 15th , 2017 (http://www.ing.unisannio.it/labtlc/ullo/Workshop_Cyber_Security)
  - the fourth IEEE International Workshop on Metrology for Aerospace, held in Padua between the 21rst and 23th of June 2017; Co-Chair of the Military Session (www.metroaerospace.org/military); Chair of the Radar Session and Co-Chair of Remote Sensing Technical Session

September 2016

ISMISS Summer School

2016 IEEE Italy Section Medical Informatics Summer School (ISMISS)
13-17 September, Trani, www.ismiss.it
Summer school extended to PhD students and researchers organized by ISMISS. The course aimed to provide basic and advanced knowledge of Medical Informatics with applications in fields such as: security for hospitals, support systems in the medical decisions for diagnosis, prognosis and therapy, bioinformatics, biometrics, robotics for therapy, enhanced virtual reality in support of surgery, assisted living environment. Courses and workshops for each session were given by international academic and industrial experts. The course ended with a final test and the recognition of 3 ECTS credits.

2014 -2016

Training and accreditation CFP (Professional Credits).

Accreditation of professional credits: 15 Informal CFP acquired in 2014 for professional activity.
Accreditation of professional credits: 15 Informal CFP acquired in 2015 for professional activities; 12.5 Informal CFP acquired in 2015 for Publications; 39 No-Formal CFP acquired in 2015 for Courses and Conferences.
Accreditation of professional credits: 15 Informal CFP acquired in 2016 for professional activity.

OTHER PROFESSIONAL EXPERIENCES

2000 – 2003

Officer-Analyst

Municipality of Benevento (www.comune.benevento.it)

Public competition winner, since January 2000 she worked in the Benevento Municipality, as Officer at the Data Elaboration Center (CED).

- Main Officer (position D3 / D4, former 8th level) at the Data Elaboration Center (CED) of the City Hall of Benevento. Recruited through a public competition with the title of "analyst" for data management and elaboration, and for the computer network management in the municipal offices
- Designing of additional networks; analysis of the hardware and software needs; training of employees in the path of computer knowledge
- In November 2000 conferred an assignment under the PRUSST Program (Program for Urban Renewal and Sustainable Development of the Territory) – specifically for the Calidone project, with the task as Manager of the Process to carry out all the phases of design and implementation of the Civic and Telematics Network for the City of Benevento
- Involved in the Commission for the evaluation of Electromagnetic Pollution from Radio-Base Stations and Power Lines; monitoring campaign carried out with the ARPAC (Regional Agency for Environmental Controls) in the entire urban area; created critical maps for intervention and reduction of risk derived from the exposure to electromagnetic fields
- Carried out outside the CED office, several assignments with technical and managerial functions in various other offices of the Municipality, from City-Planning to Public Works, from Market and Commerce to Social Services

1994 - 1997

Member of the Board of Directors

AMTU Municipal Transport Society of Benevento (ex AMTS)

She was appointed by the Benevento's Mayor member of the Board of Directors for the Municipal Transport Society (AMTU) for 3 years (1994-1997). Selected through public tender.

- Participation in the economic and organizational restructuring and redefinition of the strategic objectives with the consolidation of the company's budget
- Collaboration with other members of the commission in order to transform the company from a local municipal transport company to a special company within the indications of Law n.142 / 1990
- Promoted several projects involving high and middle school to spread the culture of the bus utilization as a correct and useful tool of transportation and also to avoid trespasses
- Preparation of administrative acts for the hiring planning of drivers
- Dispute resolution between employees and company in collaboration with the Unions
- Study of mobility on the territory and reorganization of the lines

1992-2000

Manager of Production Lines

Italtel S.p.A.

- Study and design of systems for business automation at the plant in Santa Maria Capua Vetere (Caserta). Responsible for the production lines and areas management
- Participation in the transfer of technologies and processes from other plants to the plant of Santa Maria Capua Vetere (Caserta): definition of transfer plans in terms of necessary equipment, human resources and investments with particular reference to the hardware and software systems requirement, and logistics
- Management of about 130 people, including production workers, mechanics and clerks, and management of all aspects related to human and production resources
- Participation in specific courses related to the Law 626/1994 on “Safety in the Workplace” and teaching the 626 Law principles to workers and employees
- Teacher of ISO9000 courses on Quality Systems
- Collaboration with the Office of Personnel and Human Resources in the implementation of programs for the staff reduction through the use of specific means provided by the laws for early retirement

Summer 1991

Summer Traineeship (Strategy and Public Telecommunications)

Italtel S.p.A.

"Summer Job" at the Italtel of Settimo Milanese (Milano) within the Department of Public Strategies and Telecommunications

1989 - 1990

Consultant

IMETEC S.p.A - T&T S.p.A.

- Consulting on contracts concerning the management and transfer of technologies
- Using the technique FMECA (Failure Mode Effect and Critical Analysis) in the design of systems with assigned safety index
- Study, analysis and design of BICs (Incorporated Business Centers) and Science and Technology Parks

EDUCATION AND TRAINING

1990–1992 **Master in Business Administration**

MIT Sloan School of Management - Massachusetts Institute of Technology (MIT), Cambridge (USA)

- Graduation Score: 4.6/5.0
- Attached to this document a list of courses complete with credits and scores

1990–1990 **GMAT**

- Graduate Management Admission Test

1989–1989 **TOEFL**

- Test of English as a Foreign Language

Oct.1989 **PHD (5th cycle)**

PhD in Electronic and Computer Science Engineering at the University of Naples, Faculty of Engineering (**completed just the 1st year**)

1989–1989 **Qualification Test to practice engineer profession**

- Score: 120/120

1982–1989 **Degree in Electronic Engineering specialization in Telecommunications**

Università degli Studi di Napoli "Federico II"

- Thesis: "A new model for Weibull coherent clutter"
- Score: 110/110 cum laude

1977–1982 **High School Diploma**

Scientific High School "Gaetano Rummo", Benevento

- Score: 58/60; Foreign Language: English

1974–1977 **Middle School Diploma** Livello 7 QEQ

Middle School "Federico Torre", Benevento

- Score: Optimum; Foreign Language: French

PERSONAL SKILLS

Mother tongue: Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1/C2	C1/C2	C1/C2	C1/C2	C1/C2

- Study of English language from 1977 to 1982 in High School "G.aetano Rummo" of Benevento
- "Advanced II" at the University of La Verne NATO Bagnoli (NA), from May/12/88 to October/3/89
- TOEFL obtained in 1989
- GMAT passed in 1990
- "Special English for International Students" at Boston University in Cambridge, Massachusetts (USA), summer 1990
- PET achieved "with distinction" at the university of Cambridge ESOL in 2013

