Gian Antonio Susto

Curriculum Vitae

April 9, 2023

Personal information

Date of birth	April 7th, 1984
Nationality	Italian
Marital status	Married

Current Position

Jul. 2021– **Associate Professor**, *University of Padova*, Italy, Machine Learning for Manufacturing, Natural Language Processing, Activity Recognition and Home Appliances. Control Systems for Home Appliances. Affiliations: Department of Information Engineering and Human-Inspired Technology Center.

Research Interests

Machine Learning and Control Systems for Industry 4.0: Soft Sensing, Predictive Maintenance, Fault Detection and Run-to-Run Control

Deep Learning

Data Mining for Gesture and Activity Recognition

Knowledge Extraction from Time Series Dataset

Natural Language Processing

Control of Partial Differential Equations

Past Positions

Sep. 2016–Jul. 2021 **Assistant Professor**, *University of Padova*, Italy, Machine Learning for Manufacturing, Natural Language Processing, Activity Recognition and Home Appliances. Control Systems for Home Appliances. Affiliations: Department of Information Engineering and Human-Inspired Technology Center.

Sep. 2014–Jul. 2016 **Postdoctoral Researcher**, *University of Padova*, Italy, Machine Learning for Manufacturing and Home Appliances applications, Fault Detection for HVAC systems and Machine Learning for Gesture Recognition.

Sep. 2012–Aug. 2014 **Postdoctoral Researcher**, *National University of Ireland, Maynooth*, Ireland, Machine Learning and Data Mining for Manufacturing.
Collaborations with Pfizer Inc., Seagate Technology and the Irish Centre of Manufacturing Research

Education

Jan. 2010–Dec. 2012 **Ph.D. in Information Engineering**, *University of Padova*, Italy, Thesis: *Statistical Methods for Semiconductor Manufacturing*, Advisor: Alessandro Beghi.

Oct. 2006–Apr. 2009 **Master of Science in Control Engineering**, *University of Padova*, Italy, Thesis: *Control of ODE systems with actuator or sensor dynamics modelled by PDEs*, Advisors: Alessandro Beghi and Miroslav Krstic (University of California, San Diego).
Grade: 110/110 summa cum laude

Oct. 2003–Oct. 2006 **Bachelor of Science in Control Engineering**, *University of Padova*, Italy, Thesis: *Variable Structure Observers* (in Italian), Advisor: Alessandro Beghi.
Grade: 107/110

Sep. 1998–Jul. 2003 **Scientific High School Diploma**, *Liceo Scientifico "Carlo Cattaneo"*, Monselice, Padova, Italy.
Grade: 100/100

Collaborations and Industrial Funded Projects

Oct. 2022 – Dec. 2022 Principal Investigator of the project 'Machine Learning Approaches for the Optimization of Industrial Machines and related Services' funded by Breton - funding 48.8k EUR.

Mar. 2022 – Nov. 2022 Principal Investigator of the project 'Machine Learning Approaches for the Packaging Industry' funded by Galdi and SMACT - funding 22.69k EUR.

Mar. 2022 – Sep. 2022 Principal Investigator of the project 'Control and Machine Learning Algorithms for Fabric and Dish Care Home Appliances' funded by Electrolux - funding 39k EUR.

Mar. 2021 – Nov. 2021 Principal Investigator of the project 'Machine Learning Approaches for the Optimization of Industrial Machines and related Services' funded by Breton - funding 48.8k EUR.

Mar. 2021 – Nov. 2021 Principal Investigator of the project 'Heavy-duty Machining Processes Optimisation and Machines Predictive Maintenance Analysis' funded by Wartsila and SMACT - funding 31.7k EUR.

Nov. 2018 – Sep. 2019 Principal Investigator of the project 'Machine Learning Approaches for the Oil and Gas Industry' funded by Pietro Fiorentini - funding 17.08k EUR.

Dec. 2018 – Mar. 2019 Principal Investigator of the project 'Fault Detection and Data-driven Monitoring Self-starting' funded by Statwolf Data Science - funding 17.08k EUR.

Nov. 2018 – Sep. 2019 Principal Investigator of the project 'Machine Learning Techniques for Modeling and Statistical Validation of Multiphase Flow Meter (MPFM)' funded by Unismart SRL and Pietro Fiorentini - funding 48.8k EUR.

