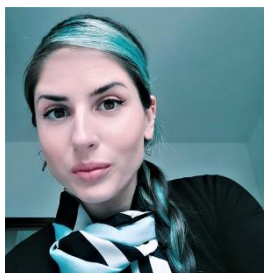




PERSONAL INFORMATION



Irini Furxhi, *MSTox, PhD, MSCA fellow Post doc, freelancer*

Date of birth 07/10/1992

Nationality Albanian, Greek

Address: Bologna, Italy

Personal email: irini.furxhi@gmail.com

Work emails: irini.furxhi@ul.ie, irini.furxhi@issmc.cnr.it

Orcid: 0000-0002-2263-0279

CURRENT POSITIONS

27th Sept. 2023 –
to date

Freelancing activities (VAT registered)

P.IVA: 04150641209, TIPO ATTIVITA': 749099 - ALTRE ATTIVITA' PROFESSIONALI NCA

1st Nov. 2023 –
to date

Marie Skłodowska-Curie Actions (MSCA) Post-doc Follower

SAFETYFANS: SAFETY and sustainabiTY by design: a Framework for Advanced Nano-materials Synthesis. Project ID:101103082. HORIZON-MSCA-2022-PF-01-01

CNR-ISSMC: National Research Council, Institute of Science, Technology and Sustainability for the Development of Ceramic Materials. Via Granarolo, 64, 48018 Faenza, Italy

1st Jun. 2021 –
to date

Adjunct Lecturer

*University of Limerick, Dept. of Accounting and Finance, Kemmy Business School, Limerick, Ireland
Risk assessment and management of Nanomaterials. Tools and concepts.*