French	B1	C1	A1	A1	C1

- Study of French from 1974-1977 in Middle School-"Federico Torre" of Benevento
- "French I" 21.201 Class, Mark A, 12 credits at the MIT Sloan School, Boston, USA sep/dec.1991
- "French III" 21.203 Class Mark B (as auditor) at the MIT Sloan School, Boston, USA feb / may 1992

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills	Communication skills can certainly be improved through the study but I am convinced that an essential part is related to natural inclination and to own character if extrovert and spontaneous. In any case, the part due to the study has been developed in my case as well as through the basic education but also through specific courses taken at MIT Sloan School such as “Communication for Managers” and “Managerial Behaviour in Organizations” (see attached file with courses at Sloan)
Organisational / managerial skills	I have been responsible during my job in Italtel for production lines involving until 130 people, including workers and employees; in other jobs and other workplaces , I have been in charge as coordinator of projects involving several people of different ages; moreover, I’ve been working as supervisor in different situations during my work experience
Job-related skills	During my job in Italtel I was involved in Quality programs and I was in charge of educating employees through specific courses; I got a wide experience in quality control processes during my work experiences (FMECA, ISO9000, etc.) in Italy and abroad (Analog Devices in Wilmington, USA). Besides that I took also specific courses at MIT about quality such as for instance TQM (Total Quality Management), Special Seminar in Quality, etc.
Computer skills	Good knowledge of many operating systems (Windows, Linux, MAC) and of many PC packages for creating documents, spread-sheets, databases, graphs. Wide and efficient use of Internet for research and communication through the utilization of many social networks (LinkedIn, Twitter, Facebook, Google+, etc.) and many other tools for data sharing as DropBox and others.
Other skills	Ability to develop good interpersonal relationships; with good firmness if necessary, and very object-oriented in general
Driving licence	Driving licence category : **B**

ADDITIONAL INFORMATION

Education and Training	▪ In 1989, started a scholarship issued by the CNR through a national competition for research activities in the development and analysis of SAR data, under the direction of Prof. Franceschetti, at IRECE, CNR
Stages and Training Schools	▪ Stage on Fiber Optics at the Head Office of the Regional SIP company in Naples, March-May 1988 ▪ Course on "Telecommunication Systems, transputers and the OCCAM language" at the "Scuola Superiore Reiss Romoli" of Coppito (L’Aquila) , August-September 1988 ▪ Course on "The Safety of Electrical Equipment", organized by the Order of Engineers of Benevento

Study and Research activities in Italy and abroad

- Participation to the course on "Web Publishing with Microsoft Front Page" held in Benevento at the People's Network Srl in the month of June 2000
- Participation with the Institute “Tagliacarne”, on the 30 th and 31rst May 2000, to the study of software for the staff of the institutions as partners in the conduct of the Single Desk
- Participation to the regular meeting of the graduates of the Sloan School at MIT in Boston, USA, in June 1997, in June 2007 and in June 2012
- Research, design and implementation of a software model for the optimization of production lines in terms of reducing Lead Time and Work in Process, at the company Analog Devices in Wilmington, Massachusetts (USA) from October 1991 to May 1992. The work has been collected and presented in the thesis of Master of Science (MS), specialization in "Manufacturing Operations", achieved in 1992 at the Sloan School of the Massachusetts Institute of Technology (MIT) in Cambridge (USA) with the title: "Evaluation of Scheduling Strategies in a Semiconductor Wafer Fab Using Simulation "
- Study and comparative analysis, as part of the prize trip offered by the Sloan Business School at MIT, of methods, financial and production in Japan and Korea with respect to American ones
- In the summer of 1990 participation to the "Special English for International Students" at Boston University in Cambridge, Massachusetts (USA)
- In the summer of 1990 participation to the course "Principles of Economics: Microeconomics" at Harvard University in Cambridge, Massachusetts (USA)
- From January 16th , 1990, admitted through public competition to the PhD in Electronic and Computer Science Engineering at the University of Naples, carrying out studies and research in the field of statistical signal applied to radar detection. Because of the scholarship won for taking the MBA at MIT, the PhD has been stopped at the second year in order to go to Boston and to attend the courses at the Sloan School

Other Teaching and Academic activities

- Since 2004, supporter for deaf and dump students as part of tutoring in courses as "Signals" and "Electrical Communications'" for the Bachelor Degree in Computer Science Engineering. The activity has been formalized in an official duty by the Rector in January 2007, under the laws in support of disabled students: Law n.390 in 1991, Law n.104 in 1992 and Law n.17 in 1999
- As supervisor and co-supervisor, has followed the development of thesis of maximum effort in the field of Signal Processing and Telecommunication Networks
- Teacher in the specialization course "Expert in Digital Terrestrial Television (DDT)", admitted to the Interregional Catalogue of Training, D.G.R. Campania n ° 226 of 04/Sept/2009, at EU-TEAM SCRL Of Benevento, from 4th of September 2009 to the 2nd of October 2009
- Professor of "Telecommunication Networks" for the A.A .2000/2001 in the "Master of Software Technology" and "Technology and Management Software" at the University of Sannio, at the headquarters of Ariano Irpino (Avellino)
- Enrolled in the Register of Teachers of CenFDEL (Center for Training Employees of Local Authorities) from October 5th , 2000
- Teacher for the the City Hall of Vitulano (April 2000) in the course of "Technician for Telematics Systems”

Teacher of the course Telecommunications Networks in 2018 and 2019 organized by the School “La Tecnica”, in Benevento within a project financed by the Campania Region.

Scientific activity and Publications

Non-Gaussian models for the backscatter signal from natural surfaces

The research, conducted up to March 1989 first, and then as a graduate student, thanks to a CNR (National Research Center) scholarship (up to December 1989), and as a PhD student in Electronic Engineering and Computer Science during 1990, was devoted to the identification of patterns for the statistical description of the signal backscattered from a natural surface when it is illuminated by a radar signal. The attention has been paid to the class of Gaussian composite processes, that are represented by the product of two independent random processes: one Gaussian and the other one arbitrary.

The class of Gaussian composite processes fits well, as evidenced by numerous experimental campaigns, the description of the glare from natural surfaces.

In the field of radar reception, the components of the exogenous random process evolve on different time scales: the Gaussian process is rapidly fluctuating Gaussian while the non-Gaussian component is slowly varying and is approximated to a random variable on short time intervals. Under these assumptions the composite process degenerates into a spherically invariant process. The usefulness of this approximation lies in the remarkable mathematical tractability and simplicity of algorithmic generation of spherically invariant processes.

