Vito De Feo

Personal data

- Date of birth:1972
- Nationality: Italian

Education

1990 Graduated from a Scientific Secondary School "Liceo Scientifico <G. Da Procida> of Salerno with the final score 60/60 (maximum).

1997 Visiting student at Trinity College Dublin for one year in the Electrical Engineering Department.

2001 Master degree in Electronic Engineering (Summa Cum Laude) from the Politecnico di Torino, Turin, Italy. Final work: "Design and realization of the access protocol control logic in a packet switched all-optical network".

2002 Began PhD program in Electronic and Telecommunication Engineering at the Department of Electronics, Politecnico di Torino on VLSI circuit design and FPGA-based control logic for WDM Optical Networks. Advisor: Prof. Fabio Neri.

2003 From September 2003 until August 2004, Visitor Researcher as PhD Student in the optical network group (PNRL) at Stanford University, working on layer 2 – layer 3 protocols for all optical networks. Advisor: Prof. Leonid Kazovsky.

2004 PhD Oral Defense. The title of the final work was "High performance packets switching systems in WDM optical networks".

2004 Began Neuropsychology and Neuroscience studies at Turin University: average mark 30/30 cum laude.

2005 Received the title of Master Practitioner in Neurolinguistic Programming at the International School of Dr. Richard Bandler.

2006 Received the title of Counselor in Psychology at the Italian Transactional Analysis School.

2006 Began Neurobiological studies at Turin University and followed courses in molecular biology, genetic, neuroscience, neurology, psychophysiology and neuropsychology. All exams passed with 30/30 cum laude.

2007 Received the title of Psychodiagnostic Expert at C.I.F.R.I.C. in Naples after a 200-hours course.

2008 Received the title of Counselor in Human Sexuality at C.I.F.R.I.C. in Naples after a 220-hours course.

2008 Received the title of Counselor in Psychology at FAIP (Italian Federation of Psychological Counseling) after a three-year course of 1200 hours.

Postdoctoral training

2004 - 2008 Post Doc position at Department of Electronics, Politecnico di Torino, working as a researcher on the design of VLSI circuits design and FPGA-based control logic all-optical packet-switched networks. Supervisor: Prof. Fabio Neri.

2013 – 2015 Postdoc in Computational Neuroscience at Developmental Neurophysiology Department of the Medical School at Clinical University of Hamburg Eppendorf. Supervisor: Prof. Ileana Hanganu-Opatz.

2015–2019 Postdoc at IIT (Istituto Italiano di Tecnologia) in Center for Neuroscience and Cognitive Systems of Rovereto, Italy (https://cncs.iit.it/people/vito-defeo), working as a researcher on Brain Machine Interface design and Computational Neuroscience. Supervisors: Dr. Alessandro Vato and Prof. Stefano Panzeri.

Professional Experience

1999 – 2000 TECHNICAL SCHOOL "ENZO FERRARI" OF SUSA

- Electronics and computer science teacher in the technical institute and in the technological scientific secondary school "Enzo Ferrari" of Susa .
- Secondary School Graduation Examiner.

1999-2000 ELEA S.P.A of IVREA

- Collaborator of the ELEA S.P.A. in Ivrea (OLIVETTI GROUP) as teacher in networking, C, C++, Matlab and Simulink.

2002 ST-MICROELECTRONICS – Cornaredo (MI)

- Research experience of 3 months at ST Microelectronic laboratory, working on the topic: "Adaptive Equalization in Optical Networks".

2003 Started my own company in training and consulting, named "Infologos Ltd" (www.infologos.com).

2005 - 2008 Post Doc position at Department of Electronics of Politecnico di Torino as a researcher on all-optical packet-switched networks.

2002 -2008 Teaching activity as described in the following section.

2002 – 2011 Working as a consultant for my company, Infologos Ltd, and for several companies like Benteler and Ducati Corse.

