**Annex 2**

Ministero dell'Università e della Ricerca
Direzione generale della ricerca

Call as to the funding of research initiatives for technologies and innovative trajectories in the health and care sectors

*National Plan for NRRP Complementary Investments - Law Decree May 6, 2021, n. 59, converted and modified as to Law n. 101/2021 Research initiatives for technologies and innovative trajectories in the health and care sectors*

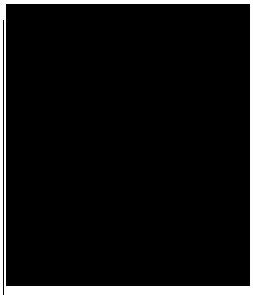
# Annex 2 – Curriculum Vitae of those engaged in the implementation of the *Initiative*

(Article 10, paragraph 3 letter b, of the Call)

*(This attachment must be completed and digitally signed by those engaged in the implementation of the Initiative)*

**Annex 2**

# Curriculum Vitae



## Personal information


| | |
|---|---|
| First name(s) / Surname(s) | **Roberta Siciliano** |
| Address(es) | |
| Telephone(s) | |
| E-mail | |
| Nationality | Italian |
| Date of birth | |
| Gender | Female |


## Occupational field

**Professor of Statistics**, at the *Department of Electric Engineering and of Technologies of Information* and member of *ICAROS (Interdepartmental Center for Advances in Robotic Surgery)*, University of Naples Federico II.

## Work experience

| | |
|---|---|
| Nov 1st, 2000 - present | **Full Professor of Statistics (SECS-S/01)**<br>Teaching and Research Activities in Statistics and Data Science<br>University of Naples Federico II |
| Nov 1st, 1992 – Oct 31st, 2000 | Associate Professor of Statistics (SECS-S/01)<br>Teaching and Research Activities in Statistics<br>University of Naples Federico II |
| Nov 1st, 1990 – Oct 31st,1992 | Assistant Professor of Statistics (SECS-S/01)<br>Teaching and Research Activities in Statistics<br>University of Naples Federico II |

## Education and training

| | |
|---|---|
| Nov 1st, 1988 – Oct 31st, 1991 | PhD Program in Computational Statistics and Applications<br>University of Naples Federico II<br>Visiting research at Leiden University *(Methoden en Technieken, Data Theory Group)* |
| Oct 1st, 1987 – Oct 31st, 1988 | Master Course in Advanced Statistics<br>Centro di Specializzazione in Ricerche Economiche e Agrarie per il Mezzogiorno di Portici<br>High Formation Institution funded by Manlio Rossi-Doria, University of Naples Federico II |
| Oct 1st, 1982 – Feb 18th, 1987 | Four-Year Degree in Economics (Math and Statistics Study Plan)<br>University of Naples Federico II<br>Mark: 110/110 Magna Cum Laude et Mentionem in Vitae et Thesibus |

**Annex 2**

## Personal skills and competences

Mother tongue(s) **Italian**

Other language(s) **English**

| Self-assessment | Understanding | | Speaking | | Writing |
|---|---|---|---|---|---|
| *European level (*)* | Listening | Reading | Spoken interaction | Spoken production | |
| **English** | Good | Good | Good | Good | Good |

*(*) Common European Framework of Reference for Languages*

Social skills and competences

She coordinates *the research group STAD (Statistics, Technology, Analysis of Data)* of the University of Naples Federico II, aimed to provide and foster statistical science, transfer technology, analysis of data with a meta-disciplinary approach "crossing the bridge" towards various communities such as Computational Science, Machine Learning, Artificial Intelligence, Transportation Engineering, Biostatistics, Astrophysics, etc.
http://www.stad.unina.it - http://wpage.unina.it/roberta/

She is very friendly and relates very well with scientists and experts of application domains. Her attitude is to play a "hub" for science networks and innovative projects to be developed.

Organisational skills and competences

She is one of the funders of the MS Degree in Data Science of University of Naples Federico II (starting in the 2019-20 academic year).
She was President of the Board Council of the Degree in Management for Tourism Sciences (2003-2008), interfaculty degree program with Economics Faculty and Literature and Philosophy Faculty.
She is fellow of statistical societies, ISI, IASC, IFCS, SIS, CLADAG, IDA, member of the ISTAT Big Data Scientific Committee (2012-2015), vice-president in the Elected Board of Directors of the European Region Section of the International Association for Statistical Computing (1993-1996), member of the Programme Committee of the Annual Conference on Intelligent Data Analysis since 1995.
She was Principal Investigator of the research unit in three European Projects, national coordinator of two National Programme Research Projects, coordinator of numerous regional projects, participants to numerous other projects.