As for the statistical characterization of the received stochastic process, it is shown that the Weibull distribution meets the requirements necessary to characterize the clutter as a spherically invariant random processes (SIRP). In particular it was shown that the process is framed as coherent Weibull SIRP if certain conditions are met for its form factor b.

It was also dealt with the generation of the stochastic process with Weibull envelope with respect to SIRP approach in spherical coordinates.

Based on this model it has been possible to study new techniques for the simulation of remotely sensed images with synthetic aperture radar systems.

- E. Conte, M. Lops, S.Ullo

  "A new Model for coherent Weibull clutter", proceedings of International Conference on Radar, Paris, France, 24-28 april 1989, vol.2 (A90-40951 18-32), Boulogne-Billancourt, France, RADAR 89, 1989, page(s) 482-487

  Source Type: NASA STI (Scientific and Technical Information) Conference Proceeding
  Original language: English **Document Type:** Conference Paper
  Bibliographic Code: http://adsabs.harvard.edu/abs/1989rada....2..482C

Radar detection in non-Gaussian environment

An innovative approach to the problem led to the complete revision of the hypothesis test and to the derivation of the optimum Neyman-Pearson receiver for signals with random initial phase and / or amplitude, embedded in correlated K-distributed noise. The detection of radar signals with unknown parameters in the presence of K-distributed noise requires the adoption of the model SIRP for the disorder. In this case we show that the receiver in the case of K-distributed noise differs from that for the Rayleigh-type disorder just for a linearity without memory according to the amplitude PDF of noise.

Scientific activity and Publications

- E.Conte, M.Longo, M.Lops, S.L.Ullo

  "Radar detection of signals with unknown parameters in k-distributed clutter", IEE Proceedings Part F: Radar and Signal Processing (Radar, Sonar and Navigation), Vol.138, Iss. 2, April 1991, page(s) 131-138
  ISSN: 0956375X **CODEN:** IPFPE **Source Type:** Journal **Original language:** English
  Document Type: Article

Evaluation of scheduling strategies in a semiconductor wafer fab using simulation

The activity was carried out in collaboration with Prof. Balakrishnan of Manufacturing Operations Department at the MIT Sloan School, Cambridge, USA, and with the Semiconductor Division of Analog Devices Company in Wilmington (MA), USA

The research developed at the Division of Semiconductors company, Analog Devices, in Wilmington, Massachusetts, USA, has investigated the performance of various and alternative shipping rules for batches of material within the process and input batch policies. For this purpose we developed a simulation model implemented through the use of a MAC software package: EXTEND.
The rules for batch release in input to the process and for the delivery of the same batch in the queues at various stages of processing are the key-issues necessary to achieve the so-called "shop-floor control" in a semiconductor fab.
These rules are about how to enter the material in the system and how to schedule and control the material in the process line to achieve the objectives of production planning systems through higher level. Different entry rules are used to improve performance and delivery of the semiconductor fab.
The various rules are compared by measuring parameters such as the number of batches produced as throughput, and the cycle time, i.e. the crossing time for the work line.
It has been shown that simple rules such as SPT and SRPT have improved performance, compared to the production line, if simply a FIFO policy is applied for the treatment of queues. It 's still needed to remember that the validity of these results is based on a series of assumptions that are the basis of the simulation model. However, the model was verified through simulation and it is reasonable to think that works good enough.
The applied research has been the subject of the thesis "Evaluation of Scheduling Strategies in a Semiconductor Wafer Fab Using Simulation", to obtain the Master at the MIT Sloan Business School, Cambridge, Massachusetts, USA

- "Evaluation of Scheduling Strategies in a Semiconductor Wafer Fab Using Simulation", thesis for the Master degree achieved at MIT Sloan Business School in Cambridge, Massachusetts, U.S.A.

Scientific activity and Publications

Data analysis through satellite remote sensing

The research carried out since the year 2004 at the Group of Telecommunications of the Faculty of Engineering, in the University of Sannio, and in collaboration with the group of Mediterranean Agency for Remote Sensing and Environmental Control (MARSEC) in Benevento, has focused on various issues relevant to the study and the analysis of data from satellite remote sensing with particular reference to the data of the sensor MODIS (Moderate Resolution Imaging Spectroradiometer) aboard the "Aqua" and "Earth" satellites.
Much of the research has been devoted to the analysis of MODIS data for detection of thermal anomalies on Earth (fire detection). The algorithms developed in the case of multispectral data from sensors, treated with single band and multiband cases, have been particularly innovative, ensuring a constant probability of false alarm. The application of these algorithms is needed to validate the data, whose statistical distribution must be of Location-Scale type to ensure the applicability of the CFAR (Constant False Alarm Rate) technique. The case of multi-band data has been addressed and solved based on the technique of PCA (Principal Component Analysis), which made it possible to extend the results obtained in one-dimensional case (single band) to the multidimensional case (multiband).
Research on remote sensing data using MODIS sensor has also been extended to the problems of analysis and reduction of striping, a phenomenon that appears as noise in the images collected by satellites. The problem has been addressed and the stripe reduced substantially through a calibration algorithm based on MMSE equalization of responses from different arrays of sensors.

M. Di Bisceglie,R. Episcopo, C. Galdi, S.L. Ullo

- "Algorythms used for the revelation of thermal anomalies through the use of multi-spectral satellites", V International Conference On Safety In Transportation (ICOSIT), Benevento, 11-15 April 2005

- "Constant False Alarm Rate Detection for MODIS Data", proceedings of IEEE "International Geoscience and Remote Sensing Symposium, IGARSS '05 ", Seul, 25-29 July 2005, Vol. 8, pp. 5717-5720
  ISBN: 0780390504;978-078039050-8 **CODEN:** IGRSE **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/IGARSS.2005.1526076
  Document Type: Conference Paper

- "Constant False Alarm Rate Detection for MODIS Data", International EOS/NPP Direct Readout Meeting, Mediterranean Agency for Remote Sensing and Environmental Control (MARSec), Benevento, 3-6 October 2005

- " Multiband CFAR Detection of thermal anomalies using Principal Component Analysis", proceedings of IEEE "International Geoscience and Remote Sensing Symposium, IGARSS '07 ", Barcelona, 23-28 July 2007, page(s) 4822-4825
  ISBN: 1424412129;978-142441212-9 **CODEN:** IGRSE **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/IGARSS.2007.4423940
  Document Type: Conference Paper

- "Destriping MODIS data using Overlapping Field of view Method", IEEE Transactions on Geoscience and Remote Sensing, vol. 47, no. 2, pp.637-651, Feb. 2009

  ISSN: 01962892 **CODEN:** IGRSD **Source Type:** Journal **Original language:** English **DOI:** 10.1109/TGRS.2008.2004034 **Document Type: Journal Paper/**Article

M. Ceccarelli, M. Di Bisceglie, C. Galdi, G. Giangregorio, S.L. Ullo

- "Image Registration Using Non-Linear Diffusion" , proceedings of IEEE "International Geoscience and Remote Sensing Symposium, IGARSS'08 ", Boston, 7-11 July 2008, Vol. 5, page(s) 220-223

  ISBN: 978-142442808-3 **CODEN:** IGRSE**Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/IGARSS.2008.4780067
  Document Type: Conference Paper

Scientific activity and Publications

As part of the satellite images elaboration, an algorithm was developed, based on non-linear diffusion, and it has shown to get a good performance if applied to real data obtained from various sensors.