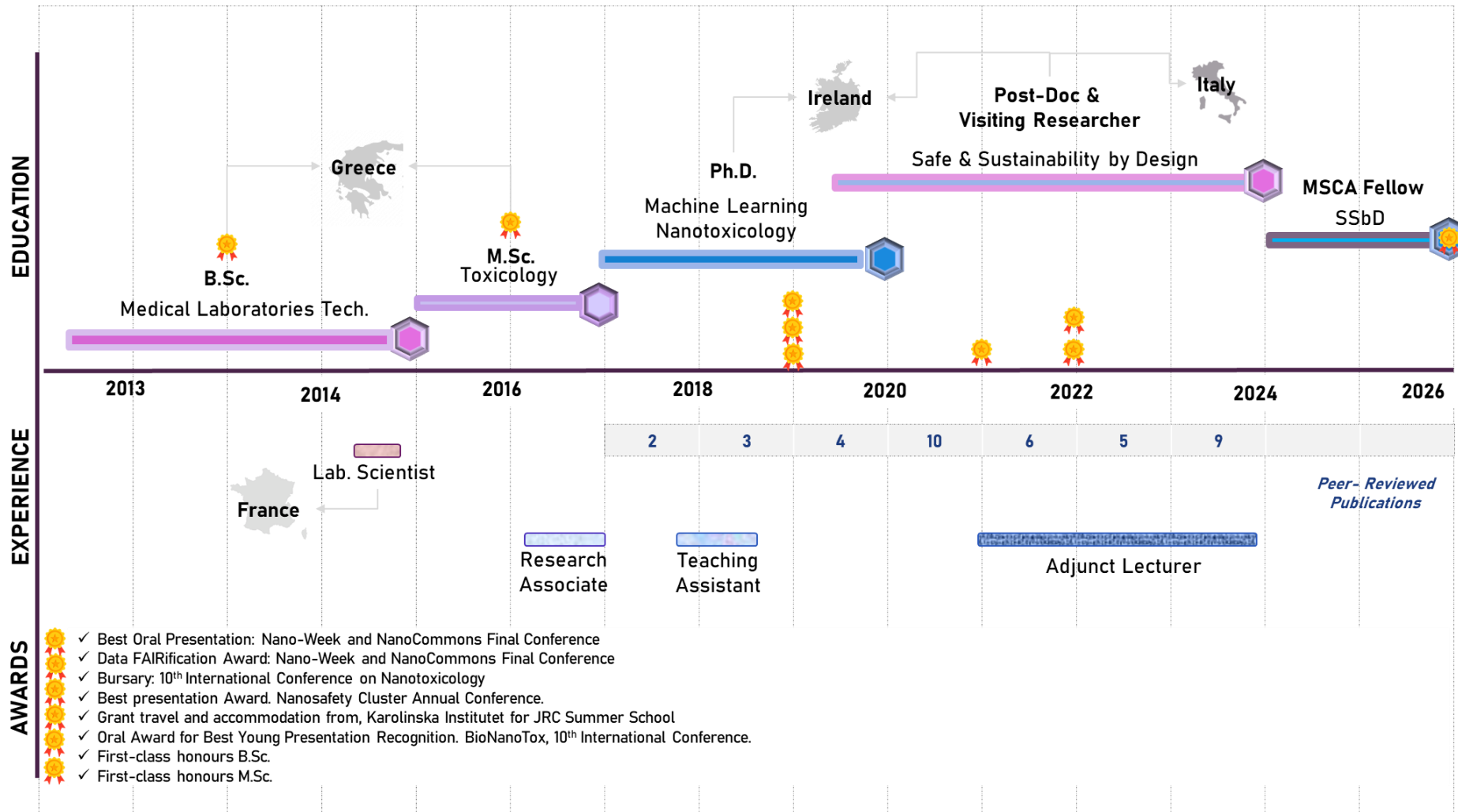


Figure 1. Curriculum Vitae in a glance.



WORK EXPERIENCE

Postdoctoral Researcher*Transgero Ltd, Kemmy Business School, Sreelane, Co. Limerick, Ireland*1st Apr. 2020 - to
30th Oct. 2023

→Activities in Europe-wide projects on Environmental and Health Risk Assessment and Management of Engineered Nanomaterials. Governance framework tools for managing possible nanotechnologies risks: RiskGONE: (<https://riskgone.wp.nlu.no/>) & NANORIGO Project (<https://riskgone.wp.nlu.no/>)
Data management, FAIR data, data curation and machine learning application in safety-by-design approaches. SSbD framework by the JRC applied within ASINA (<https://www.asina-project.eu/>)

Visiting Researcher*CNR-ISSMC Istituto di Scienza, Tecnologia e Sostenibilità per lo Sviluppo dei Materiali
Ceramici, Via Granarolo, 64, 48018 Faenza, Italy*15th Nov. 2021 - to
30th Oct. 2023

→Secondment agreement between CNR and Transgero to accelerate data management.

Invited Lecturer*University of Bologna, Department of Chemistry “Giacomo Ciamician”*

23-26 May 2022

→Nanomaterials and nanotechnologies regulations for master’s degree in chemical Innovation, ERASMUS Mundus.

Teaching Assistant*Department of Accounting and Finance, Kemmy Business School, University of Limerick, Ireland*Sept. 2018 to
Oct. 2019.

→Invited Lecturer on Risk and Governance of Nanomaterials risk.

Research Associate*Department of Chemical Engineering, Aristotle University of Thessaloniki, University Campus, Bldg. D,
Rm 201, 54124 Thessaloniki, Greece. Assoc. Prof. Dimosthenis Sarigiannis*Mar. 2016 to Aug.
2017

→Scientific activities in Europe-wide projects: HEALS (<http://www.heals-eu.eu/>). ERNCIP (<https://erncip-project.jrc.ec.europa.eu/>). HBM4EU: 2017-2021 (<http://www.eea.europa.eu/themes/human/human-biomonitoring/>) CHROME life: (<http://www.enve-lab.eu/index.php/work/crome-life/>).

Laboratory Scientist*Laboratory of Molecular Biology, Etablissement Français du sang Bourgogne/Franche-Comté
(EFSB/F-C), Besancon, France. Dr Christophe Ferrand (PhD, HDR), Tel: 33(0)381615615*7th April to 30th
September 2014

→Technical methods used in the diagnosis of patients carrying hematologic diseases (DNA and RNA preparation and extraction, quality control (electrophoresis) and verification with Multiplex PCR, RTqPCR, rtPCR, Chimerism (Polymorphism study), MicroBeads CD3+, Sanger sequencing, Illumina HiScan, Western Blot, transcriptomics etc.,)