Technical skills and competences

She teaches Statistical Learning and Data Mining for the MS Degree in Data Science as well as for the MS Degree in Automation and Robotics, Statistics for decisions for the MS Degree in Management Engineering as well as for the MS Degree in Business Management.
Her scientific production of more than 100 papers, mainly on international journals and peer reviewed monograph contributions, pertain research area of Statistical Learning and Data Mining, Data Science and Artificial Intelligence, specifically Tree- Based Methodology, Regression Modelling and Classification in big learning problems, Preference Learning, Missing Data Imputation and Data Editing, Categorical Data Analysis, Association Pattern Mining, Web Mining.
She gave many seminars and took part in several conferences as Keynote Speaker, Invited Lecturer, General Chair of the Conference, Program Committee Member.

Other skills and competences

She plays Tennis (past agonistic level) and the bass guitar. She sings as a soprano in a polyphonic choir. She loves music, sport and reading.

**Annex 2**

## Additional information

Selected publications

Publication summary: 42 journal papers, 50 peer-reviewed conference papers, 27 short papers. H-index: 11 (Scopus), 19 (Scholar). Citations: 438 (Scopus), 1218 (Scholar).


D'Ambrosio, A., Iorio, C, Pandolfo, G., Siciliano, R. (2021). Adjusted Concordance Index: an Extension of the Adjusted Rand Index to Fuzzy Partitions, *Journal of Classification*, 1, 1-17, Springer.

Acampora, G., Iorio, C., Pandolfo, G., Siciliano, R. (2021). A Memetic Algorithm for Solving the Rank Aggregation Problem, *Studies in Fuzziness and Soft Computing*, 447-460.

Pandolfo, G., Iorio, C., Staiano, M., Aria, M., Siciliano, R. (2021). Multivariate process control charts based in the Lp depth, *Applied Stochastic Models in Business and Industry*, 37, 229-250.

Pandolfo, G., D'Ambrosio, A., Siciliano, R., Cannavacciuolo, L. (2020). Fuzzy Logic AGgregation of Crisp Data Partitions as Learning Analytics in Triage Decisions, *Expert Systems and Applications,* 1-25, Elsevier.

Acampora, G., Vitiello, A., Siciliano, R. (2020). MIDA: A web tool for missing data imputation based on a boosted and incremental learning algorithm, *Proceedings of the 2020 IEEE International Conference on Fuzzy Systems*, 1-6.

Aria, M., D'Ambrosio, A., Iorio, C., Siciliano, R. (2020). Dynamic recursive tree-based partitioning for malignant melanoma identification in skin lesion dermoscopic images, *Statistical Papers*, 61, 1645-1661.

Pandolfo, G., Iorio, C., Siciliano, R., D'Ambrosio, A. (2020). Robust mean-variance portfolio through the weighted $L^p$ depth function. *Annals of Operations Research,* 519-531, Springer.

Iorio, C., Aria, M., D'Ambrosio, A., Siciliano, R. (2019). Informative Trees by Visual Pruning. *Expert systems with applications*, vol. 127, pp. 228-240.

D'Ambrosio, A., Iorio, C., Staiano, M., and Siciliano, R. (2019). Median constrained bucket order rank aggregation. *Computational Statistics*, pp.1-16.

Acampora, G., Alcala-Fdez, J., Siciliano, R., Soto-Hilalgo, J.M., Vitiello, A. (2019) VisualJFML: A Visual Environment for Designing Fuzzy Systems according to IEEE Std 1855-2016. *2019 IEEE International Conference on Fuzzy Systems* (*FUZZ-IEEE)*, New Orleans (USA), June 23-26, 2019.

Staiano, M., Siciliano, R., Pandolfo, G., Nebot Medina, R. (2019). Semantic model-to-model translation to capture the nexus complex predicate, the *10th International Multi-Conference on Complexity, Informatics and Cybernetics: IMCIC 2019*, March 12-15, 2019, Orlando, Florida, USA.

Iorio, C., Frasso, G., D'Ambrosio, A. and Siciliano, R. (2018). A P-spline based clustering approach for portfolio selection. *Expert systems with applications*, vol. 95, pp. 88-103, ISSN: 0957-4174. DOI: 10.1016/j.eswa.2017.11.031. Online first: November 14, 2017.

Iorio, C., Frasso, G., D'Ambrosio, A. and Siciliano, R. (2018). P-splines based clustering as a general framework: some applications using different clustering algorithms. In Mola, F., Conversano, C., and Vichi, M. Eds., *Classification, (Big) Data Analysis and Statistical Learning*, pp.183-190. Springer series: Studies in Classification, Data Analysis, and Knowledge Organization. Springer International Publishing.