Jan. 2017 – Dec. 2017 Principal Investigator of the project 'Control Algorithms and Statistical Learning for Fabric Care Home Appliances' funded by Electrolux - funding 48.8k EUR.

Jun. 2019 – Collaboration on the project 'Big Data and Advanced Analytics for Semiconductor Manufacturing' funded by with Infineon Technologies AG, Munich. PI: Prof. Alessandro Beghi.

Oct. 2018 – Collaboration with Breton SPA on the project 'AI4Stone' funded by Breton and the Italian Ministry of Innovation and Economic Development.

Oct. 2016 – Sep. 2017 Collaboration on the project 'Machine Learning Algorithms for Fault Detection and Sentiment Analysis' funded by Statwolf LTD. PI: Prof. Alessandro Beghi.

Feb. 2016 – Aug. 2016 Collaboration on the project 'Machine Learning Algorithms for Anomaly Detection' funded by Statwolf LTD. PI: Prof. Angelo Cenedese.

Jan. 2015 – Aug. 2016 Collaboration on the project 'Anomaly Classification for Wearable Sport Devices' funded by WearIT. PI: Prof. Angelo Cenedese.

May 2014 – Dec. 2016 Collaboration on the project 'Soft Sensing Technologies for Home Appliances' funded by Electrolux. PI: Prof. Alessandro Beghi.

Jan. 2014 – Oct. 2016 Collaboration on the project 'Machine Learning-based Gesture Recognition for Home Automation' funded by BFT. PI: Prof. Angelo Cenedese.

Jan. 2014 – Oct. 2014 Involved in the activities of *Irish Manufacturing Research* (previously Irish Center of Manufacturing Research) (`www.imr.ie`)

Collaborations with Pfizer Inc., Seagate Technologies, Intel, Amgen Inc., Trend Technologies.

Public Funded Projects

May 2022 – Oct. 2023 Principal Investigator of *MIMIC* 'Intelligent Monitoring and Maintenance for the Chemical Manufacturing' funded by Veneto Region within the European Framework FESR.

Main collaborations with Santex Rimar Group, Galdi and Zamperla on Anomaly Detection and Cloud Computing topics. In the project I also had a central role in the project idea development and administrative/organizational tasks.

Sep. 2020 – Sep. 2022 Involved in the project *VIR2EM* 'VIrtualization and Remotization for Resilient and Efficient Manufacturing' funded by Veneto Region within the European Framework FESR.

Main collaborations with Santex Rimar Group, Galdi and Zamperla on Anomaly Detection and Cloud Computing topics. In the project I also had a central role in the project idea development and administrative/organizational tasks.

Nov. 2017 – Jan. 2021 Involved in the project *PreMANI* 'Research, Development and Implementation of Digital Manufacturing solutions for Quality and Intelligent Maintenance' funded by Veneto Region within the European Framework FESR.

Main collaborations with Electrolux and Galdi on Fault Detection and Predictive Maintenance topics. In the project I also had a central role in the project idea development and administrative/organizational tasks.

Nov. 2017 – Involved in the project *ADMIN4d* 'ADditive Manufacturing & INdustry 4.0 as innovation Driver' funded by Veneto Region within the European Framework FESR.

Main collaborations with Desamanera and DataVeneta on Data Analytics.

Jul. 2017 – Jul. 2018 Involved in the project *ICT4SM* 'ICT for Advanced Manufacturing' funded by Veneto Region within the European Framework FSE.

Main collaborations with Cielle and Galdi on Data Analytics for Smart Monitoring of Industrial Equipment. In the project I also had a central role in the project idea development and administrative/organizational tasks.

Jul. 2009 – Jul. 2012 Involved in the project *IMPROVE* (`www.eniac-improve.eu`) funded by European Union within the European Framework FP7.

Main collaborations with Infineon Technologies, STMicroelectronics, Micron and Intel on Predictive Maintenance and Virtual Metrology.