EDUCATION

Doctor of Philosophy, PhD in Machine Learning and Nanotoxicology*University of Limerick, Dept. of Accounting and Finance, Kemmy Business School, Limerick, Ireland
Transgero Ltd, Kemmy Business School, Sreelane, Co. Limerick*11th Sept. 2017 to
11th Aug. 2020

→Activities in Europe-wide projects on Environmental and Health Risk Assessment and Management of Engineered Nanomaterials. Thesis: “A machine learning examination of nanomaterial safety” (<https://ulir.ul.ie/handle/10344/9250>). Supervisors: Dr Finbarr Murphy, Dr Martin Mullins and Dr Craig A. Poland.

Master in Toxicology*University of Thessaly, School of Health Sciences, Department of Biochemistry &
Biotechnology, Larissa, Greece*3rd Apr. 2015 to 3rd
Apr. 2017

→Molecular Toxicology, Organ Toxicology, Environmental and dietary Toxicology, Toxicokinetics, Forensic Toxicology, Risk Assessment, Risk Management. Thesis: “Assessment of public health risk from environmental toxicant using biomarkers and biokinetics modelling”. Supervisor: Prof. A. Sarigiannis.
Graduation Grade: **9.15/10 (first-class honors degrees)**

**Bachelors in Medical Laboratory Sciences**

University of Applied Science, School of Health – Welfare Professions, Department of Medical Laboratories, Larissa, Greece

2010
to 10th June 2015

→ Application of Medical Laboratory Technology such as: biochemistry, immunology, microbiology, molecular biology, toxicology, histopathology etc., Thesis “Internal Quality Control in Diagnostic Laboratories”. Supervisor: Panagiotis Plageras (Educational Professor and Director of Institute)
Graduation Grade: **8.88/10 (first-class honors degrees)**

TRAINING COURSES

11-13/03/2024	FALLING WALLS Lab, Pitch Competition for MARIE SKŁODOWSKA-CURIE ACTIONS Part of the 15 finalists in total, selected among 135 applicants. Debatix training sessions (Talk like TED, Building a compelling case, Non-Verbal Communication and Impactful Slides) <i>Online courses.</i>
25-27/10/2023	European Commission – (JRC) Safe and Sustainable by Design Boot Camp <i>Via Enrico Fermi, 2749 Ispra, Italy</i> Nanosafety Training School: Safe and Sustainable by Design Approaches for Chemical, Advanced Materials & Plastics
15-19/05/2023	<i>Auditorium Santa Margherita, Venice – Italy</i>
15-19/05/2022	Nanosafety Training School: Towards Safe and Sustainable by Design Advanced (Nano)Materials <i>Auditorium Santa Margherita, Venice – Italy</i>
21-24/05/2019	European Commission – Joint Research Centre (JRC) Summer School - Non-animal Approaches in Science, Challenges & Future Directions <i>Via Enrico Fermi, 2749 Ispra, Italy</i> Flash presentation, Poster, Part of the Debate: In silico tools as stand-alone solution

SUPERVISION

21 st Oct. 2020 – 22 nd June 2023	PhD Student Supervision Mahsa Mirzaei The thesis is entitled Application of Machine Learning tools for functionality predictions of nano formulation.
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PERSONAL SKILLS

Mother tongue(s)	Albanian, Greek				
	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
	Certificate of Competency in English, University of Michigan – United States of America Certificate of Competency in English, Cambridge – British Council – IELTS (Overall Band Score: 7.5/10)				
	UNDERSTANDING		SPEAKING		WRITING
French	C1	C1	C1	B2	B2
	Certificate of Delf - B2				
Italian	Lessons have initiated for C2 diploma acquisition				

Communication skills: Good communication skills, Confident public speaker

Job-related skills: Teamwork, Adaptability.