A. Borzì, M. Di Bisceglie, C. Galdi, L. Pallotta, S.L. Ullo

- "Phase Retrieval in SAR Interferograms Using Diffusion and Inpainting", proceedings of IEEE "International Geoscience and Remote Sensing Symposium, IGARSS2010 ", Honolulu, 25-30 July 2010, page(s) 2912-2915 **ISBN:** 978-142449565-8;978-142449566-5 **CODEN:** IGRSE **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/IGARSS.2010.5652201 **Document Type:** Conference Paper

S.L. Ullo, M. Di Bisceglie, C. Galdi

- "A new algorithm for noise reduction and quality improvement in SAR Interferograms using inpainting and diffusion", proceedings of IEEE "International Geoscience and Remote Sensing Symposium, IGARSS2011", Vancouver, 24 -29 July 2011 , page(s) 3602-3605

  ISBN: 978-145771005-6 **CODEN:** IGRSE **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/IGARSS.2011.6050003 **Document Type:** Conference Paper

N. Fiscante, M. Focareta, C. Galdi, **S.L. Ullo**

- "*Analysis and validation of high-resolution satellite DEMs generated from EROS-D data for Montaguto landslide*", Proceedings of IEEE "International Geoscience and Remote Sensing Symposium, IGARSS2012", Munich, 22-27 July 2012 - **ISBN**: 978-146731158-8 **CODEN**: IGRSE **Source Type:** Conference Proceedings **Original language**: English **DOI**: 10.1109/IGARSS.2012.6351884 **Document Type**: Conference Paper

T. Beltramonte, M. Di Bisceglie, C. Galdi, **S.L. Ullo**

- "*CFAR Detection of Fire Events in Non-Homogeneous non-Gaussian Background*", Proceedings of IEEE "Tyrrhenian Workshop 2012 on Advances in Radar and Remore Sensing ", Naples, 12-14 September 2012 - **ISBN**: 978-1467732243-4 **CODEN:** TyWRRS **Source Type**: Conference Proceedings **Original language**: English **DOI**: 10.1109/TyWRRS.2012.6381138 **Document Type**: Conference Paper

T. Beltramonte, M. Di Bisceglie, C. Galdi, **S.L. Ullo**

- "Space-Time Statistics for the Number of Specular Points in Sea Surface GNSS Reflectometry" , proceedings of IEEE "International Geoscience and Remote Sensing Symposium, IGARSS2014, Québec, 13-18 July 2014, page(s) 3818-3821

  ISBN: 978-147995775-0 **CODEN:** IGRSE **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/IGARSS.2014.6947316 **Document Type:** Conference Paper

P. Addabbo, F. Antonacchio, T. Beltramonte, M. di Bisceglie, F. Gerace, G. Giangregorio, **S.L. Ullo**

- "*A Review of Spectrally Efficient Modulations for Earth Observation data downlink*", proceedings of IEEE International Workshop on Metrology for Aerospace, Benevento, 29-30 May 2014, page(s) 428-432

  Source Type: Conference Proceeding **Original language**: English **DOI**: 10.1109/MetroAeroSpace.2014.6865963 **Document Type**: Conference Paper

P. Addabbo, M.Di Bisceglie, M.Focareta, C.Maffei, **S.L.Ullo**

- *"Integration of Satellite observations and ground-based measurements for landfill monitoring"*, proceedings of IEEE International Workshop on Metrology for Aerospace, Benevento, 4-5 June 2015, page(s) 411-415

  Source Type: Conference Proceeding **Original language**: English **DOI**: 10.1109/MetroAeroSpace.2015.7180692 **Document Type**: Conference Paper

P.Addabbo, T. Beltramonte, M. Di Bisceglie, C. Galdi, G. Giangregorio, **S.L. Ullo,**

- *"4D-8PSK Trellis Coded Modulation: Implementation on FPGA Xilinx Virtex-6 ML605",* submitted to the second IEEE International Workshop on Metrology for Aerospace, Benevento, 4-5 June 2015, page(s) 378-383

  Source Type: Conference Proceeding **Original language**: English **DOI**: 10.1109/MetroAeroSpace.2015.7180686 **Document Type**: Conference Paper

Scientific activity and Publications

P.Addabbo, M. di Bisceglie, C. Galdi, **S.L. Ullo**, M. Focareta, C. Maffei,

- "*Combination of LANDSAT and EROS-B satellite images with GPS and LIDAR data for land monitoring. A Case Study: the Sant'Arcangelo Trimonte Dump*", proceedings of IEEE International Geoscience and Remote Sensing Symposium, IGARSS'15, Milan, 26-31 July 2015, page(s) 882-885

  ISBN: 978-147997928-8 **Source Type**: Conference Proceeding **Original language**: English **DOI**: 10.1109/IGARSS.2015.7325906 **Document Type**: Conference Paper

P.Addabbo, T.Beltramonte, , S. D'Addio, M. Di Bisceglie, C. Galdi, G. Giangregorio, **S.L. Ullo,**

- *"Stochastic Simulation of Delay-Doppler Maps for GNSS-R",* proceedings of IEEE International Geoscience and Remote Sensing Symposium, IGARSS '15, Milan, 26-31 July 2015, page(s) 4777-4780

  ISBN: 978-147997928-8 **Source Type**: Conference Proceeding **Original language**: English **DOI**: 10.1109/IGARSS.2015.7326898 **Document Type**: Conference Paper

P. Addabbo, M. Di Bisceglie, C. Galdi, **S.L. Ullo**

- *"The Hyperspectral Unmixing of Nitrogen Dioxide from the ESA-SCIAMACHY Nadir Measurements",* proceedings of IEEE International Geoscience and Remote Sensing Symposium, IGARSS '15, Milan, 26-31 July 2015, page(s) 3941-3944