Professional Experiences

Vocational

Apr. 2014 – **Co-Founder**, *Statwolf LTD and Statwolf Data Science*, Irland and Italy, Artificial Intelligence-based Business Intelligence Solutions..
Focus on Industry 4.0 and Digital Marketing. Main collaborations: Diasorin, Electrolux, Infineon, Lago, Pirelli, Poste Italiane, Red Bull Media House, TowerJazz.

Feb. 2013 – Nov. 2016 **Co-Owner**, *SpeedUp Consulting SRL*, Italy, Consulting in Data Analytics and Machine Learning for Industry 4.0.

Mar. 2011 – Aug. 2011 **Researcher**, *Infineon Technologies AG, Villach*, Austria.
Researcher on Predictive Maintenance for semiconductor manufacturing processes

Jul. 2009 – Dec. 2009 **Research Grant**, *Department of Information Engineering, University of Padova*.
Research Theme: modeling of semiconductor manufacturing processes

Sep. 2008 – Apr. 2009 **Education Abroad Program**, *University of California, San Diego*, USA.
Grant for Visiting student

Other

Aug. 2006 – Oct. 2006 **Internship**, *B Onward SRL, Fontaniva*.
Internship on LAN management

Grants and Awards

May 2019 **Grant**, *Winner of Amazon Web Service Cloud Credits for Research*.
Research Project Title: 'Deep Learning approaches for Handling Big Data Complexity'

Dec. 2018 **Grant**, *Winner of NVIDIA GPU Grant* .
Research Project Title: 'Deep Learning for Sentiment Analysis'

Dec. 2017 **Grant**, *Winner of NVIDIA GPU Grant* .
Research Project Title: 'Deep Learning for Industry 4.0'

Jun. 2014 **Grant**, *Winner of 'Senior Postdoctoral Researcher Grant' awarded by University of Padova*.
Project Title: 'Data-Driven and Interconnected Advanced Process Control Techniques for Semiconductor Manufacturing'

Oct. 2012 **Winner of the Best Student Paper Award**, *2012 IEEE Multi-Conference on Systems and Control (MSC), Dubrovnik, Croatia*.
Awarded by the IEEE Control Systems Society

Aug. 2012 **Grant**, *Grant for Research Abroad*.
Sponsored by Fondazione Aldo Gini

Aug. 2012 **Finalist Best Student Paper Award (Top 6)**, *8th IEEE Conference on Automation Science and Engineering (CASE), Seoul, South Corea*.
Awarded by the IEEE Robotics and Automation Society

May 2012 **Winner of the Best Student Paper Award**, *23rd IEEE/SEMI Advanced Semiconductor Manufacturing Conference (ASMC), Saratoga Springs, USA*.
Awarded by Semiconductor Equipment and Materials International

Aug. 2011 **Winner of the Best Student Paper Award**, *7th IEEE Conference on Automation Science and Engineering (CASE), Trieste, Italy*.
Awarded by the IEEE Robotics and Automation Society

Vocational Experiences

Teaching

Teaching 'Elements of Deep Learning' [Academic Year (AY) 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023] (in English) PhD School on Information Engineering at the Department of Information Engineering of University of Padova.

Teaching 'Explainable Machine Learning' [Academic Year (AY) 2019/2020, 2020/2021, 2021/2022, 2022/2023] (in English) PhD School on Brain, Mind and Computer Science at the Human-Inspired Technology Research Center of University of Padova.

Teaching 'Reinforcement Learning' [AY 2021/2022, 2022/2023] (in English) M.Sc. Control System Engineering at the Department of Technology and Management for Industrial Systems, University of Padova.

Teaching 'Deep Learning' [AY 2019/2020, 2020/2021, 2021/2022, 2022/2023] (in Italian) M.Sc. on Machine learning and big data for Precision Medicine and Biomedical Research at the Department of Information Engineering, University of Padova.

Teaching 'Automatic Control' [AY 2016/2017, 2017/2018, 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023] (in Italian) B.Sc. Management Engineering at the Department of Technology and Management for Industrial Systems, University of Padova.

Teaching 'Big Data Analytics, Machine Learning and Internet of Things' [AY 2017/2018] (in Italian) Master on 'Innovation Management and 4.0 Technologies' (University of Padova).

Teaching 'Filtering and Estimation' [AY 2015/2016] (in Italian, assistant) for M.Sc. on Automation Engineering at the Department of Information Engineering, University of Padova, main instructor Prof. Stefano Pinzoni.