2008 Began work as Mental Health Counselor after two years of supervised practical training.

2008 Electronic and Telecommunication Adjunct Professor at Turin University.

2009 - 2011 Researcher at CTVR in Trinity College Dublin (www.ctvr.ie) and RINCE (www.rince.ie) at Dublin City University on level 2 and level 3 protocols (RIP, OSPF, IP) implemented in all-optical switched networks.

2011 – 2013 Optical Networks and Telecommunication Adjunct Professor at Turin Polytechnic, Telecommunications, Computer Science and Statistics Adjunct Professor at Turin University (Psychology, Linguistic and Strategic Studies Faculties).

2013 – 2015 Postdoc in Computational Neuroscience at Developmental Neurophysiology Department of the Medical School at Clinical University of Hamburg Eppendorf.

2015 – 2019 Postdoc at IIT (Istituto Italiano di Tecnologia) in Center for Neuroscience and Cognitive Systems of Rovereto, Italy (https://cncs.iit.it/people/vito-defeo).

2019 Director of the Neurophysiological Laboratory "Caserta Hub Lab" in the Research Center Fondazione Neurone of Caserta, Italy (http://www.fondazioneneurone.it/language/en/home/).

2019 – Currently Lecturer in Artificial Intelligence for Brain and Mental Health at the Computer Science and Electrical Engineering Department at the University of Essex, Colchester, UK (https://www.essex.ac.uk/people/defeo60201/vito-de-feo). In 2020-2021 working for the NHS as the leader of the Covid-19 Team (https://www.essex.ac.uk/news/2020/04/23/data-scientists-work-with-nhs-trust). Leader of the Future Health Technology Group (https://www.essex.ac.uk/departments/computer-science-and-electronic-engineering/research/artificial-intelligence) and of the Consumer Neuroscience Research Cluster (https://www.essex.ac.uk/centres-and-institutes/computational-intelligence/consumer-neuroscience-group).

Teaching Experiences

2002 – 2012, 10 years teaching experience at Politecnico di Torino in the following courses: Introduction to Computer Science, Mathematical Analysis, Statistics, Signal Theory, Electronic, Electrical Communications, Telecommunication Networks, Telecommunication Systems, Optical Communication and Optical Networks (see the teaching statement for a detailed list of the taught courses).

2007 – 2012, 6 years teaching experience at Università di Torino in the courses: Artificial Intelligence, Electronics, Telecommunication, Automatic Control Systems at Strategic Studies Faculty (see the teaching statement for a detailed list of the taught courses).

2010 – 2012, 2 years teaching experience at Università di Torino in the courses of Computer Science and Statistics at Psychological Studies Faculty, at Linguistic Studies Faculty and at Medical Studies Faculty (see the teaching statement for a detailed list of the taught courses).

2012 – 2014, 2 years teaching experience at ZMNH (Universitatsklinik Hamburg-Eppendorf) in the course of Statistics for Biologist.

2015 – 2018, 3 years teaching experience at Università di Torino in the courses of Computer Science at Linguistic Studies Faculty.

2017 – 2018, 1 year teaching experience at Università di Trento in the courses of Advanced Electronics, Mathematical Analysis and Telecommunication Networks.

2019 – 2020, 1 year teaching experience at the University of Essex as module supervisor of the master's module Digital Communication.

2019 – 2021, 2 years teaching experience of the master's module Group Project.

2020 – 2022, 2 years teaching experience at the University of Essex as module supervisor of the master's module Theory of Signals and Systems.

2020 – 2022, 2 years teaching experience at the University of Essex as module supervisor of the master's module Machine Learning and Data Mining.

2021 – 2022, 1 year teaching experience at the University of Essex as module supervisor of the master's module Group Project.

2021 – 2022, 1 year experience at the Royal Holloway University of London as external examiner.

