

CURRICULUM VITAE

Angela Beninato

PERSONAL INFORMATION



First name / Surname	ANGELA, BENINATO
Address	VIA RINDONE, SNC - 94013 - LEONFORTE (EN)
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e-mail	beninato.angela@gmail.com
Nationality	Italian
Date of birth	27/08/1977

WORK EXPERIENCE

- Dates
- Occupation or position held
- Name and address of employer
- Type of business or sector
- Main activities and responsibilities
- Duration

11/ 2011 to date

Fixed term contract

Università di Catania, Dipartimento di Ingegneria Elettrica Elettronica e Informatica
Scientific

Development of micro and nanosensors for energy harvesting.
Six months

EDUCATION AND TRAINING

- Dates
- Title of qualification awarded
- Name and type of organization
- Providing education and training

11/2008 – 11/2011

Ph. D. in Electronics, Automation and Complex Systems Engineering

Università degli studi di Catania, Facoltà di Ingegneria, Dipartimento di Ingegneria Elettrica Elettronica e dei Sistemi.

Modeling and characterization of microsensors for biomedical application; modeling, realization and characterization of ferrofluidic sensors; physical realization of nanosensors in clear room.

- Dates
- Education activities
- Name and type of organization
- Providing education and training

22/05/2010 - 01/06/2010

Training on dual beam (SEM-FIB) electronic microscopy

TESCAN s.r.o. BRNO (Czech Republic)

Use of the microscope and of the relative software. Fabrication of micro and nano devices.

- Dates
- Education activities
- Name and type of organization
- Providing education and training

19/07/2009 - 25/07/2009

IEEE IMU (International Measurement University) Ph.D School

IEEE

Advanced lectures on Measurement theory, measurement systems design, microsensors.

- Dates
- Education activities
- Name and type of organization
- Providing education and training

01/09/2008 - 01/11/2008

Two months grant awarded.

Università degli studi di Catania, Facoltà di Ingegneria, Dipartimento di Ingegneria Elettrica Elettronica e dei Sistemi.

Study and development of biomedical sensors for magnetic immunoassay.

- Dates
- Title of qualification awarded
- Principal subjects skills covered
- Mark
- Name and type of organization
- Providing education and training

2008

Master Degree in Electronic Engineering - Microelectronics

Thesis Title: "Development of inductive micro-sensors for magnetic immunoassay" (In cooperation with STMicroelectronics of Catania)

109/110

Università degli Studi di Catania, Facoltà di Ingegneria, Corso di Laurea in Ingegneria Elettronica (V.O.)

Electrical engineering, Electronics, Systems Theory, Signal Theory, Digital Systems Electronics, Industrial Electronics Power Systems, Radio Frequency, Electronics Computers, Electronic devices, Electronic measuring instruments

- Dates
- Title of qualification awarded
- Name and type of organization

JULY 2004

ECDL

University of Catania

- Dates
- Title of qualification awarded
- Name and type of organization
- Mark

JULY 1996

Classical studies

Liceo Classico "Nunzio Vaccalluzzo" Leonforte (EN)
60/60.

PERSONAL SKILLS AND COMPETENCES

Mother Tongue

Italian

OTHER LANGUAGE

English

	Understanding	Speaking	Writing
	Good	Good	Good

TECHNICAL SKILLS AND COMPETENCES

My work in these years has been focused on the development (design, modeling, fabrication, characterization) of microsensors, in particular inductive microsensors for magnetic immunoassay, and of microfluidic devices that exploit the magneto-rheologic properties of ferrofluids toward the realization of sensors (accelerometers, gyroscopes) and actuators (pumps). Other than sensors I have also worked on the design and characterization of analog electronics for signal conditioning thus reaching a very good competence in this field.

Another major activity in this period has been related to micro and nano fabrication technologies mainly based on electronic and ionic beam.