Advisoring

Advisor and Co-advisor — Advisor of the following PhD students: Matteo Terzi (2016-2019) on 'Deep Learning for Time-series Data', Marco Maggipinto (2017-2020) on 'Deep Learning for Industry 4.0', Alessandro Fabris (2019-2022) on 'Fairness in Machine Learning', Mattia Carletti (2019-2022) on 'Explainable Machine Learning', Tommaso Barbariol on 'Machine Learning for the Oil and Gas Industry', Davide Dalle Pezze (2019-2022) on 'Machine Learning approaches for industrial applications', Davide Marcato (2020-2023) on 'Machine Learning for Particle Accelerators', Alessio Arcudi (2022-2024) on 'Interpretable Machine Learning and Reinforcement Learning', Davide Sartor (2022-2025) on 'Explainable Artificial Intelligence', Mattia Fanan (2022-2025) on 'Unsupervised Learning Approaches for Power Systems'. Co-advisor of Giuliano Zambonin (2016-2019, advisor Alessandro Beghi) on 'Machine Learning per Home Appliances', Alberto Purpura (2018-2021, advisor Gianmaria Silvello) on 'Deep Learning for Information Retrieval', Natalie Gentner (2019-2022, advisor Alessandro Beghi) on 'Scalable Approaches for Domain Adaptation in Semiconductor Manufacturing' Benan Demir (2016-2019, advisor Anna Spagnolli) on 'Voice Features for Stress Detection', Mattia Furlan (2018-2021, advisor Anna Spagnolli) on 'Intolerance in Immersive Virtual Reality', Giulia Benvegnú (2018-2021, advisor Luciano Gamberini) on 'Emotion in moral decision making with Virtual Reality'. The aforementioned student are enrolled either in the 'Information Engineering' or 'Brain Mind and Computer Science' PhD schools at University of Padova. Moreover, I was the co-Advisor of Lucas Brito, PhD student at Federal University of Uberlandia (Brasil) on 'Machine Learning approaches for Mechanical Systems' (2019-2022, advisor Marcos Antonio Duarte).

Advisor and Co-advisor — Advisor or Co-advisor of approx 50 M.Sc. (curricula Automation Engineering, Computer Science, Data Science, ICT Internet Multimedia Engineering, Mathematical Engineering, Telecommunication Engineering) and B.Sc. students (curricula Information Engineering and Management Engineering) at University of Padova.

Organizer of conferences, special issues and special session

Organizer of International Conferences — Part of the Organizing Committee (Web and Publicity Chair) for the 6th IEEE Conference on Control Technology and Applications (CCTA) 2022, 22-25 Aug. 2022 Trieste (Italy).

Organizer of International Conferences — Part of the Organizing Committee (Industry Chair) and Associate Editor for the 6th IFAC Conference on Intelligent Control and Automation Science (ICONS) 2022, 13-15 Jul. 2022 Cluj-Napoca (Romania).

Organizer of International Conferences — Part of the Organizing Committee (Special Session Chair) and Associate Editor for the 5th IFAC Conference on Intelligent Control and Automation Science (ICONS) 2019, 21-23 Aug. 2019 Belfast (UK).

Organizer of International Conferences — Part of the Program Committee for the International Conference on Modeling and Analysis of Semiconductor Manufacturing (MASM) 2019, 2020, 2021, 2022 within the Winter Simulation Conference

Organizer of Open Invited Track — Organizer with Prof. Sean McLoone and Prof. Lucian Busoniu of the Open Invited Track 'Advances in Machine Learning and Intelligent Control for Industrial Automation and Robotics' at 2023 IFAC World Congress in Yokohama, Japan.