Students Supervision Experience

PhD level: member of 1 PhD Supervisory Panel, chair of 3 PhD Supervisory Panels
supervision of 1 PhD student in social robotics

Master's level: 121 Master's theses supervised (Italy), 5 Master's theses supervised (UK)

Undergraduate's level: 10 Undergraduate's these supervised (Italy), 10 Undergraduate's these supervised (UK)

Skills

Computational Neuroscience Biological Signal Analysis: Signal processing applied to the analysis of biological signals (EEG, LFP, spikes, fMRI). Information Theory and measures of information transfer applied to the study of effective connectivity (e.g. Granger Causality, Transfer Entropy, Directed Information, etc.). Very good knowledge of Matlab, Python, C/C++. Knowledge of some packages for biological signal analysis: Eeglab, Fieldtrip, Chronux, Plexon spike sorter.

Artificial Intelligence and Machine Learning: Machine Learning methods (e.g. classification, dimension reduction, NMF, LDA, SVM, neural networks, deep learning, etc.) applied to the development of BMI, BCI and to the study of the Neural Population Coding and to the implementation of neural decoders.

Neural Networks and Deep Learning applied to the design of Spiking Neural Networks. Formal logics, reasoning, problem solving and search methods.

Electronics and Bioengineering: Analog and digital signal processing circuits applied to electrophysiological recordings. Microelectronics and Clinical measurements (EEG, fMRI) applied to BCI (Brain Computer Interface) design, based on neuromorphic hardware decoders. Knowledge of Spice and Orcad for simulating electronic circuits.

Firmware Design: 15 years experience in research and industry on the topic of digital electronics and FPGA firmware development (VHDL and Verilog for Xilinx and Altera) as applicable to optical telecommunication networks and to biomedical systems. Good knowledge of the tools Vivado, Chipscope, Quartus and SignalTap. Expertize in using C for embedded systems and real-time programming for DSP and ARM processors. Expertize in designing spiking neural networks for neuromorphic chips.

Clinical Applications and Neuropsychology: 8 years experience on measuring digital biomarkers to quantify motor intention and motor planning in person suffering for brain damage (e.g. using the Lateralized Readiness Potential). Experience with patients in minimal conscious state and with locked-in syndrome as consequence of a stroke or a trauma.

Modeling of cognitive and psychophysics systems: stochastic and causal modeling (Bayesian Modeling), regression techniques.

Mathematics and Statistics: 10 years experience on Data Analysis and Multivariate techniques using Matlab, Mathematica, R and, SPSS.

Telecommunications: Education and postdoc training focused on Signal Theory, Telecommunications electronics and optoelectronics, Optical Networks, numerical transmission, telecommunication network and optics communications. Expertize in all-optical network and in high-performance switching devices. Participation at the national research program (PRIN) RINGO 99, WONDER 2003, OSATE 2005 and international project “E-Photon One-Plus” about “WDM All-Optical Ring Networks”. Expertize in using Topsim and Optsim for simulating telecommunications systems. Expertize in designing MAC (medium access control) protocols and routing protocols.

Computer Science and Programming skills: C/C++, Python and Matlab. Operative Systems Windows, OSX and Unix. MS-Office applications, Internet applications, Web designing, Database, MySql, Network security.

Competence in the area of Psychology in: Transactional Analysis, Neurolinguistics Programming, Public Speaking and Cognitive Therapy.

Competence in Neuromarketing: Leader of the Consumer Neuroscience Research Cluster (https://www.essex.ac.uk/centres-and-institutes/computational-intelligence/consumer-neuroscience-group).

Funding for research (grants)

2017-2019: 90k€ from the CARITRO Foundation for the project “A Brain Computer Interface for nonresponsive patients”. - CoPI

2018: 25k€ from the CRT Foundation for the project “Indices of consciousness in nonresponsive patients”. - CoPI

2021: 12k£ from the Royal Society for the project “STAte-dependent neural decoders and encoders for Brain-machine interfaces featuring a Low-power neuromorphic hardwarE - STABLE”. – PI

2021: 5k£ Business Collaboration project– NEuromarketing analysis for WEbsite usabiLity optimisation – NEWEL – PI