  ISBN: 978-147997928-8 **Source Type**: Conference Proceeding **Original language**: English **DOI**: 10.1109/IGARSS.2015.7326687 **Document Type**: Conference Paper

P.Addabbo, M.Di Bisceglie, C.Galdi, **S.L. Ullo**

- *The Hyperspectral Unmixing of Trace-Gases From ESA-SCIAMACHY Reflectance Data",* published in IEEE Geoscience and Remote Sensing Letters, 21 July 2015, **ISSN** 1545-598X, **DOI** 10.1109/LGRS.2015.2452315, **Document Type**: Journal Paper

M. Focareta, S. Marcuccio, C. Votto, **S.L. Ullo**

- *Combination of Landsat 8 and Sentinel 1 data for the characterization of a site of interest. A Case Study: the Royal Palace of Caserta,* Proceedings of the 1st International Conference on Metrology for Archaeology, Benevento, 22-23 October 2015

P. Addabbo, M.Focareta, S. Marcuccio, C.Votto, **S.L. Ullo**

- *Land Cover Classification and Monitoring Through Multisensor Image and Data Combination*, submitted to IEEE International Geoscience and Remote Sensing Symposium, IGARSS '16, Beijing, 10-15 July 2016
- *Contribution of Sentinel-2 data for applications in vegetation monitoring*, pubblicato nel Vol.5, No.2, anno 2016, special issue of ACTA IMEKO (ISSN 2221-870X, DOI: http://dx.doi.org/10.21014/acta_imeko.v5i2.352), e- Journal of IMEKO(International Measurement Confederation), http://acta.imeko.org/index.php/acta-imeko

P. Addabbo, C. Clemente, **S.L. Ullo**

- *Fourier Independent Component Analysis of Radar Micro-Doppler features*, Proceedings of the 4th IEEE International Workshop on Metrology for Aerospace (MetroAeroSpace 2017), 21-23 june 2017, Padua, Italy.

P.Addabbo, A. Angrisano, M.L. Bernardi, G. Gagliarde, A. Mennella, M. Nisi, **S. Ullo**

- *A UAV Infrared Measurement Approach for Defect Detection in Photovoltaic Plants*, Proceedings of the 4th IEEE International Workshop on Metrology for Aerospace (MetroAeroSpace 2017), 21-23 June 2017, Padua, Italy. **This paper has been awarded as Best Paper of the Poster Session and an extended version will be published in the IEEE AESS Magazine.**
- *A UAV System for Photovoltaic Plants Inspection,* submitted to IEEE Aerospace and Electronic System (AESS) Magazine, July 2017

M. Nisi, A. Mennella, G. Gagliarde, G. Luisi, B. Muhammad, R. Prasad, E. Cianca, D. Marenchino, A. Angrisano, M. Bernardi, P. Addabbo, **S. Ullo**

- *EASY-PV: A ready-to-market EGNSS high Accuracy System improving photovoltaic plant maintenance,* to be presented at the 35th AIAA International Communications Satellite System Conference (ICSSC), 16-19 October 2017, Trieste, Italy (www.kaconf.org)

B. Muhammad, R. Prasad, M. Nisi, A. Mennella, G. Gagliarde, E. Cianca, D. Marenchino, A. Angrisano, M. Bernardi, P. Addabbo, **S. Ullo**

- *Automating the Maintenance of Photovoltaic Power Plants*, IEEE Global Wireless Summit (GWS), July 13, 2017 - Century City , Cape Town, South Africa

Piedimonte, P., and **S. Ullo**
"Applicability of the mixed reality to maintenance and training processes of C4I systems in Italian Air Force", 5th IEEE International Workshop on Metrology for AeroSpace, MetroAeroSpace 2018 - Proceedings: Institute of Electrical and Electronics Engineers Inc., pp. 559–564, 2018.

Ullo, S.
"Evolution of cognitive radars toward intelligent systems architectures", 5th IEEE International Workshop on Metrology for AeroSpace, MetroAeroSpace 2018 - Proceedings: Institute of Electrical and Electronics Engineers Inc., pp. 334–339, 2018.

Addabbo, P., A. Aubry, A. De Maio, L. Pallotta, and **S. Ullo**
"High Resolution Range Profiling for Stepped Radar via Sparsity Exploitation", International Workshop on Compressed Sensing applied to Radar, Multimodal Sensing, and Imaging. CoSeRa, 5th Edition: 10-13 September 2018, Siegen, Germany, 2018.

Addabbo, P., A. Aubry, A. De Maio, L. Pallotta, and **S. Ullo**
"HRR profile estimation using SLIM (High Range Resolution Profile Estimation using Sparse Learning via Iterative Minimization)", IET RADAR, SONAR & NAVIGATION, 2018.

Cicala, L. , C. V. Angelino, N. Fiscante, and **S. Ullo**
"Landsat-8 and Sentinel-2 for Fire Monitoring at a Local Scale: a Case Study on Vesuvius", IEEE 2018 International Conference on Environmental Engineering, pp. 1–6, 2018.

Luca, C., P. Sara, A. Cesario Vincenzo, F. Nicomino, **S. Ullo,** and A. Pia
"Post-fire assessment of burned areas with very high resolution Sentinel-2 and Landsat-8 images", GEOBIA 2018, 2018.

Ullo, S., C. V. Angelino, L. Cicala, N.. Fiscante, P. Addabbo, M. P. Del Rosso, and A. Sebastianelli
"SAR Interferometry with open Sentinel-1 data for environmental measurements: the case of Ischia earthquake", IEEE 2018 International Conference on Environmental Engineering, pp. 1–8, 2018.

Addabbo, P., A.. Angrisano, M. L. Bernardi, G.. Gagliarde, A. Mennella, M. Nisi, and **S. Ullo**
"A UAV System for Photovoltaic Plants Inspection", IEEE AEROSPACE AND ELECTRONIC SYSTEMS MAGAZINE, vol. 33, pp. 58–67, 2018.

Ullo, S., C. V. Angelino, L.. Cicala, N. Fiscante, and P. Addabbo
"USE OF DIFFERENTIAL INTERFEROMETRY ON SENTINEL-1 IMAGES FOR THE MEASUREMENT OF GROUND DISPLACEMENTS. ISCHIA EARTHQUAKE AND COMPARISON WITH INGV DATA",IEEE IGARSS 2018, pp. 2216–2219, 2018.

Di Martire, D., P. Confuorto, A.. Frezza, M. Ramondini, V. A. Lòpez, M. P. Del Rosso, A.. Sebastianelli, and **S. Ullo**
"X- and C-Band SAR Data to Monitoring Ground Deformations and Slow-moving Landslides for the 2016 Manta and Portoviejo Earthquake (Manabì, Ecuador)", IEEE 2018 International Conference on Environmental Engineering, pp. 1–6, 2018.