Siciliano, R., D'Ambrosio, A., Aria, M. and Amodio, S. (2017). Analysis of web visit histories, part II: Predicting navigation by Nested STUMP Regression Trees. *Journal of Classification*, vol. 34, pp. 473-493.

D'Ambrosio, A., Mazzeo, G., Iorio, C., and Siciliano, R. (2017). A differential evolution algorithm for finding the median ranking under the Kemeny axiomatic approach. *Computers and Operations Research*, vol. 82, pp. 126-138.

D'Ambrosio, A., Aria, M., Iorio, C and Siciliano, R. (2017). Regression trees for multivalued numerical response variables, *Expert systems with applications*, vol. 69, pp. 21-28.

Siciliano, R., D'Ambrosio, A., Aria, M. and Amodio, S. (2016) Analysis of web visit histories, part I: Distance-based visualization of sequence rules. *Journal of Classification*, vol. 33(2), pp. 298-324.

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Iorio, C., Frasso, G., D'Ambrosio, A., and Siciliano R. (2016). Parsimonious Time Series Clustering using P-Splines, *Expert Systems with Applications*, vol. 52, pp. 26-38. DOI: 10.1016/j.eswa.2016.01.004.

Amodio, S., D'Ambrosio, A. and Siciliano, R. (2016) Accurate algorithms for identifying the median ranking when dealing with weak and partial rankings under the Kemeny axiomatic approach. *European Journal of Operational Research,* 292(2), pp. 667-676. DOI: 10.1016/j.ejor.2015.08.048.

D'Ambrosio, A., Amodio, S. and Iorio, C. (2015) Two algorithms for finding optimal solutions of the Kemeny rank aggregation problem for full rankings. *Electronic Journal of Applied Statistical Analysis*, vol. 8(2), 197-212.

Iorio, C., Aria, M., and D'Ambrosio, A. (2015). A New Proposal for Tree Model Selection and Visualization, in Morlini, I, Minerva, T., Vichi, M. (Eds.), *Advances in Statistical Models for Data Analysis*, pp. 149-156. Springer series: Studies in Classification, Data Analysis, and Knowledge Organization. Springer International Publishing.

D'Ambrosio A., Aria M. and Siciliano R. (2012). Accurate Tree-based Missing Data Imputation and Data Fusion within the Statistical Learning Paradigm, *Journal of Classification*, vol. 29(2), pp. 227-258. DOI: 10.1007/s00357-012-9108-1.

Conversano, C., and Siciliano, R. (2009). Incremental tree-based missing data imputation with lexicographic ordering. *Journal of classification*, 26(3), 361-379.

Pecoraro, M., and Siciliano, R. (2008). Statistical Methods for Profiling Users in Web Usage Mining. In Song, M., and Wu, Y.B. (Eds.), *Handbook of Research on Text and Web Mining Technologies,* pp- 359-368, ICI Global.

Siciliano, R., and Conversano, C. (2008). Decision Tree Induction. In Wang, J. (Ed.) *Encyclopedia of data warehousing and mining*, pp. 624-630. IGI Global.

Conversano, C. and Siciliano, R. (2008). Statistical Data Editing. In Wang, J. (Ed.) *Encyclopedia of data warehousing and mining*, pp. 1835-1840. IGI Global.

Siciliano, R., Aria, M. and D'Ambrosio, A. (2008). Posterior Prediction Modelling of Optimal Trees, in *Proceedings in Computational Statistics* (COMPSTAT 2008), 18th Symposium Held in Porto, Portugal, Brito, Paula (Ed.), Springer-Verlag, pp. 323-334.

Petrakos, G., Conversano, C., Farmakis, G., Mola, F., Siciliano, R., and Stavropoulos, P. (2004). New ways of specifying data edits. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 167(2), 249-274.

Conversano, C., Siciliano, R., and Mola, F. (2002). Generalized additive multi-mixture model for data mining. *Computational statistics & data analysis*, 38(4), 487-500.

Cappelli, C., Mola, F., and Siciliano, R. (2002). A statistical approach to growing a reliable honest tree. *Computational statistics & data analysis*, 38(3), 285-299.

Conversano, C., Mola, F., and Siciliano, R. (2001). Partitioning algorithms and combined model integration for data mining. *Computational Statistics*, 16(3), 323-339.

Siciliano, R., and Mooijaart, A. (2001). Unconditional latent budget analysis: a neural network approach. In *Advances in Classification and Data Analysis* (pp. 127-134). Springer Berlin Heidelberg.

Siciliano, R., and Mola, F. (2000). Multivariate data analysis and modeling through classification and regression trees. *Computational Statistics & Data Analysis*, 32(3), 285-301.