2021: 10k£ CSEE Strategic Fund 21/22 – BOosting NEuromarketing at ESsex – BONES - PI

2022: 12k£ University of Essex Enterprise Project Fund – Commercializing Neuromarketing at Essex – Co-I

2022: 6k£ Faculty of Science and Health Research Innovation and Support Fund – A Game for Children Struggling with Maths: Using AI for Early Treatment and Intervention of Dyscalculia – Co-I

2022: 6k£ Faculty of Science and Health Research Innovation and Support Fund – Markers of neurological integrity after Long Covid - a web study – Happy Again – Co-I

2022: 6k£ Faculty of Science and Health Research Innovation and Support Fund – An AI tool for the neurorehabilitation of patients with emotion recognition disorders – Co-I

2022: 6.5k£ Essex Mental Health Sandpit 2022 – Involuntary Dislocation, Mental Health and Digital Technology – iMEND – Co-I

2022: 6.4k£ ESRC Impact Fund Commercialising Research out of Social Sciences (CRoSS) - GEnerating new business for Neuromarketing at ESsex – GENES – PI

Bibliometric Indicators, Citation Summary and service as Referee

Researcher unique identifiers

Pubmed: https://www.ncbi.nlm.nih.gov/pubmed?term=De%20Feo%2C%20Vito%5BAuthor%5D

Google Scholar: https://scholar.google.it/citations?user=56FwOjUAAAAJ&hl=en

Orcid code: https://orcid.org/0000-0002-5596-2050

Scopus Author ID: 23492017300

Researcher ID: T-2333-2018

URL for web site: https://www.essex.ac.uk/people/defeo60201/vito-de-feo

Publications summary: 26 in international peer-reviewed journals or conferences.

H-index: Google Scholar: 10; Scopus: 9, Web of Science 9.

i10-index: 10

Sum of times cited: Google Scholar: 486; Scopus: 274; Web of Science: 240;

I have been a **referee** for PLOS Comp. Bio., for Frontiers in Neuroscience, IEEE Transaction for Medical Robotics and for Journal of Neuroscience Methods.

I am an **editor** for Frontiers in Digital Health.

Membership of Professional bodies and Societies

IEEE: Institute of Electrical and Electronic Engineers

Italian Engineers professional body

German Neuroscience Society

British Neuroscience Association

British Neuropsychology Society

Language skills

Italian: native speaker.

English: fluent (three years at Trinity College Dublin, two years at Stanford, and three years at the Essex University, TOEFL certification, August 2004, San Josè (CA – USA).

German: basic (two years spent in Hamburg working in a lab where people speak English).

French: basic (secondary school level).

Albanian: basic (learned when I was a voluntary in Albany).

Career goals

Continue to work as professor or group leader and researcher in the field of computational neuroscience, cognitive psychology and bioengineering. My main goals, in doing research, are (a) to create a research group of creative and innovative people with good team-working skills, (b) to produce internationally recognized research outputs, (c) to maintain relationships with national and international partners (academy and industry), (d) to develop ideas to enhance customer satisfaction taking in high consideration a sustainable development of engineering and computer science, (e) to apply the knowledge acquired to develop teaching activities at both undergraduate and graduate levels, (f) to develop and disseminate data tools and research software, and (g) to continue my professional development.

References

Service certificate with the Technical School Enzo Ferrari of Susa for the academic year 1999/2000.

Collaboration contract with the ELEA S.P.A. in Ivrea (OLIVETTI GROUP).

Optical Communication Group (OCG) and Network Communication Group (NCG) at Politecnico di Torino.

Optical Network group (PNRL) at Stanford University.

Developmental Neurophysiology Department of the Medical School at Clinical University of Hamburg Eppendorf.

Center for Neuroscience and Cognitive Systems of Rovereto, Italy.