Organizer of Open Invited Track	Organizer with Prof. Sean McLoone of the Open Invited Track 'Industry 4.0 Applications of Machine Learning and Intelligent Control' at 2020 IFAC World Congress in Berlin, Germany (held remotely).
Organizer of Special Session	Organizer with Prof. Alessandro Beghi of the Special Session 'Applications of Fault Detection and Root Cause Analysis Systems' at 2014 IFAC World Congress in Cape Town, South Africa.
Organizer of Special Issue	Organizer with Prof. Alain Biebold, Nital S. Patel, Prof. Chia-Yen Lee and Andreas Kyek of the Special Issue 'Process-Level Machine Learning Applications in Semiconductor Manufacturing' for the IEEE Transactions on Semiconductor Manufacturing.
Organizer of Special Issue	Organizer with Prof. Sean McLoone of the Special Issue 'Advanced Manufacturing Informatics, Energy and Sustainability' for the journal Energies.
Organizer of Special Session	Organizer with Prof. Chia-Yen Lee of the Special Session 'Data Science in Manufacturing' at the IEEE Conference on Automation Science and Engineering (CASE) 2019, Vancouver (US).

Editorial Activity

Associate Editor	Associate Editor for the Elsevier journal 'Engineering Applications of Artificial Intellingence' (starting 2021).
Associate Editor	Associate Editor for the 'IEEE Transactions on Semiconductor Manufacturing' (starting 2018) for the area 'Process Modeling'.
Associate Editor	Associate Editor for the MDPI journal 'Informatics' (starting 2021) for the area 'Industry 4.0'.
Associate Editor	Associate Editor for the 2023 IFAC World Congress, 9-14 Jul. 2023, Yokohama (Japan).
Associate Editor	Associate Editor for the 6th IEEE Conference on Control Technology and Applications (CCTA) 2022, 22-25 Aug. 2022 Trieste (Italy).
Associate Editor	Associate Editor for the 6th IFAC Conference on Intelligent Control and Automation Sciences (ICONS) 2022, 13-15 Jul. 2022 Cluj-Napoca (Romania).
Associate Editor	Associate Editor for the 5th IFAC Conference on Intelligent Control and Automation Sciences (ICONS) 2019.

Reviewer — Reviewer for the journals 'Applied Soft Computing', 'Computers & Industrial Engineering', 'Control Engineering in Practice', 'Energies', 'Engineering Applications of Artificial Intelligence', 'IEEE Control Systems Letters', 'IEEE Robotics and Automation Letters', 'IEEE/ASME Transactions on Mechatronics', 'IEEE Transactions on Automation Science and Engineering', 'IEEE Transactions on Control System Technologies', 'IEEE Transactions on Human-Machine Systems', 'IEEE Transactions on Industrial Informatics', 'IEEE Transactions on Semiconductor Manufacturing', 'IETE Technical Review', 'Informatica' 'International Journal of Production Research', 'International Journal of Robust and Nonlinear Control', 'Journal of Process Control', 'Journal of The Franklin Institute' and 'System and Control Letters', and for the conferences IEEE 'ACC 2017', 'CASE 2011-2012-2013-2014-2015-2017-2018-2019', 'CCTA 2018', 'CDC 2010-2011-2012-2013-2014-2015-2017-2018', 'IROS 2010', 'MSC 2012-2016', IFAC 'World Congress 2014-2017' e 'Winter Simulation Conference 2017-2019'

Reviewer — 'Oustanding Contribution in Reviewing' for the Journal of Process Control

Reviewer of Project Proposals — Reviewer for the Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Dutch Research Council) for the programme Perspectief

Reviewer of Project Proposals — Reviewer for the Comision Nacional de Investigacion Cientifica y Tecnologica (Chilean Agency for Research) for the programme FONDECYT

Reviewer of Project Proposals — Reviewer for EUREKA, pan-european organization for research applied to production development. `https://www.eurekanetwork.org/`

Reviewer of Project Proposals — Reviewer for the European Union for the programme INNOWWIDE, aiming at promoting international initiative of European SMEs. `https://innowwide.eu/`

Affiliations and Institutional Positions

Mar. 2018 – Jul. 2019 — **Institutional Position**.
President of the Ethical Committee of the Human-Inspired Technology Research Center at University of Padova `http://hit.psy.unipd.it/comitato_etico_HIT`.

Apr. 2018 — **Institutional Position**.
Delegate for the University of Padova Dean for the General Assembly of the 'Cluster Fabbrica Intelligente' (Italian association for Industry 4.0) of 20/04/2018.

Mar. 2018 – Jul. 2019 — **Institutional Position**.
Part of the Research Committee for the PhD course 'Brain Mind and Computer Science' of the Human-Inspired Technology Research Center at University of Padova.