Klaschka, J., Siciliano, R., and Antoch, J. (1998). Computational enhancements in tree-growing methods. In *Advances in Data Science and Classification* (pp. 295-302). Springer Berlin Heidelberg.

Siciliano R. (1998) Exploratory Versus Decision Trees. In: Payne R., Green P. (eds) *COMPSTAT 1998*. pp. 113-124, Physica, Heidelberg.

Siciliano, R., and Mooijaart, A. (1997). Three-factor association models for three-way contingency tables. *Computational statistics & data analysis*, 24(3), 337-356.

Mola, F., and Siciliano, R. (1997). A fast splitting procedure for classification trees. *Statistics and Computing*, 7(3), 209-216.

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Mola, F., Klaschka, J., and Siciliano, R. (1996). Logistic classification trees. In *COMPSTAT 1996* (pp. 373-378). Physica-Verlag HD.
Siciliano, R., and Van der Heijden, P. G. (1994). Simultaneous latent budget analysis of a set of two-way tables with constant row sum data. *Metron*, 53, 155-179.
Mola, F., and Siciliano, R. (1992). A two-stage predictive splitting algorithm in binary segmentation. In Dodge, Y. et al. (eds.) *Computational statistics* (pp. 179-184). Physica-Verlag HD.

Selected Projects Principal Investigator

**MAGIC** (H2020-EU.3.5.4 - G.A. 689669) – Principal Investigator - Moving Towards Adaptive Governance in Complexity: Informing Nexus Security – 2016- 2020 - https://magic-nexus.eu
**iWebCare** (FP6-2004-IST-4-28055) - Principal Investigator - Integrated Web Services Platform for the facilitation of fraud detection in health care e-government services – 2006-2008 - https://cordis.europa.eu/project/id/028055
**INSPECTOR** (IST-2000-26347) - Principal Investigator - Quality in the Statistical Information Life-Cycle: A Distributed System for Data Validation – 2000-2003. https://ec.europa.eu/eurostat/cros/content/inspector_en
**MIUR2005** – National Principal Investigator - Classification and Regression Trees: Methods, Open Source Technologies and Case Studies (2005-2007)
**MIUR2003** – National Principal Investigator - Knowledge Discovery Methods and Informational Statistics for decision-making (2003-2005)
**MIUR2001** – National Principal Investigator - Statistical models for classification and segmentation of complex data structures (2001-2003)

Selected Projects Participation

**EuROBIN** [CREATE] European ROBtics and AI Network, (Project: 101070596 H2021-CL4) Starting 1 July, 2022.
**RIMA** – [CREATE] Robotics for Inspection and Maintenance, (G.A. 824990)
https://rimanetwork.eu
**ReST** – [A. Cardarelli Hospital] Remote Surgical Training (Clinical Research Grant), March 1st 2021-February 28th 2022.
**PON ICOSAF** – [DIETI] Integrated and collaborative systems for the intelligent factory, Starting by September 1st, 2018
**PON PLACE -** [DIETI] Eco-sustainable reuse of offshore platforms, Starting by October 31th 2018
**POR-BARTOLO** -[ICAROS] Bioptic Adavanced Robotic Technologies in OncoLOgy, Starting by October 2018
https://www.icaros.unina.it/index.php/projects/bartolo
**PON-PROSCAN** - [ICAROS] https://www.icaros.unina.it/index.php/projects/proscan
**HYFLIERS** (G.A. 779411) - HYbrid FLying-rollIng with-snakE-aRm robot for contact inspection – January 2018- December 2021 - https://www.oulu.fi/hyfliers/
**REFILLS** (G.A. 731590) - Robotics Enabling Fully-Integrated Logistics Lines for Supermarkets – January 2017 – December 2020 - http://www.refills-project.eu
**PON-ICOSAF** (G.A. ARS01_00861) Integrated and collaborative systems for the intelligent factory; Durata: 30 mesi, con data di inizio: Settembre 2018.
**EUROC (**G.A. 608849) European Robotics Challenges; Starting by January 2014 (48 months)
**RODYMAN** (G.A. 320992) - Robotic Dynamic MANipulation- starting June 2013 (72 months)
**SHERPA** (G.A. 600958) - Smart collaboration between Humans and ground-aErial Robots for imProving rescuing activities in Alpine environments – February 1st, 2013 – March 31st, 2017
**SAPHARI** (FP7-ICT-2011-7 - G.A. 287513) - Safe and Autonomous Physical Human-Aware Robot Interaction - January 1st, 2011 – September 30ty, 2015
**EuRoC** (FP7-ICT - G.A. 608849) - European Robotics Challenges – January 1st, 2014 – December 31st, 2017
**ARCAS** (G.A. 287617) - Aerial Robotics Cooperative Assembly System – Starting by November 28th, 2011 (48 months)

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.