	Department of Computer Science and Electrical Engineering at the University of Essex.
Associations	Salesian youth movement, "Engineers Without Borders" at Politecnico di Torino.
Partner activity-community	1987 –1990 Youth educator with the Salesian movement of Salerno. 1992 – 1993 International voluntary service in Albania. 1994 Co-founder of Engineers Without Borders chapter at the Politecnico di Torino (www.isf.polito.it). 1998 International voluntary service in Bosnia.
Mobility	Driver License (Italian and Californian) and car.
Hobbies	Soccer, Music, Videogames, Movies.
Interest	Psychology, Religion, Philosophy.
Other qualifications	Radio Engineer Certification from "Radio Electra School" of Turin (electronics).
Military service	Acquitted.

DETAILED TEACHING STATEMENT

In total, I have been teaching about 1300 hours at secondary school, for about 2200 hours at Italian University, for about 80 hours at Hamburg-Eppendorf University, for about 110 hours at the University of Essex and, for about 800 hours for private companies (e.g. "Ducati Corse" and "Alenia Spazio").
The following teaching statement is related only to my academic teaching. From 2000 to 2020, I had an average of 150 students a year and I followed 126 master's theses and 20 bachelor's theses in 20 years.

2000 Teaching Assistant – Control Systems course, Faculty of Computer Engineering, Turin Polytechnic.
2001 Adjunct Professor (non-tenured) – Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic.
2002 Adjunct Professor (non-tenured) – Optical Networks course and Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic.
2003
2004 Adjunct Professor (non-tenured) – Optical Networks course and Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic. Teaching Assistant – Signal Theory course, Faculty of Computer Engineering, Turin Polytechnic.

2005 Adjunct Professor (non-tenured) – Optical Networks course and Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic. Teaching Assistant – Mathematical Analysis course, Faculty of Mechanical Engineering, Turin Polytechnic.

2006 Adjunct Professor (non-tenured) – Optical Networks course and Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic. Teaching Assistant – Mathematical Analysis course, Faculty of Mechanical Engineering, Turin Polytechnic. Adjunct Professor (non-tenured) –Telecommunications course, Faculty of Strategic and Military Science, Turin University.

2007 Adjunct Professor (non-tenured) –Telecommunications course, Faculty of Strategic and Military Science, Turin University. Adjunct Professor (non-tenured) – Optical Networks course and Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic. Teaching Assistant – Mathematical Analysis course, Faculty of Mechanical Engineering, Turin Polytechnic.

2008 Adjunct Professor (non-tenured) –Telecommunications course and Control Systems, Faculty of Strategic and Military Science, Turin University. Adjunct Professor (non-tenured) – Optical Networks course and Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic.

2009

2010

2011 Adjunct Professor (non-tenured) – Computer Science for Neuroscience and Computer Science for Clinical Psychology, Faculty of Psychology, Turin University. Adjunct Professor (non-tenured) – Computer Science for Medical Sciences, Medical School, Turin University. Adjunct Professor (non-tenured) – Optical Networks course and Telecommunications Systems course, Faculty of Telecommunication Engineering, Turin Polytechnic. Adjunct Professor (non-tenured) –Telecommunications course, Control Systems, Artificial Intelligence and Computer Science courses, Faculty of Strategic and Military Science, Turin University. Adjunct Professor (non-tenured) – Computer Science applied to Multimedia, School of International Communication, Turin University.

2012 Adjunct Professor (non-tenured) – Computer Science applied to Multimedia, School of International Communication, Turin University.

2013 Adjunct Professor (non-tenured) – Statistics course, Molecular Neurobiology Center, Hamburg-Eppendorf Medical University.

2014 Adjunct Professor (non-tenured) – Statistics course, Molecular Neurobiology Center, Hamburg-Eppendorf Medical University.

2015 Adjunct Professor (non-tenured) – Computer Science applied to Multimedia, School of International Communication, Turin University.

2016 Adjunct Professor (non-tenured) – Computer Science applied to Multimedia, School of International Communication, Turin University.

2017 Assistant Professor - Laboratory of Advanced Electronics, Faculty of Physics, Trento University. Adjunct Professor (non-tenured) – Computer Science applied to Multimedia, School of International Communication, Turin University.