AWARDS & HONOURS

June. 2024	→ Best Oral Presentation at Materials Week 2024 Conference June 17-21, Cyprus. CSBJ presentation Award (Best integration of Safety, Sustainability and Materials Innovation)
Nov. 2022	→ Lara Faccani Prize “ESG (Environmental, Social and Governance) Challenge Iren 2023”. Title “Nano – photocatalysts: design, up – scale and characterisation models” Massimo Perrucca and Irini Furxhi, inspired this work and allowed her to improve the quality and relevance of her Ph.D. Thesis results.
Jun. 2022	→ Data FAIRification Award: Nano-Week and NanoCommons Final Conference, June 20-24, Cyprus.
June. 2022	→ Best Oral Presentation: Data Shepherding in ASINA. The Initiation. Nano-Week and NanoCommons Final Conference, June 20-24, Cyprus.
Apr. 2021	→ Bursary Award Winner for 10th International Conference on Nanotoxicology Conference, Online,
Oct. 2019	→ Best presentation Award. Nanosafety Cluster Annual Conference. Towards in silico nanosafety assessment-integrating experimental and computational approaches. 8th and 9th October 2019, Copenhagen, Denmark
Mar. 2019	→ Grant travel and accommodation from Institute of Environmental Medicine, Karolinska Institutet for JRC Summer School on Non-Animal Approaches in Science – Challenges & Future Directions
May 2019	→ Oral Award for Best Young Presentation Recognition. BioNanoTox, 10th International Conference: Biomaterials and Nano biomaterials: Recent advances Safety-Toxicology and Ecology Issues. May 05-12, 2019, Agape beach, Heraklion, Crete, Greece.
Sept. 2016	→ First-class honours- Master of Toxicology, University of Thessaly, School of Health Sciences, Department of Biochemistry & Biotechnology, Larissa, Greece
Sept. 2015	→ First-class honours - Medical Laboratory Scientist. Technological Educational Institute (TEI) School of Health - Welfare, Department of Medical Laboratories State Institution of Higher Education, Greece

DISSEMINATION ACTIVITIES

15/06/ 2018	→ Part of Organizing Committee. PROTECT project (H2020). Organizing 18M meeting, Limerick, Ireland.
4/10/2017	→ Part of Organizing Committee. 19th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region, Rome – Italy, Mediterranean Scientific Association of Environmental Protection, MESAEP
17/06/2024	→ Part of Organizing Committee. Materials Week 2024 Conference, Cyprus

PRESENTATIONS

24/09/2024	→ Oral Presentation at the NanoTox2024 Conference, Venice, Italy. Title: Safe and sustainable by design roadmaps. A glimpse of the ASINA case studies.
19/06/2024	→ Oral Presentation at the Materials Week 2024 Conference, Cyprus. Title: A Roadmap Towards Safe and Sustainable by Design Nanotechnology: Implementation for Nano-Silver-based Antimicrobial Textile Coatings Production by ASINA project.
18/04/2024	→ Pitch presentation: MSCA innovative idea in just three minutes, showcasing a breakthrough that positively impacts science and society, in Falling Walls Lab, Pitch Competition at Wallonia Conference Center in Mons (WCCM) on 18th -19th April 2024. Part of the 15 finalists in total, selected among 135 applicants.
14/09/2023	→ Invited speaker. Oral Presentation at “The role of 3Rs in the age of One Health: where we are and where we’re going” held on 13-15 September 2023 at University of Milano Bicocca, Italy. Title: Data-Driven Quantitative Intrinsic Hazard Criteria for Nanoparticle Development in a Safe-by-Design Paradigm: A Case Study of Silver Nanoforms
08/06/2023	→ Oral Presentation at the nanoSAFE & NSC week 2023, 5-9 Jun 2023, Grenoble, France. Title: Data-Driven Quantitative Intrinsic Hazard Criteria for Nanoparticle Development in a Safe-by-Design Paradigm: A Case Study of Silver Nanoforms
20/06/2022	→ Oral Presentation at the Nano-week “Evolution of Nanosafety and materials sustainability as we transition into Horizon Europe”. Data Shepherding in ASINA. The Initiation. 20-24 June 2022, Limassol, Cyprus
20/14/2021	→ Virtual Presentation at the International Conference on Nanotoxicology (NanoTox 2021), Tue, Apr 20, 2021 – Thu, Apr 22, 2021. Title: Predicting in vitro Neurotoxicity Induced by nanoparticles Using Machine Learning
16/11/2020	→ Virtual Presentation at the 7th International Conference on Health & Safety Issues Related to Nanomaterials for a Socially Responsible Approach (NanoSAFE 2020), 16th to 20th November 2020 on a virtual platform. Title: Predicting in vitro Neurotoxicity Induced by nanoparticles Using Machine Learning
08/10/2019	→ Oral Presentation at the Nanosafety Cluster Annual Conference 8-10 October 2019. Title: Ensembles, comparison and ranking of nanoparticles toxicity classifiers: a hands-on paradigm on the S2NANO database. Copenhagen, Denmark.
12/09/2019	→ Oral Presentation at the PTC 2019 - 12th International Particle Toxicology Conference 11-13 September 2019. Title: Ensembles, comparison and ranking of nanoparticles toxicity classifiers: a hands-on paradigm on the S2NANO database. Salzburg, Austria
09/05/2019	→ Oral Presentation at the BioNanoTox, 10 th International Conference: Biomaterials and Nano biomaterials: Recent