SOCIAL SKILLS AND COMPETENCES

Excellent ability to work in teams and to deal with high level stress situations.

Good teaching methods/organization to ensure the achievement of goals: during the period of doctoral research I had the opportunity to interact with many students, following them during their thesis.

Ability to interact with people with different habits, overcome the difficulties arising from the different languages, consolidated and strengthened through the Ph.D. experience.

ORGANIZATIONAL SKILLS AND COMPETENCES

The planning work necessary during my college experience has led me to be able to organize own work, setting priorities and taking responsibility. The management of activities relating to projects and the research activities conducted at the Laboratory of University of Catania have positively affected.

I'm also one of supervisors in many thesis dissertation of master degree, this has led me to follow and coordinate the work of undergraduates.

COMPUTER SKILLS AND COMPETENCES

Due to my work in a laboratory of electronic measurements, I have reached a very good knowledge of instruments as oscilloscopes, function generators, data acquisition, *National Instruments DAQ* and related software. In addition, I use different softwares to simulate and characterize sensors: *Coventor* and *Ansys* to simulate mechanical, thermal and electric behaviour as a function of geometrical parameters; *MemsPro* to design layouts; *Multisim* to simulate the electronics; *Altium Protel* to design PCB; *Labview* to impose and acquire signals; *Matlab* to elaborate signals e to get the calibration diagram.

Design And Simulation:

- Matlab
- Altium Protel
- Ansys
- Labview
- Multisim
- Coventor
- MemsPro

Operating Systems:

- Windows (95 – 98 – Me – 2000 – Xp –7 – Vista)

Application:

- Microsoft Office.
- Internet Explorer, Mozilla, Chrome
- Adobe Photoshop

LIST OF PUBLICATIONS

- Books:**
- [B1] B. Andò, S. Baglio, **A. Beninato**, *Magnetic fluids for bio-medical application*, in "Advances in Biomedical Sensing, Measurements, Instrumentation and Systems" Springer – Verlag Publisher.
 - [B2] B. Andò, S. Baglio, **A. Beninato**, G. Fallica, V. Marletta, *Development of an integrated inductive sensor for magnetic immunoassay in "lab on chip" device*, in "From Physics to Control through an Emergent View " World Scientific.
 - [B3] B. Andò, S. Baglio, **A. Beninato**, V. Marletta, *Ferrofluids and their use in sensors*, in "Sensors Technologies", CRC press, in press.

- Journals:**
- [J1] B. Andò, S. Baglio, **A. Beninato**, *A low cost inertial sensor based on shaped magnetic fluids*, IEEE Transactions on Instrumentation and Measurement, in press.
 - [J2] B. Andò, S. Baglio and **A. Beninato**, *Can Ferrohydrodynamic Instabilities be Useful in Transducers?*, IEEE Magazine on Instrumentation and Measurements, Vol. 14, No.1, pp. 38-45, 2011.
 - [J3] B. Andò, S. Baglio, **A. Beninato**, *An IR methodology to assess the behavior of Ferrofluidic transducers. Case of study: a contact-less driven pump*, IEEE sensors, Volume 11, no. 1, January 2011
 - [J4] B. Andò, S. Baglio, **A. Beninato**, *Behavior Analysis of Ferrofluidic Gyroscope Performances*, Sensors & Actuators: A. Physical, 2010
 - [J5] B. Andò, A. Ascia, S. Baglio, **A. Beninato**, *A Ferrofluidic Inertial Sensor exploiting the Rosensweig effect*, Instrumentation and Measurement, IEEE Transactions on , vol.59, no.5, pp.1471-1476, May 2010

- [J6] B. Andò, S. Baglio, **A. Beninato**, S. La Malfa, N. Pitrone, *Advanced Educational Tools in Measurement and Sensors: from remote monitoring systems to magnetic fluids*, Inter. Journal of Education and Information Technologies, Issue 1, Volume 3, 75-84, 2009
- [J7] B. Andò, A. Ascia, S. Baglio, **A. Beninato**, *The "One drop" FERROFLUIDIC PUMP with Analog control: "FP1_A"*, Sensors & Actuators: A. Physical, Volume 156, Issue 1, November 2009, Pages 251-256