Feb. 2018 – — **Affiliation**.
Member of the IEEE Technical Committee on Healthcare and Medical Systems (TC-HMS)

May 2017 – — **Institutional Position**.
Member of the Council for the PhD course on 'Brain Mind and Computer Science' of the Human-Inspired Technology Research Center at University of Padova `http://hit.psy.unipd.it/phd-bmcs2`.

May 2017 – **Affiliation**.
Member of the Human-Inspired Technology Research Center at University of Padova http://hit.psy.unipd.it/.

Mar. 2012 – **Affiliation**.
Member of the IEEE Technical Committee on Semiconductor Manufacturing Automation

Mar. 2019 – **Affiliation**.
Industry Chair for the IFAC Technical Committee 3.2 on Computational Intelligence in Control.

Mar. 2019 – **Affiliation**.
Member of the IFAC Industrial Committee.

Mar. 2011 – **Affiliation**.
IEEE Senior Member (since 2022), IEEE Member (since 2013) and IEEE Student Member (2011-2013).

Mar. 2011 – **Affiliation**.
Member of various IEEE society: Control Systems Society, Robotics and Automation Society, Industrial Electronic Society, IEEE Electronics Packaging Society.

Auh. 2011 – **Affiliation**.
Member of SIDRA (Italian Association of Professors and Researchers in Automatic Control)

Mar. 2010 – Mar. 2012 **Institutional Position**, *Univesity of Padova, Department of Information Engineering*.
Rapresentative of the PhD students in the Department Council.

Oct. 2001 – Oct. 2002 **Institutional Position**, *High School 'Carlo Cattaneo'*.
Rapresentative of the students in the School Council.

Summer Schools

Jul. 2011 **Summer School**.
2011 SIDRA *Antonio Ruperti* Summer School on Distributed Control, Game Theory and Model Predictive Control, Bertinoro, Italy.

Jul. 2010 **Summer School**.
2010 Neural Network Summer School on Classification, Regression and Data Mining Porto, Portugal.

Qualifications

Jun. 2022 National Qualification for the role of Full Professor in the scientific area '09/G1 Automatica' (Automatic Control).

Nov. 2018 National Qualification for the role of Associate Professor in the scientific area '09/G1 Automatica' (Automatic Control).

Jan. 2010 National Qualification for the profession of Engineer.

Presentations at scientific conferences

2019 August Belfast, UK, ICONS 'Machine Learning Approaches for Anomaly Detection in Multiphase Flow Meters'

2019 August Belfast, UK, ICONS 'A Random Forest-Based Approach for Hand Gesture Recognition with Wireless Wearable Motion Capture Sensors'

2019 August	Belfast, UK, ICONS 'A Machine Learning-Based Soft Sensor for Laundry Load Fabric Typology Estimation in Household Washer-Dryers'
2017 June	Modena, Italy, FAIM 'Anomaly Detection Approaches for Semiconductor Manufacturing'
2017 May	Saratoga Springs, USA, IEEE/SEMI ASMC 'A Dynamic Sampling Strategy based on Confidence Level of Virtual Metrology Predictions'
2017 May	Saratoga Springs, USA, IEEE/SEMI ASMC 'Anomaly Detection through on-line Isolation Forest: an Application to Plasma Etching'
2016 September	Padova, Italy, International Workshop on Symbiotic Interaction 'A Symbolic Approach to Human Activity Recognition'
2016 September	Berlino, Germany, IEEE ETFA 'Dealing with Time-Series Data in Predictive Maintenance Problems'
2014 August	Cape Town, South Africa, IFAC World Congress 'A One-Class SVM Based Tool for Machine Learning Novelty Detection in HVAC Chiller Systems'
2014 August	Taipei, Taiwan, IEEE CASE 'An Adaptive Machine Learning Decision System for Flexible Predictive Maintenance'
2013 August	Madison, USA, IEEE CASE 'A Predictive Maintenance System for Integral Type Faults based on Support Vector Machines: an Application to Ion Implantation'
2013 August	Madison, USA, IEEE CASE 'Virtual Metrology Enabled Early Stage Prediction for Enhanced Control of Multi-stage Fabrication Processes'
2012 December	Maui, USA, IEEE CDC 'Learning from Time Series: Supervised Aggregative Feature Extraction'
2012 October	Dubrovnik, Croatia, IEEE MSC 'Least Angle Regression for Semiconductor Manufacturing Modeling'
2012 August	Seoul, South Corea, IEEE CASE 'An Information-Theory and Virtual Metrology-based approach to Run-to-Run Semiconductor Manufacturing Control'
2012 May	Saratoga Springs, USA, IEEE/SEMI ASMC 'A Predictive Maintenance System based on Regularization Methods for Ion-Implantation'
2012 May	Saratoga Springs, USA, IEEE/SEMI ASMC 'Optimal Tuning of Epitaxy Pyrometers'
2011 September	Tolosa, France, IEEE ETFA ' A Predictive Maintenance System for Silicon Epitaxial Deposition'
2011 August	Trieste, Italy, IEEE CASE 'A Virtual Metrology System for Predicting CVD Thickness with Equipment Variables and Qualitative Clustering'