	advances Safety-Toxicology and Ecology Issues. May 05-12 2019. Title: Bayesian Networks Application for the prediction of cellular effects from Genome-Wide Transcriptomics studies of exposure to Nanoparticles. Heraklion, Crete, Greece
21/09/2018	→Poster at the 9th International Conference on Nanotoxicology - NanoTox. Title: Predicting Nanomaterials toxicity pathways based on Toxicogenomics studies using Bayesian Networks. Neuss, Germany
24/07/2018	→Oral Presentation at the 18 th IEEE International Conference on Nanotechnology. Title: Predicting Nanomaterials toxicity pathways based on Toxicogenomics studies using Bayesian Networks. Cork, Ireland
28/01/2017	→Oral Presentation at the 1 st Symposium of Toxicology. Title: Public Health Risk Assessment of toxic releases to the environment using Biomarkers and Biokinetic Models. Larissa, Greece
06/05/2017	→Oral Presentation at the 6 th Environmental Conference of Macedonia. Title: Risk Assessment of Arsenic to Serres, Greece. Thessaloniki, Greece.
27/06/2017	→Oral Presentation at the 6 th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference. Title: Risk Assessment of Arsenic to Serres, Greece. Thessaloniki, Greece
05/10/2017	→Oral Presentation at the 19th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region (MESAEP). Title: Assessment of public health risk from arsenic using biomarkers and biokinetics modelling. Rome, Italy.
10/05/2017	→Poster: High dimension biological analysis of carbon nanotube toxicity Aristotle University of Thessaloniki, Greece Denis Sarigiannis, Irini Furxhi, Tsatsakis Aris - Brussels, SETAC Europe 27 th Annual Meeting