Carminati, M., O. Kanoun, **S. Ullo**, and S. Marcuccio
"Prospects of Distributed Wireless Sensor Networks for Urban Environmental Monitoring", IEEE AEROSPACE AND ELECTRONIC SYSTEMS MAGAZINE, 2019.

Marcuccio, S., **S. Ullo**, M. Carminati, and O. Kanoun
"Smaller Satellites, LargerConstellations:Trends and Design Issues for Earth Observation Systems", IEEE AEROSPACE AND ELECTRONIC SYSTEMS MAGAZINE, 2019.

Ullo, S., P. Piedimonte, F. Leccese, and E. De Francesco, "A Step toward the Standardization of Maintenance and Training Services in C4I Military Systems with Mixed Reality Application", MEASUREMENT, 2019.

A Two Step Process for a Cognitive Radar Waveform Design with Multipath Exploitation
S.H. Gulen Yilmaz, C. Zarro, H. T. Hayvaci, **SL Ullo**
7th IEEE International Workshop on Metrology for AeroSpace, MetroAeroSpace 2020 - Proceedings: Institute of Electrical and Electronics Engineers Inc., 2020

Cognitive and Biosensors
M Samrudhi, S Mridu, G R Sinha, **SL Ullo**
IOP Publishing Ltd 2020, Chapter Contribution

Application of DInSAR Technique to High Coherence Satellite Images for Strategic Infrastructure Monitoring
T De Corso, L Mignone, A Sebastianelli, MP Del Rosso, C Yost, E Ciampa, **SL Ullo**, S. Sica, M. Pecce
arXiv preprint arXiv:2004.09501

Advances in Smart Environment Monitoring Systems Using IoT and Sensors
SL Ullo, GR Sinha
Sensors 20 (11), 3113

Semi-Automatic Classification of Building from Low-Density LiDAR Data and WorldView-2 Images through OBIA Technique
C Zarro, **S Ullo**, G Meoli
IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2020

LiDAR-Based System and Optical VHR Data for Building Detection and Mapping
SL Ullo, C Zarro, K Wojtowicz, G Meoli, M Focareta
Sensors 20 (5), 1285

Smaller Satellites, Larger Constellations: Trends and Design Issues for Earth Observation Systems
S Marcuccio, **S Ullo**, M Carminati, O Kanoun
IEEE Aerospace and Electronic Systems Magazine 34 (10), 50-59

From the Editors of the Special Issue on Wireless Sensor Networks and Remote Sensing for Environmental Applications
O Kanoun, S Marcuccio, **SL Ullo**, M Carminati
IEEE Aerospace and Electronic Systems Magazine 34 (10), 5-5

Prospects of Distributed Wireless Sensor Networks for Urban Environmental Monitoring
M Carminati, O Kanoun, **SL Ullo**, S Marcuccio
IEEE Aerospace and Electronic Systems Magazine 34 (6), 44-52

Landslide geohazard assessment with convolutional neural networks using sentinel-2 imagery data
SL Ullo, MS Langenkamp, TP Oikarinen, MP DelRosso, A Sebastianelli, ...
IGARSS 2019-2019 IEEE International Geoscience and Remote Sensing Symposium …

High-resolution topographic surveys and earth features extraction through LiDARs. Discussion of some Case Studies
C Zarro, **SL Ullo**
2019 IEEE 5th International Workshop on Metrology for AeroSpace …

A step toward the standardization of maintenance and training services in C4I military systems with Mixed Reality application
SL Ullo, P Piedimonte, F Leccese, E De Francesco
Measurement 138, 149-156

Application of DInSAR Technique to High Coherence Sentinel-1 Images for Dam Monitoring and Result Validation Through In Situ Measurements
SL Ullo, P Addabbo, D Di Martire, S Sica, N Fiscante, L Cicala, C. V. Angelino
IEEE Journal of Selected Topics in Applied Earth Observations and Remote …

From the Editors of the Special Issue on Wireless Sensor Networks and Remote Sensing for Environmental Applications
K Olfa, M Salvo, **SL Ullo**, C Marco

Book Review Book: Human-in-the-Loop. Probabilistic Modeling of an Aerospace Mission Outcome by: Ephraim Suhir Published 2018 by CRC Press/Taylor & Francis Group 6000 Broken …
F Alfonso, **SL Ullo**

Scientific activity and Publications

Study of Telecommunication Networks with particular reference to the Sensors Networks and Smart Grids

In this context, the research, carried out in collaboration with the group of the Computer Science Faculty of Engineering, in the University of Sannio, was mainly devoted to the study of sensor networks, with more attention to the case of hybrid networks, i.e. whose nodes, both dynamic and static nodes, cooperate with each other in order to perform specific tasks. As part of the problems of information processing in a distributed and coordinated environment, more commonly known as "pervasive computing", an algorithm was developed, based on the concept of "Credit Field". According to the fundamental objective in the use of hybrid sensor networks, on the development of applications related to the problems of guided navigation and avoidance of obstacles, the algorithm develops programming techniques, which allow dynamic nodes (mobile agents) to use code mobility mechanisms to reduce the network load and power consumption. The algorithm was implemented on the Agilla middleware, whose characteristics are more suitable for treating problems of obstacle detection and obstacle avoidance, being supportive to the migration of mobile agents through a sensor network with a high level of abstraction in the communication between nodes and in concurrent elaboration of processes.

In the study of sensor networks, particular attention was paid to energy aspects, in the context of a project developed with the group of Electric Energy Systems of the Faculty of Engineering, in the University of Sannio. In particular, specific systems have been analyzed to support advanced telecommunications services, such as the high-speed transmissions between satellite and terrestrial stations. An adaptive architecture was developed for the thermal protection of electric lines, based on the use of a corrective algorithm that acquires data over fiber optic sensors. Part of this work has been devoted to the study of Smart Grids and their use as advanced networks that cooperatively combine the synergies of electricity grids, telecommunications networks and computer networks.