2018 Assistant Professor - Laboratory of Advanced Electronics, Faculty of Physics, Trento University. Assistant Professor – Mathematical Analysis course, Faculty of Mathematics, Trento University. Assistant Professor – Telecommunication Network course, Faculty of Computer Science, Trento University. Adjunct Professor (non-tenured) – Computer Science applied to Multimedia, School of International Communication, Turin University.

2019 Assistant Professor (Lecturer) – Digital Communication module, School of Computer Science and Electrical Engineering, University of Essex. Second module supervisor – Individual Capstone Project Challenge (Undergraduate Dissertation), School of Computer Science and Electrical Engineering, University of Essex. Second module supervisor – Group Project (master's module), School of Computer Science and Electrical Engineering, University of Essex.

2020 Assistant Professor (Lecturer) – Theory of Signal and Systems module, School of Computer Science and Electrical Engineering, University of Essex. Second module supervisor – Individual Capstone Project Challenge (Undergraduate Dissertation) and Master's Dissertation Module, School of Computer Science and Electrical Engineering, University of Essex. Second module supervisor – Group Project (master's module), School of Computer Science and Electrical Engineering, University of Essex.

2021 Assistant Professor (Lecturer) – Theory of Signal and Systems module and Machine Learning and Data Mining module, School of Computer Science and Electrical Engineering, University of Essex. Second module supervisor – Individual Capstone Project Challenge (Undergraduate Dissertation) and Master's Dissertation Module, School of Computer Science and Electrical Engineering, University of Essex. Second module supervisor – Group Project (master's module), School of Computer Science and Electrical Engineering, University of Essex.

2022 Assistant Professor (Lecturer) – Theory of Signal and Systems module and Machine Learning and Data Mining module, School of Computer Science and Electrical Engineering, University of Essex. Second module

supervisor – Individual Capstone Project Challenge (Undergraduate Dissertation) and Master's Dissertation Module, School of Computer Science and Electrical Engineering, University of Essex. Module supervisor – Group Project (master's module), School of Computer Science and Electrical Engineering, University of Essex.