Conferences proceedings:

- [C1] B. Andò, S. Baglio, **A. Beninato**, *A inertial sensor exploiting a spike shaped ferrofluid*, Instrumentation and Measurement Technology Conference (I2MTC), 2011 IEEE, pp. 1-5, May 2011.
- [C2] B. Andò, S. Baglio, **A. Beninato**, *A flow sensor exploiting magnetic fluids*, Proc. Eurosensors XXV, Athens, Greece, September 4-7, 2011.
- [C3] Andò B., Baglio S., **Beninato A.**, Graziani S., Pitrone N., *Sensori basati sull'impiego di ferrofluidi*, GME Atti del Congresso Nazionale, 2010, Gaeta, pp. 90-91.
- [C4] Andò B., Baglio S., **Beninato A.**, Graziani S., La Malfa S., Marletta V., Pitrone N., Pagano F., Umana E., *Sviluppo di sistemi sperimentali innovativi di ausilio alla didattica*, GME Atti del Congresso Nazionale, 2010, Gaeta, pp. 288-289.
- [C5] B. Andò, S. Baglio, **A. Beninato**, V. Marletta, *An integrated differential inductive sensor implementing bio-immunoassay*, IEEE - Biosensing 2009.
- [C6] B. Andò, S. Baglio, **A. Beninato**, G. Fallica, C. Galati, V. Marletta, L. Renna, *Development of an integrated inductive sensor for magnetic immunoassay in lab on chip device*, Physcon 2009, pp. 189, 2009.
- [C7] B. Andò, A. Ascia, S. Baglio, **A. Beninato**, *Innovative Ferrofluidic Inertial Sensor exploiting the Rosensweig effect*, IEEE, IMTC2009, pp. 1419-1422, 2009.
- [C8] B. Andò, S. Baglio, **A. Beninato**, G. Fallica, V. Marletta, N. Pitrone, *Analysis and design of inductive biosensors for magnetic immuno assay*, XIX IMEKO World Congress Fundamental and Applied Metrology, 2009, pp.1729-1733.
- [C9] B. Andò, S. Baglio, **A. Beninato**, , *Behavior Analysis of a Ferrofluidic Gyroscope Performances*, Proceedings of the Eurosensors XXIII conference, 2009, pp.1-4.
- [C10] B. Andò, S. Baglio, **A. Beninato**, *A Novel Non-invasive Implementation of Pumping Mechanism in Preexisting Capillary*, IEEE sensors 2009, pp. 1349 - 1353, 2009.
- [C11] B. Andò, S. Baglio, **A. Beninato**, S. Graziani, N. Pitrone, *Sensori basati sull'impiego di ferrofluidi*, GME Atti del Congresso Na-zionale, 2009.
- [C12] B. Andò, A. Ascia, S. Baglio, **A. Beninato**, S. La Malfa, N. Pitrone, *Sensing a physical movement with a ferrofluidic device*, the 4th WSEAS International Conference on Remote Sensing (Remote'08), pp. 99-102, 2008.
- [C13] B. Andò, **A. Beninato**, S. La Malfa, N. Pitrone, *Didactic tool assisting visually impaired students during laboratory sessions*, the 7th WSEAS International Conference on Education and Educational Technology, EDU'08, pp. 190-193, 2008.

ATTENDANCE TO INTERNATIONAL CONFERENCES

- Dates 09/11/2009 – 16/11/2009
- Name Of Conference First biosensing conference, Bristol, United Kingdom.

- Dates 01/09/2009 – 04/09/2009
- Name Of Conference 4th International Scientific Conference on Physics and Control, Catania, Italy.