F. Frattolillo, N. Quarantiello, S.L. Ullo

- “Implementing Assisted Navigation in Hybrid Sensor Networks”, proceedings of IEEE “International Geoscience and Remote Sensing Symposium, IGARSS’07 ”, Barcelona, 23-27 July 2007, page(s) 2909-2912
  ISBN: 978-142441212-9 **CODEN:** IGRSE **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/IGARSS.2007.4423452 **Document Type:** Conference

D.Villacci, S.L. Ullo, A. Vaccaro

- “Integration of Satellite Technologies and Learning Techniques for Wide Area Power Lines Thermal Protection”, “19th International Conference on Electricity Distribution, CIRED ‘07 “, Vienna, 21-24 May 2007

F. Frattolillo, F. Landolfi, S.L. Ullo

- “Energy Consumption Estimation in Hybrid Sensor Networks Running Assisted Navigation Algorithms”, proceedings of IEEE “International Geoscience and Remote Sensing Symposium, IGARSS’08, Boston, MA, 7-11 July 2008,Vol. 3, page(s) 1406-1409
  ISBN: 978-142442808-3 **CODEN:** IGRSE **Source Type:** Conference Proceeding
  Original language: English **DOI:** 10.1109/IGARSS.2008.4779624
  Document Type: Conference Paper

In relation to the type of wireless sensor networks (WSN) it has been examined the performance of IEEE 802.15.4 and ZigBee protocols to determine their suitability for applications in monitoring and supervision of smart grids on an urban scale.

S. L. Ullo, A. Vaccaro, G. Velotto

- “Performance Analysis of IEEE 802.15.4 based Sensor Networks for Smart Grids Communications”, Journal of Electrical Engineering: Theory and Application (JEETA), Vol. I-2010 /Iss.3, pp.129-134

  Source Type/Publisher: HyperSciences_Publisher **Print ISSN** 1737-9350 **Online ISSN** 1737-9369 Original language: English **Document Type: Journal** Paper/Article

Scientific activity and Publications

S. L. Ullo, A. Vaccaro, G. Velotto

- "The role of Pervasive and Cooperative Sensor Networks in Smart Grids Communication", proceedings of the 15th IEEE Mediterranean Electrotechnical Conference (MELECON) 2010, Valletta, Malta, 26-28 April 2010, page(s) 443-447

  ISBN: 978-142445795-3 **CODEN:** PMECF **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/MELCON.2010.5476236 **Document Type:** Conference Paper

M. Di Bisceglie, S. L. Ullo, A. Vaccaro

- "The role of Cooperative Information Spreading Paradigms for Smart Grids Monitoring", proceedings of the 16th IEEE Mediterranean Electrotechnical Conference (MELECON) 2012, Yasmine Hammamet, 25-28 March 2012, page(s) 814-817

  ISBN: 978-146730782-6 **CODEN:** PMECF **Source Type:** Conference Proceeding **Original language:** English **DOI:** 10.1109/MELCON.2012.6196554
  Document Type: Conference Paper

S. L. Ullo, A. Vaccaro

- "Gossip Sensor Networks for Power Quality Monitoring in Smart Grids", proceedings of International Conference on Renewable Energies and Power Quality (ICREPQ), Santiago de Compostela (Spain), 28-30 March 2012

OTHER PUBLICATIONS

- Book CHapter: S.L. Ullo, A. Vaccaro

Power Quality 2017 – Chapter. VIII – DECENTRALIZED PROTOCOLS FOR POWER QUALITY MONITORING IN PERVASIVE NETWORKS-CASE STUDY: THE SMART GRIDS

Personal Data

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(http://www.cambridgescholars.com/power-quality)

(https://books.google.it/books?hl=en&lr=lang_en&id=WDnZDQAAQBAJ&oi=fnd&pg=PA115&ots=YL_2OmOVih&sig=gWf7n4yvz6iq8AlGvho_-ufq-YY#v=onepage&q&f=false)

"I declare that I have read and understood the information for the processing of candidate data - provided by Consedin spa - pursuant to EU Reg. 679/2016 and I give my consent for the processing of personal data belonging to particular categories, possibly contained in my curriculum vitae ".

June 21, 2020

ANNEXES

- **MIT Sloan School – Courses List.pdf**

MIT Sloan School – Courses List.pdf

List of Courses taken at the MIT Sloan School to obtain the Master of Science.
This list is produced by translating the Grade Report produced by the Sloan School.
Next to each course there's its code, and the score of the examination (when supported).
For each course credits are given.

Note: the total number of credits (units) got was 222
Note: the course of Special Seminar in Management (15.970 code) has provided 3 credits in the first year and other 3 credits in the last year, equivalent to a single course of 6 credits
Note: the course of French III has been taken with final score B, but not registered (DR code)

Legenda

A vote is the maximum among the possible (A, B, C, D, DN, F) and shows an excellent performance;
B shows a good performance;
P is simply Passed;
DR notes that the course was removed from the curriculum but I have taken the course as an auditor.

First year – I Quarter (September 1990-December 1990)

1. Decision Support System II, class code 15.061, score A, units 9
2. Principles of Information Technology, class code 15.562, score B, units 9
3. Accounting&Finance I, class code 15.515, score B, units 9
4. Strategic Management, class code 15.930, score B, units 6
5. Applied Microeconomics, class code 15.011, score A, units 9
6. Introduction to Applied Macroeconomics, class code 15.003, score P, units 6
7. Communication for Managers, class code 15.280, score B, units 6
8. Managerial Behavior in Organizations, class code 15.311, score B, units 9
9. Special Seminar in Management, class code 15.970, score P, units 3

First year – II Quarter (February 1991-May 1991)

1. Decision Support System III, class code 15.062, score A, units 9
2. Introduction to Operations Management, class code 15.760, score A, units 6
3. Operations Management: Models and Applications, class code 15.762, score A, units 6
4. Finance Theory, class code 15.415, score B, units 15
5. Macroeconomics and International Economics, class code 15.012, score B, units 9
6. Introduction to Marketing, class code 15.810, score A, units 6
7. Industrial Relations and Human Resources Management, class code 15.660, status DR

Second year - I Quarter (September 1991-December 1991)

1. Practice of Operations Management, class code 15.763, score A, units 9
2. Industrial Economics for Strategic Decisions, class code15.013,score B,units 9
3. Special Seminar in Quality, class code 15.971, score P, units 9
4. Special Seminar in International Management, class code 15.229, score B, units 6
5. International Perspectives on Industrial Relations and Human Resource Development, class code 15.674J, score A, units 9

6. French I, class code 21.201, score A, units 12

Second year - II Quarter (February 1992- May 1992)

1. Manufacturing Management, class code 15.799, status DR
2. Workshop in Operations Management, class code 15.799, status DR
3. Total Quality Management, class code 15.766, score A, units 9
4. Special Seminar in Management, class code 15.970, score P, units 3
5. French III, class code 21.203, score B, status DR

Course Description

Below the description of all the courses for which was also awarded the final exam.
It is not given a description of the courses taken as an auditor.

Decision Support System II : introduces the concepts of statistics, random variables and elements of probability theory. Topics: basic concepts of probability and statistics; sampling and data collection, data analysis and representation, probability distributions, inference and diagnostics for linear regression models, elements of probability theory, statistical computing and simulation.