List of peer- reviewed Publications

1. **Furxhi, I., et al. (2018)**. Predicting Nanomaterials toxicity pathways based on genome-wide transcriptomics studies using Bayesian networks. 2018 IEEE 18th International Conference on Nanotechnology (IEEE-NANO). 1-4, DOI: [10.1109/NANO.2018.8626300](https://doi.org/10.1109/NANO.2018.8626300)
2. Sheehan, B., et al. (2018), Hazard Screening Methods for Nanomaterials: A Comparative Study. International Journal of Molecular Sciences, 19(3), 649. <https://doi.org/10.3390/ijms19030649>
3. **Furxhi, I., et al. (2019)**. "Application of Bayesian networks in determining nanoparticle-induced cellular outcomes using transcriptomics." Nanotoxicology 13(6): 827-848. <https://doi.org/10.1080/17435390.2019.1595206>
4. **Furxhi, I., et al. (2019)**. "Machine learning prediction of nanoparticle in vitro toxicity: A comparative study of classifiers and ensemble-classifiers using the Copeland Index." Toxicology Letters 312: 157-166. <https://doi.org/10.1016/j.toxlet.2019.05.016>
5. Cunneen, M., et al. (2019). "Autonomous Vehicles and Avoiding the Trolley (Dilemma): Vehicle Perception, Classification, and the Challenges of Framing Decision Ethics." Cybernetics and Systems: 1-22. <https://doi.org/10.1080/01969722.2019.1660541>
6. **Furxhi, I., et al. (2020)**. "Practices and Trends of Machine Learning Application in Nanotoxicology." Nanomaterials 10(1): 116. <https://doi.org/10.3390/nano10010116>
7. **Furxhi, I., et al. (2020)** Nanotoxicology data for in silico tools. A literature review." Nanotoxicology DOI: [10.1080/17435390.2020.1729439](https://doi.org/10.1080/17435390.2020.1729439)
8. **Furxhi, I., et al. (2020)** Predicting In Vitro Neurotoxicity Induced by Nanoparticles Using Machine Learning." Int. J. Mol. Sci. 2020, 21(15), 5280; <https://doi.org/10.3390/ijms21155280>
9. Murphy, F., et al. (2020) Reduction of Health Care-Associated Infections (HAIs) with Antimicrobial Inorganic Nanoparticles Incorporated in Medical Textiles: An Economic Assessment, Nanomaterials 10 (5). doi: [10.3390/nano10050999](https://doi.org/10.3390/nano10050999)
10. Arvanitis, et al. (2021) Prediction of the effective reproduction number of COVID-19 in Greece. A machine learning approach using Google mobility data. MedRxiv (COVID-19 SARS-CoV-2). Doi: <https://doi.org/10.1101/2021.05.14.21257209>
11. **Furxhi, I., et al. (2021)**. Data shepherding in nanotechnology. The Initiation. Nanomaterials 2021, 11(6), 1520; <https://doi.org/10.3390/nano11061520>
12. Koivisto A.J., et al (2021). Assessment of exposure determinants and exposure levels by using stationary concentration measurements and a probabilistic Near-Field/Far-Field exposure model. Open Research Europe, 1, 72, <https://doi.org/10.12688/openreseurope.13752.1>
13. Mirzaei, M., et al. (2021). "A Machine Learning Tool to Predict the Antibacterial Capacity of Nanoparticles." Nanomaterials 11(7): 1774. <https://doi.org/10.3390/nano11071774>
14. Jannusch, T., et al. (2021). "Surveillance and privacy – Beyond the panopticon. An exploration of 720-degree observation in level 3 and 4 vehicle automation." Technology in Society 66: 101667. <https://doi.org/10.1016/j.techsoc.2021.101667>