Other Public Presentations

2019/06/05	Montecchio Maggiore, Italy, 'Innovation Seminars' organized by Fabbrica Italiana Sintetici, title speach 'Introduction to Machine Learning'
2019/04/12	Villa di Molvena, Italy, 'Artificial Intelligence Reloaded' organized by SIIID, title speach 'AI in Action: Industry 4.0 and Machine Learning Debunking'
2018/10/30	Treviso, Italy, 'Digitalization without wasting' organized by Confartigianato Imprese Marca Trevigiana, title speach 'Revamping 4.0'

2018/09/27 Mestre, Italy, 'Material and chemical monitoring: a business opportunity to increase competitiveness' organized by T2I and Whirlpool, title speach 'The Green Way of Industry 4.0'

2018/05/08 Vignola, Italy, 'The Value of Data for Enterprises' organized by CRIT, title speach 'Machine Learning and Predictive Maintenance'

2018/03/22 Imola, Italy, 'Predictive Tecnologies and Solutions for Smart Industries: Machine Learning and IoT for Smart Manufacturing' organized by SACMI and IConsulting, title speach 'Come si sviluppa un progetto di Manutenzione Predittiva IoT? Il caso d'uso Diasorin'

2018/03/15 Treviso, Italy, 'Machine Learning and Predictive Maintenance' organized by UNISEF, title speach 'Data-Driven Approached for Industry 4.0'

2017/11/09 Vicenza, Italy, 'Industry 4.0 for SMEs, when the Industry becomes smart' organized by Confartigianato Vicenza, title speach 'Elements of Industry 4.0'

2017/07/06 Schio, Italy, 'Enterprise Training Ground' organized by Confartigianato Vicenza, title speach 'Introduction to Industry 4.0'

Languages

Italian	Mother Tongue	
English	Advanced	*European Level: Understanding C2, Speaking C2, Writing C2* *Most recent certification: TOEFL iBT, 12 Sep. 2007, 101/120*

Computer and Programming Skills

Programming	Advanced Knowledge of Matlab/Simulink, Keras, R, Python, C#, Tensorflow and Visual Studio	Typesetting	LaTeXadvanced, basic knowledge of HTML
General	Advanced Knowledge of Windows and Office (ECDL Certification 2002)	Databases	Oracle, MySQL

Pubblications

Journals

- [J21] M. Maggipinto, A. Beghi, S. McLoone, **G.A. Susto**
  DeepVM: A Deep Learning-based Approach with Automatic Feature Extraction for 2D Input Data Virtual Metrology.
  Journal of Process Control (accepted)
- [J20] **G.A. Susto**, M. Maggipinto, F. Zocco, S. McLoone
  Induced Start Dynamic Sampling for Wafer Metrology Optimization.
  IEEE Transactions on Automation Science and Engineering (accepted)
- [J19] M. Carletti, C. Masiero, A. Beghi, **G.A. Susto**
  A deep learning approach for anomaly detection with industrial time series data: a refrigerators manufacturing case study.
  Procedia Manufacturing (accepted)