Principles of Information Technology: course on the use of Information Systems (IS) and their applications; study of Information Technology (IT) and their application. Topics: Using Information Systems to support the work; Use of Information Technologies and their implications in the world of information, evaluation and application of advanced IT.

Accounting & Finance: introduces the basic concepts for the study and presentation of financial information through the most popular models of data representation (tables, graphs, etc.). Introduces the methods of financial analysis, in order to make people able to understand and use financial reports of a company.

Strategic Management: this course focuses on the concepts, theories, techniques and methods of strategic management. The main objective of the course is to understand the interplay between the formulation and implementation of organizational strategies.

Applied Microeconomics: introduces the basic principles of microeconomic analysis and applies them to the choice of management decisions and policies. Topics: cost and production, supply and demand; behavior of competitive and non-competitive markets; analysis of "pricing" and related policies; reasoning and effects of government rules and "antitrust" regulations.

Introduction to Applied Macroeconomics: basic principles of macroeconomics and application to management decision and policy.

Communication for Managers: study and learning of "skills" in verbal and written language needed to speak in public. Communication strategies and methods through discussion of principles with examples and case studies. Verbal and written checks, some based on matters from other courses.

Managerial Behavior in Organizations: analysis and study of human characteristics and interpersonal skills to assume positions as "leaders" in both the public and the private companies. Emphasizes the managerial applications of science concepts of social equity and the results of research in the field. Use experimental models of learning and case studies as well as readings and discussions. The course material covers both aspects of micro (individuals and small groups) that macro aspects (inter-relationships, culture and organizational learning).

Special Seminar in Management: examines the management through informal meetings with Managing Directors who represent various types of industries and that are used in both public and private. Examines the managerial philosophies. The practical problems of management of career and personal paths. Helps people to develop qualities needed to listen and ask questions. The course was divided into two parts of three credits each for a total of six credits (in different terms).

Decision Support System III: study of advanced statistical concepts, game theory, and various other systems, decision support systems, emphasizes the problems of identification and formulation of models, giving a structure to assumptions and data requirements, estimating the quality based on specific models . Topics: decision analysis, simulation, linear programming, integer programming and dynamic decision making under uncertainty.

Introduction to Operations Management: covers the basic concepts of operations research, with specific applications to the world of industrial production; explains how to transform inputs (labor, materials, money, equipment, time information) in the output (products, money, waste and experience / knowledge). It is organized through the description of the production processes with the use of Flow

Diagram; examines the challenges of Operations Management under uncertainty in dynamic situations and the interaction of "competitors". We analysed various types of processes (Project, Job shop, Batch, Flow Line, Continuous).

Operations Management: Models and Applications: from the concepts developed in the courses 15.760 and 15.761 a study to focus on the models and techniques needed to diagnose and estimate operational performance, in order to make decisions in the short and long term. Introduces through readings, exercises, and discussion of real cases, various descriptive models and decision support models, methods for inventory management, planning and scheduling, improving quality, for tactical planning, production capacity design and for manufacturing system design.

Finance Theory: study of the theory of capital markets and corporate finance. Topics: functions and operations of capital markets; analysis of consumption and investment decisions of investors diversification and portfolio selection, estimation theory and determination of the equilibrium price of goods at risk; theory of efficient markets, investment and financial decisions of companies. Theoretical basis for subsequent studies and practical applications.

Macroeconomics and International Economics: Macroeconomics, international trade, finance, emphasis on the implications of individual and collective behavior on the markets. Topics of Macroeconomics: cycles of "business" and their effect on businesses, fiscal and monetary policies, inflation and unemployment, economic growth in the long-term macroeconomic forecasts. Topics in international economics: balance of payments, exchange rates, trade and specialization; trade policy and international competition, international lending and investment, and the problem of international debt and the global financial system.

Introduction to Marketing: introduces the concepts and knowledge needed to manage the function of marketing.Topics: marketing strategy, competitive analysis, consumer behavior, new product development, marketing research, and study of the marketing mix: advertising, promotion, selling, distribution, and price management.

Industrial Relations and Human Resources Management: introduces the industrial relations and human resource management. Explore the role of industries in the industrial relations systems. Examines the effects of the environment on human resource management strategies. Establishes strategies and their effects on industries, employers, labor organizations, and public works. Use teamwork to demonstrate the dynamics of the negotiations and conflict resolution.

Practice of Operations Management: provides an opportunity to learn how to diagnose and solve problems that may arise within the Operations Management. Topics: analysis of real cases; study of local industries and service companies to understand the opportunities for process improvement. Emphasizes integrated approaches, using methods extracted from the operational research, the information systems (IS) for the design and management of organizations.

Industrial Economics for Strategic Decisions: applies the principles of the world industries to decide which are the best strategies to adopt. Topics: market structure and its determinants; strategic behavior in situations of "small numbers" of strategies competing on price or based on other parameters; dynamics for the determination of prices; choices on products and advertising, new inputs and deterrents to limit the entry of new "competitors"; evolution of industries.

Special Seminar in Quality: study of the tools of Total Quality Management (TQM) methods as KJ, 7Steps, tree diagrams, and various decision systems; study of the method Multi-Pickup. Diagnosis of management. The course is developed through articles, lectures and case studies. Ends with a practical application to Sloan Cafeteria.

Special Seminar in International Management: introduces the technology systems of quality control and production of Japanese companies; establishes comparison analysis to understand whether and how the technology can be transferred from Japan to American world. It examines the differences between the U.S. and Japan. This course resulted in the selection of thirty students (about 200 members) to attend a two-week study tour in Japan and Korea. The undersigned has been selected and sent on behalf of the school to visit and study industries and financial companies of the two countries (Nissan, Fuji Film, NKK, Kirin Brewery, Nomuna Securities, Tokio Marine, Sumitomo Trust, Samsung, Hyundai, Sunkyung, Economic Agencies) .

International Perspectives on Industrial Relations and Human Resource Development: International and comparative analysis of the systems of industrial relations systems and human resource development. It focuses on the examination of selected topics involving the nature and functions of labor and management of the organization in different contexts, the role of the state in establishing procedures and in shaping the substance of industrial relations, the structure of employment in comparative systems of human resource development, on workers' participation in management.

French I: basic French language course

French III: advanced French language course

Total Quality Management: learning management skills and study of basic and advanced concepts for Total Quality (TQ). Topics: approach to quality that encompasses management strategies, vision and commitment, including methods for achieving total quality in different cultures. Reported on tools and approaches to problem solving and improvement activities, through readings, articles, applications to real cases and participation to meetings.