PUBLICATIONS LIST

1. Seguin V., Olmo G., **De Feo V.** (2019). Eye-tracking analysis for Neuromarketing. *Turin Polytechnic, March 2022*
2. Jara Sàez I., Olmo G., **De Feo V.** (2019). Neurological Consequences of Covid-19. *Turin Polytechnic, November 2021*
3. Bim J., **De Feo V.**, Chicharro D., Brovelli A., Panzeri S. (2019). Directed Mutual Information: a non-negative measure of feature-specific information transfer, *submitted*
4. Sgrò F., Olmo G., **De Feo V.** (2019). Disorders of Consciousness: using the Perturbational Complexity Index to distinguish between voluntary and involuntary movements. *Turin Polytechnic, April 2019*
5. Rumac S., Olmo G., **De Feo V.** (2018). Single trial analysis of Readiness Potentials using Empirical Mode Decomposition. *Turin Polytechnic, September 2018*
6. Piazza M., **De Feo V.**, Panzeri S., Dehaene S. (2018). Learning to focus on number. *Cognition, Vol.181, December 2018, pp.35-45 ; doi:* /10.1016/j.cognition.2018.07.011
7. **De Feo V.**, Boi F., Safaai H., Onken A., Panzeri S., Vato A. (2016). State-Dependent Decoding Algorithms Improve the Performance of a Bidirectional BMI in Anesthetized Rats. *Frontiers in Neuroscience, 31 May 2017; doi:* 10.3389/fnins.2017.00269
8. **De Feo V.**, Boi F., Moraitis T., Diotalevi F., Bartolozzi C., Indiveri G., Vato A. (2016). A bidirectional brain-machine interface featuring a neuromorphic hardware decoder. *Frontiers in Neuroscience, 9 December 2016; doi: 10.3389/fnins.2016.00563*
9. Hartung H., Cichon N., **De Feo V.**, Riemann S., Schildt S., Lindemann C., Mulert C., Gogos J.A., Hanganu-Opatz I.L. (2016). From Shortage to Surge: A Developmental Switch in Hippocampal–Prefrontal Coupling in a Gene–Environment Model of Neuropsychiatric Disorders. *Cerebral Cortex, 10 August 2016; doi: 10.1093/cercor/bhw274*
10. Panzeri S., Safaai H., **De Feo V.**, Vato A. (2016). Implications of the Dependence of Neuronal Activity on Neural Network States for the Design of Brain-Machine Interfaces. *Frontiers in Neuroscience, 20 April 2016; doi: 10.3389/fnins.2016.00165*
11. Hartung H., Brockmann M.D., Pöschel B., **De Feo V.**, Hanganu-Opatz I.L. (2016). Thalamic and Entorhinal Network Activity Differently Modulates the Functional Development of Prefrontal–Hippocampal Interactions. *The Journal of Neuroscience, 30 March 2016, 36(13); 3676-3690; doi: 10.1523/JNEUROSCI.3232-15.2016*
12. Domnick N.K., Gretenkord S., **De Feo V.**, Sedlacik J., Brockmann M.D., Hanganu-Opatz I.L. (2015). Neonatal hypoxia–ischemia impairs juvenile recognition memory by disrupting the maturation of prefrontal–hippocampal networks. *Experimental Neurology,* Vol. 273, November 2015, pp.202-214.
13. **De Feo V.**, Hartung H., Brockmann M.D., Pöschel B., Hanganu-Opatz I.L. (2014). Oscillatory entrainment of the ventral midline thalamus and entorhinal cortex controls functional communication within prefrontal-hippocampal networks of neonatal rats. *FENS 2014, Milan, Italy.*
14. Domnick N.K., Brockmann M.D., **De Feo V.**, Sedlacik J., Hanganu-Opatz I.L. (2014). Hypoxia-ischemia disrupts mnemonic ontogeny by impairing oscillatory coupling within prefrontal-hippocampal networks. *FENS 2014, Milan, Italy.*
15. Hartung H., Cichon N., Riemann S., Schildt S., **De Feo V.**, Mulert C., Gogos J., Hanganu-Opatz I.L. (2014). Directed communication within neonatal prefrontal-hippocampal networks is impaired in mouse models of combined genetic and environmental risk factors of schizophrenia. *FENS 2014, Milan, Italy.*
16. Antonino A, Bianco A, Bianciotto A, **De Feo V**, Finochietto J, Gaudino R, Neri F (2008). *WONDER:* A resilient WDM packet network for metro applications. *Science Direct -Optical Switching and Networking*, Vol.5, No.1, pp.19-28, ISSN: 1573-4277.

