

**GABRIELE SPINA**  
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## Personal Information

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Birthdate 22-10-1986

Birthplace Palermo (PA), Italy

Gender Male

## Personal summary

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A bright, talented and self-motivated biomedical engineer who has excellent organisational skills, is highly efficient and has a good eye for detail. Has extensive experience of setting up experiments, data collection, signal processing and presentation of findings. Able to play a key role in analysing problems and come up with creative solutions as well as producing methodologies and files for effective data management. A quick learner who can absorb new ideas and can communicate clearly and effectively.

## Expertise

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**Signal processing, machine learning, data analysis, wearable systems, biomedical devices.**

## Professional work Experience

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2012–now **PhD Student** at Philips Research, Smart Professional Spaces Group and Eindhoven University of Technology, Dept. of Electrical Engineering.

- Unobtrusive technologies, signal processing and data mining algorithms for modular patient training and monitoring systems - iCare4COPD Project of Agentschap NL under Contract PNE101005.

2011–11 **Internship** (Italian Institute of Technology)

- EU project: Robots Bootstrapped through Learning from Experience

2010–11 **Research Assistant** (Frankfurt Institute for Advanced Studies)

- EU project: Intrinsically Motivated Cumulative Learning Versatile Robots

## Achievements

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2015 First Runner up at Philips Sleep and Respiratory Care's first Creative Playground

- Idea selected for Startup Bootcamp and a project was initiated within Philips business.

## Education

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- 2008–10 UNIVERSITY CAMPUS BIO-MEDICO OF ROME  
**MASTER DEGREE IN BIOMEDICAL ENGINEERING WITH HONORS (110 cum laude out 110)**  
*Specialization in Robotics and Bio-Microsystems*  
*Thesis: "Bio-inspired robotic vision system for active visual perception based on intrinsic motivation"*  
*Supervisor: Prof. Dr. Eugenio Guglielmelli (University Campus Bio-Medico of Rome)*  
*Co-Supervisors: Prof. Dr. Jochen Triesch, Eng. Pramod Chandrashekharah (Frankfurt Institute for Advanced Studies)*
- 2005–08 UNIVERSITY CAMPUS BIO-MEDICO OF ROME  
**BACHELOR DEGREE IN BIOMEDICAL ENGINEERING (110 OUT 110)**  
*Thesis: "Study and realization of a system for the remote control of a wearable device for the monitoring of the face"*  
*Supervisor: Prof. Dr. Eugenio Guglielmelli (University Campus Bio-Medico of Rome)*  
*Co-Supervisor: Dr. Giuseppina Schiavone (University Campus Bio-Medico of Rome)*

## Computer Skills

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- Packages Matlab, R, MS Office, OpenCV, Cisco Packet Tracer, Eagle, SolidWorks, Proteus, Latex
- OS Linux, Windows
- Languages c++, c

## Patent Applications

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- 2016 Apparatus and methods relating to monitoring or assisting breathing in patients, European Patent application 28-01-2016, Philips Internal Reference 2015PF01649
- 2015 Breathing support system for COPD patients to overcome shortness of breath (breathing tool with feedback), European Patent application 30-10-2015, Philips Internal Reference 2015PF01437
- 2015 Breathing support system for COPD patients to overcome shortness of breath (breathing tool for use with pressurized gas canister), European Patent application 30-10-2015, Philips Internal Reference 2015PF01532
- 2014 System and method to detect respiration markers, European Patent application 12-12-2014, Philips Internal Reference 2014PF01453

## Research Publications

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- 2016 **Gabriele Spina et al.**  
Objective evaluation of nocturnal sleep impairment in patients with COPD and its association with daytime physical activity  
Submitted to European Respiratory Journal, 2016.
- 2015 Rafael Mesquita, **Gabriele Spina et al.**  
Physical activity patterns and clusters in 1001 patients with COPD  
Submitted to PLOS ONE, 2015.

- 2015      **Gabriele Spina** et al.  
Identifying Physical Activity Profiles in COPD Patients Using Topic Models  
IEEE Journal of Biomedical and Health Informatics, 2015.
- 2014      Rafael Mesquita, **Gabriele Spina** et al.  
Cluster analysis of objectively measured physical activity in 1001 COPD patients  
ERJ September 1, 2014 vol. 44 no. Suppl 58 3486.
- 2014      Pramod Chandrashekharah, **Gabriele Spina** and Jochen Triesch  
A Curious Vision System for Autonomous and Cumulative Object Learning  
Computer Vision, Imaging and Computer Graphics—Theory and Applications, Springer Berlin Heidelberg, 2014, Volume 458, pp 195-211.
- 2013      **Gabriele Spina** and Oliver Amft  
Toward smartphone assisted personal rehabilitation training  
XRDS crossroads, ACM 2015, Volume 20, pp 33-37.
- 2013      **Gabriele Spina**, Guannan Huang, Anouk Vaes, Martijn Spruit and Oliver Amft  
COPDTrainer: A smartphone-based motion rehabilitation training system with real-time acoustic feedback  
Ubicomp 2013, ACM International Joint Conference on Pervasive and Ubiquitous Computing, 8-12 September, 2013, Zurich, Switzerland.
- 2013      **Gabriele Spina**, Frank Roberts, Jens Weppner, Paul Lukowicz and Oliver Amft  
CRNTC+: A smartphone-based sensor processing framework for prototyping personal health-care applications  
PervasiveHealth 2013, IEEE International Conference on Pervasive Computing Technologies for Healthcare, 5-8 May, 2013, Venice, Italy.
- 2013      **Gabriele Spina**, Pramod Chandrashekharah and Jochen Triesch  
Let it Learn: A Curious Vision System for Autonomous Object Learning  
International Conference on Computer Vision Theory and Applications, 21-24 February, 2013, Barcelona, Spain.
- 2013      Frank J.M. Roberts, **Gabriele Spina**, Constantin Ungureanu, Oliver Amft  
Daytime Monitoring of Patients with Epileptic Seizures Using a Smartphone Processing Framework and On-Body Sensors  
4th Dutch Bio-Medical Conference, 2013, 24-25 January, 2013, Egmond aan Zee, The Netherlands. (Abstract)
- 2012      Jurgen Leitner, Pramod Chandrashekharah, Simon Harding, Mikhail Frank, **Gabriele Spina**, Alexander Forster, Jochen Triesch and Jurgen Schmidhuber  
Autonomous Learning Of Robust Visual Object Detection And Identification On A Humanoid  
ICDL-EpiRob paper, 2012, IEEE Conference on Development and Learning, and Epigenetic Robotics, 7-9 November, 2012, San Diego, USA. (Winner of the “Paper of Excellence Award”)

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## Language Skills

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- Native      Italian
- Fluent      English
- Basic      Dutch (attended and passed the exam “Dutch for Beginners”, study hours: 160)