15. **Furxhi, I., et al. (2021).** "Associations between mobility patterns and COVID-19 deaths during the pandemic: A network structure and rank propagation modelling approach." *Array* 11: 100075. <https://doi.org/10.1016/j.array.2021.100075>
16. **Furxhi, I., et al. (2021).** "Data Shepherding in Nanotechnology. The Exposure Field Campaign Template." *Nanomaterials* 11(7): 1818. <https://doi.org/10.3390/nano11071818>
17. **Furxhi, I., et al. (2021).** "Data Shepherding in Nanotechnology: An Antimicrobial Functionality Data Capture Template." *Coatings* 11(12): 1486. <https://doi.org/10.3390/coatings11121486>
18. **Mirzaei, M., et al. (2021).** "A Supervised Machine-Learning Prediction of Textile's Antimicrobial Capacity Coated with Nanomaterials." *Coatings* 11(12): 1532. <https://doi.org/10.3390/coatings11121532>
19. **Furxhi, I., et al. (2021).** "Precaution as a Risk in Data Gaps and Sustainable Nanotechnology Decision Support Systems: a Case Study of Nano-Enabled Textiles Production." *NanoEthics*. <https://doi.org/10.1007/s11569-021-00400-z>
20. **Furxhi, I. (2022).** "Health and environmental safety of nanomaterials: O Data, Where Art Thou?" *NanoImpact* 25: 100378. DOI: <https://doi.org/10.1016/j.impact.2021.100378>
21. **Furxhi, I., et al. (2022).** "ASINA Project: Towards a Methodological Data-Driven Sustainable and Safe-by-Design Approach for the Development of Nanomaterials." *Frontiers in Bioengineering and Biotechnology* 9. <https://doi.org/10.3389/fbioe.2021.805096>
22. **Koivisto, A. J., et al. (2022).** "Quantifying Emission Factors and Setting Conditions of Use According to ECHA Chapter R.14 for a Spray Process Designed for Nanocoating's—A Case Study." *Nanomaterials* 12(4): 596. <https://doi.org/10.3390/nano12040596>
23. **Murphy, F., et al. (2022).** "The risk perception of nanotechnology: evidence from twitter." *RSC Advances* 12(18): 11021-11031. doi: [10.1039/d1ra09383e](https://doi.org/10.1039/d1ra09383e)
24. **Mullins, M., et al. (2022).** "(Re)Conceptualizing decision-making tools in a risk governance framework for emerging technologies—the case of nanomaterials." *Environment Systems and Decisions*. <https://doi.org/10.1007/s10669-022-09870-2>
25. **Koivisto, A. J., et al. (2022).** "Burden of Disease (BoD) Assessment to Estimate Risk Factors Impact in a Real Nanomanufacturing Scenario." *Nanomaterials* 12(22): 4089. <https://doi.org/10.3390/nano12224089>
26. **Mirzaei, M., et al. (2023).** "Employing Supervised Algorithms for the Prediction of Nanomaterial's Antioxidant Efficiency." *Int. J. Mol. Sci.* 24(3): 2792. <https://doi.org/10.3390/ijms24032792>
27. **Furxhi, I., et al. (2023).** "Status, implications and challenges of European safe and sustainable by design paradigms applicable to nanomaterials and advanced materials." *RSC Sustainability*. 2023, 1, 234 – 250. <https://doi.org/10.1039/D2SU00101B>
28. **Furxhi, I., et al. (2023).** "Data-Driven Quantitative Intrinsic Hazard Criteria for Nanoproduct Development in a Safe-by-Design Paradigm: A Case Study of Silver Nanoflakes." *ACS Applied Nano Materials*. <https://doi.org/10.1021/acsanm.3c00173>
29. **Kose, O., et al. (2023).** "Physicochemical Transformations of Silver Nanoparticles in the Oro-Gastrointestinal Tract Mildly Affect Their Toxicity to Intestinal Cells In Vitro: An AOP-Oriented Testing Approach." *Toxicology* 11(3): 199. <https://doi.org/10.3390/toxics11030199>
30. **Belosi, F., et al. (2023).** "Critical aspects in occupational exposure assessment with different aerosol metrics in an industrial spray coating process." *NanoImpact*: 100459. <https://doi.org/10.1016/j.impact.2023.100459>
31. **Dumit, V. I., et al. (2023).** "From principles to reality. FAIR implementation in the nanosafety community." *Nano Today* 51: 101923. <https://doi.org/10.1016/j.nantod.2023.101923>
32. **Furxhi, I., et al. (2023).** "A data reusability assessment in the nanosafety domain based on the NSDRA framework followed by an exploratory quantitative structure activity relationships (QSAR) modeling targeting cellular viability." *NanoImpact* 31: 100475. <https://doi.org/10.1016/j.impact.2023.100475>
33. **Exner, T. E., et al. (2023).** "Metadata stewardship in nanosafety research: learning from the past, preparing for an "on-the-fly" FAIR future." *Nanosafety* 11. <https://doi.org/10.3389/fphy.2023.1233879>
34. **Furxhi, I., et al. (2023)** "Artificial augmented dataset for the enhancement of nano-QSARs models. A methodology based on topological projections." *Nanotoxicology*: 1-16. DOI: [10.1080/17435390.2023.2268163](https://doi.org/10.1080/17435390.2023.2268163)
35. **Goldbeck, G., et al., (2023).** The Translator in Knowledge Management for Innovation – A Semantic Vocation of Value to Industry. Zenodo. <https://doi.org/10.5281/zenodo.10057816>
36. **Furxhi et al., (2024)** "Design rules applied to silver nanoparticles synthesis: a practical example of machine learning application" *Comput Struct Biotechnol J* 25: 20-33. <https://doi.org/10.1016/j.csbj.2024.02.010>
37. **Koivisto, A., et al. (2024).** "Exposure assessment and risks associated with wearing silver nanoparticle-coated textiles [version 1; peer review: awaiting peer review]." *Peer Review* 4(100).



38. **Furxhi, I., et al. (2024).** "A Roadmap Towards Safe and Sustainable by Design Nanotechnology: Implementation for Nano-Silver-based Antimicrobial Textile Coatings Production by ASINA project." *Comput Struct Biotechnol J.*
<https://doi.org/10.1016/j.csbj.2024.06.013>