- [J18] L. Brunelli, C. Masiero, D. Tosato, A. Beghi, **G.A. Susto**
  Deep Learning-based Production Forecasting in Manufacturing: a Packaging Equipment Case Study.
  Procedia Manufacturing (accepted)
- [J17] A. Razman, A.S.A. Ghani, A. Cenedese, F.A. Adnan, **G. A. Susto**, K.M. Ismail, R.M. Musa, Y. Mukai, Z. Taha, A. Majeed
  Hunger Classification of Lates Calcarifer by means of an automated feeder and image processing.
  Computers and Electronics in Agriculture, Volume 163, 2019
  https://www.sciencedirect.com/science/article/pii/S0168169919305332
  doi:10.1016/j.compag.2019.104883
- [J16] L. Meneghetti, M. Terzi, S. Del Favero, **G.A. Susto**, C. Cobelli
  Data-Driven Anomaly Recognition for Unsupervised Model-Free Fault Detection in Artificial Pancreas.
  IEEE Transactions on Control System Technologies, (early access) 2019.
  https://ieeexplore.ieee.org/abstract/document/8589023
  doi:10.1109/TCST.2018.2885963
- [J15] A. Purpura, C. Masiero, **G.A. Susto**
  WS4ABSA: An NMF-Based Weakly-Supervised Approach for Aspect-Based Sentiment Analysis with Application to Online Reviews.
  Lecture Notes in Computer Science, Volume 11198.
- [J14] **G.A. Susto**, M. Maggipinto, F. Zocco, S. McLoone
  A Dynamic Sampling Approach for Cost Reduction in Semiconductor Manufacturing.
  Procedia Manufacturing, Volume 17, 2018, Pag. 1031-1038
  https://www.sciencedirect.com/science/article/pii/S2351978918312009
  doi:0.1016/j.promfg.2018.10.083
- [J13] M. Maggipinto, C. Masiero, A. Beghi, **G.A. Susto**
  A Convolutional Autoencoder Approach for Feature Extraction in Virtual Metrology.
  Procedia Manufacturing, Volume 17, 2018, Pag. 126-133
  https://www.sciencedirect.com/science/article/pii/S2351978918311399
  doi:10.1016/j.promfg.2018.10.023
- [J12] M. Maggipinto, M. Terzi, C. Masiero, A. Beghi, **G.A. Susto**
  A Computer Vision-inspired Deep Learning Architecture for Virtual Metrology modeling with 2-Dimensional Data
  IEEE Transactions on Semiconductor Manufacturing, Volume 31, Number 3, 2018, Pag. 376-384
  https://ieeexplore.ieee.org/document/8390943
  doi:10.1109/TSM.2018.2849206
- [J11] **G.A. Susto**, A. Schirru, S. Pampuri, A. Beghi, G. De Nicolao
  A Hidden-Gamma Model-Based Filtering and Prediction Approach for Monotonic Health Factors in Manufacturing
  Control Engineering Practice, Volume 74, 2018, Pag. 84-94
  https://www.sciencedirect.com/science/article/pii/S0967066118300273
  doi:10.1016/j.conengprac.2018.02.011

- [J10] S. McLoone, A.B. Johnston, **G.A. Susto**
  A Methodology for Efficient Dynamic Spatial Sampling and Reconstruction of Wafer Profiles
  IEEE Transactions on Automation Science and Engineering, Volume 15, Number 4, 2018, Pag. 1692-1703
  https://ieeexplore.ieee.org/document/8265176
  doi:10.1109/TASE.2017.2786213
- [J9] **G.A. Susto**, M. Terzi, A. Beghi
  Anomaly Detection Approaches for Semiconductor Manufacturing.
  Procedia Manufacturing, Volume 11, pag. 2018-2024, 2017.
  https://www.sciencedirect.com/science/article/pii/S2351978917305619
  doi:10.1016/j.promfg.2017.07.353
- [J8] A. Cenedese, L. Minetto, **G.A. Susto**, M. Terzi
  Human Activity Recognition with Wearable Devices: A Symbolic Approach
  PsychNology Journal, Volume 14, Number 2-3, 2016, Pag. 99-115
  http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=7312962
- [J7] **G.A. Susto**, A. Schirru, S. Pampuri, S. McLoone
  Supervised Aggregative Feature Extraction for Big Data Time Series Regression
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