17. Antonino A, **De Feo V**, Finochietto JM, Gaudino, R, La Porta A, Petracca M, Neri F (2008). Toward Feasible All-Optical Packet Networks: Recent Results on the WONDER Experimental Testbed. *Optical Fiber Communication Conference and Exposition 2008 (OFC08* , San Diego, USA
18. Antonino A, **De Feo V**, Finochietto JM, Gaudino R, La Porta A, Neri F, Petracca M (2007). I Progetti WONDER e OSATE: Studio e Sperimentazione di un' Architettura di Commutazione Ottica a Pacchetto. *Fotonica 2007,* Mantova, Italy.
19. Bianciotto A, Birke R**, De Feo V**, Finochietto JM, Gaudino R, La Porta, A, Neri, F, Petracca, M, Poggiolini P (2006). WONDER: Overview of a Packet-Switched MAN Architecture. *China-Italy Bilateral Workshop on Photonics for Communication and Sensing*, Xian, China.
20. Bianciotto A, Carena A, **De Feo V**, Finochietto JM, Gaudino R, Neri F, Piglione C, Poggiolini (2004). Experimental WDM Packet Networks for Metro Experimental WDM Packet Networks for Metro Applications: the RingO and Wonder Projects. *9th European Conference on Networks & Optical Communications*, NOC 2004, Eindhoven.
21. Carena A, **De Feo V**, Finochietto JM, Gaudino R, Neri F, Piglione C, Poggiolini P (2004). *RINGO:* An Experimental WDM Optical Packet Network for Metro Applications. *IEEE Journal on Selected Areas in Communications "Advances in Metropolitan Optical Networks (Architectures and Control)"*, Vol.22, No.8, pp.1561-1571.
22. Gaudino R, Carena A, Ferrero V, **De Feo V**, Neri F, Poggiolini P (2002). RINGO: a Demonstrator of WDM Optical Packet Network on a Ring Topology. *IFIP Advances in Information and Communication Technology Volume 114, 2003, pp 183-197*
23. Gaudino R, **De Feo V**, Chiaberge M, Sansoè C (2002). An FPGA-based node controller for a high capacity WDM optical packet network. Montpellier, France, 12th International Conference FPL 2002 – Proceedings, pp. 1139 – 1143, September 2002.
24. Chiaberge M, Sansoè C, Amerio D, Gaudino R, Ferrero V, **De Feo V**, Ferrarese L, Garzella R (2002). A Reconfigurable HW Platformfor High-speed Digital Test Systems, *SCI 2002, The Sixth Multi-Conference on Systemics, Cybernetics and Informatics*, July 2002.
25. Bianco A, Carangelo P, Carena A, **De Feo V,** Ferrero V, Gaudino R, Gigante P, Leonardi E, Neri F, Poggiolini P (2001). Progetto Ringo: sperimentazione di reti WDM a commutazione di pacchetto. Paper A5.6, pp 187-190, Ischia, Italy, Proceedings *FOTONICA 2001*, June 2001.
26. Gaudino R, Carena A, Ferrero V, Pozzi A, **De Feo V**, Gigante P, Neri F, Poggiolini P (2001). Ringo: a WDM ring optical packet network demonstrator. Paper Th.L.2.6, vol. 4, pp. 620-621, Amsterdam, Netherlands, Proceedings *ECOC 2001*.
27. Neri F, Bianco A, Carena A, **De Feo V**, Ferrero V, Gaudino R, Gigante P, Leonardi E, Poggiolini P, Pozzi A (2001). Prototipo Sperimentale di rete MAN ottica ad anello a commutazione pacchetto. Roma, *Giornata di studio IEEE-LEOS su "Reti ottiche di nuova generazione: architetture e tecnologie"*, 18 Giugno 2001.

4 most significant papers published within the past 5 years

1. Piazza M., **De Feo V.**, Panzeri S., Dehaene S. (2018). Learning to focus on number. *Cognition, Vol.181, December 2018, pp.35-45 ; doi:* /10.1016/j.cognition.2018.07.011
2. **De Feo V.**, Boi F., Safaai H., Onken A., Panzeri S., Vato A. (2016). State-Dependent Decoding Algorithms Improve the Performance of a Bidirectional BMI in Anesthetized Rats. *Frontiers in Neuroscience, 31 May 2017; doi:* 10.3389/fnins.2017.00269
3. **De Feo V.**, Boi F., Moraitis T., Diotalevi F., Bartolozzi C., Indiveri G., Vato A. (2016). A bidirectional brain-machine interface featuring a neuromorphic hardware decoder. *Frontiers in Neuroscience, 9 December 2016; doi: 10.3389/fnins.2016.00563*
4. Hartung H., Cichon N., **De Feo V.**, Riemann S., Schildt S., Lindemann C., Mulert C., Gogos J.A., Hanganu-Opatz I.L. (2016). From Shortage to Surge: A Developmental Switch in Hippocampal–Prefrontal Coupling in a Gene–Environment Model of Neuropsychiatric Disorders. *Cerebral Cortex, 10 August 2016; doi: 10.1093/cercor/bhw274*