

# University Academic Curriculum Vitae

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**Personal information**    Name: Aurora Berni

**Education since leaving school: titles achieved**

- 2024 PhD cum laude in Advanced Systems Engineering, Free University of Bozen-Bolzano. Dissertation title "User Experience in product design: effects of context and design representations on user perception studied through subjective product evaluation and eye-tracking data"
- 2018 Master Degree in Design (110 cum laude/110), University of Florence
- 2016 Bachelor Degree in Industrial Design (110 cum laude/110), University of Florence

**Present appointment**

- **Title of appointment:** --
- **Duration of the appointment:** 01/10/2025 – 30/09/2028
- **Level of appointment:** RTD (junior university researcher with fixed-term contract)
- **Supervisor:** Prof. Yuri Borgiaanni
- **Institution:** Free University of Bozen-Bolzano
- **Scientific sector:** IIND-03/B (Design Methods for Industrial Engineering, former ING-IND/15)

**Positions held**

**Title of appointment:** Digital technologies to improve social and environmental sustainability through the monitoring of human wellbeing in the interaction with new products (DESTINY)

- **Duration of the appointment:** 15/01/2025 – 14/01/2027
  - **Level of appointment:** Research Assistant
  - **Supervisor:** Prof. Yuri Borgiaanni
  - **Institution:** Free University of Bozen-Bolzano; Faculty of Engineering - (Funded by European Social Fund Plus)
  - **Scientific sector:** IIND-03/B (Design Methods for Industrial Engineering, former ING-IND/15)
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- **Title of appointment:** Analysis of data on the visual behavior of people in human-product interaction activities
  - **Duration of the appointment:** 1/02/2024 – 14/01/2025
  - **Level of appointment:** Research Assistant
  - **Supervisor:** Prof. Demis Basso (co-supervisor: prof. Yuri Borgiaanni)
  - **Institution:** Free University of Bozen-Bolzano; Faculty of Education
  - **Scientific sector:** IIND-03/B (Design Methods for Industrial Engineering, former ING-IND/15)
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- **Title of appointment:** PhD candidate in Advanced-Systems Engineering
  - **Duration of the appointment:** 1/11/2020 – 4/07/2024
  - **Level of appointment:** PhD student
  - **Supervisor:** Prof. Yuri Borgiaanni
  - **Institution:** Free University of Bozen-Bolzano; Faculty of Engineering

- **Title of appointment:** -
- **Project:** fine-tuning new and smart ECO-design guidelines (few sECONds)
- **Duration of the appointment:** 20/07/2020 – 31/08/2020
- **Level of appointment:** Assignment for occasional collaboration in scientific field
- **Supervisor:** Dr. Yuri Borgianni
- **Employer:** Free University of Bozen-Bolzano, Faculty of Science and Technology
- **Scientific sector:** IIND-03/B (Design Methods for Industrial Engineering, former ING-IND/15)

- **Title of appointment:** -
- **Projects:** Research in Industrial Usability of Eye Tracking for Manufacturing and Design in SMEs (EYE-TRACK) – Additive Manufacturing FDM: Dimensional Accuracy and Product Acceptability (AMDAPA)
- **Duration of the appointment:** 15/07/2019 - 14/07-2020
- **Level of appointment:** Research Assistant
- **Supervisor:** Dr. Yuri Borgianni
- **Employer:** Free university of Bozen-Bolzano, Faculty of Science and Technology
- **Scientific sector:** IIND-03/B (Design Methods for Industrial Engineering, former ING-IND/15)

#### Experience in academic teaching and coursework

- Dr. Berni had 14 hours assigned as lecturer at the master course “Product development and Design”, module “-Engineering and Product Design” in the first semester of the academic year 2024/2025 (Master in Industrial Mechanical Engineering). Evaluations are attached in the Appendix. Hours planned also for 2025/26.
- Dr. Berni had 32 hours assigned as lecturer at the course “Technical Drawing and CAD” in the second semester of the academic year 2024/2025 (bachelor in Wood Technology). Hours are also planned for 2025/26.
- Dr. Berni had 6 hours assigned as lecturer at the Advanced Systems Engineering PhD program course “Biofeedback and biometric measures for engineering research” (planned in 2025/2026)
- Dr. Berni had 20 hours assigned as teaching assistant at the course “Technical Drawing and CAD” in the second semester of the academic year 2023/2024 (bachelor in Wood Technology)
- Dr. Berni had 3 hours assigned as guest lecturer at the course “Trends and Corporate Identity” in the second semester of the academic year 2024/2025 (University Master's Degree in Design and Manufacturing - 2024 Programme of Study) at the Universitat Jaume I, Castellón de la Plana, Valencia (Spain).
- Dr. Berni had 6 hours assigned as guest lecturer at the course “Creativity, Innovation and Problem Solving” in the second semester of the academic year 2024/2025 (Bachelor's Degree in Industrial Design and Product Development Engineering) at the Universitat Jaume I, Castellón de la Plana, Valencia (Spain).

#### Seminars

Below are the seminars in which Dr. Berni has been appointed as Lecturer

Seminar and/or course title	Course title	Institution	Date	Language	Hours taught
Biometric instruments too support	-	University of Florence	25/11/2019	Italian	3

product development – the eye tracking					
Applicazione del modello di Kano	Sviluppo e Ingegnerizzazione del Prodotto	University of Florence	18/10/2021 (online) 5/10/2022 11/10/2023 2/10/ 2024	Italian	3
Biometric devices and eye tracking	Kick-off meeting for the project week “Technology-Supported Design Research”	Technical University of Munich	18/11/2024	English	1.5

### Supervision and tutorship

Dr. Berni is the co-supervisor of the PhD student Lesly Marcela Sierra Fontalvo, PhD Program Advanced Systems Engineering, 40<sup>th</sup> Cycle at The Free University of Bozen-Bolzano.

### Memberships

#### Conferences

- Designated co-chair of the 5<sup>th</sup> International Symposium on Industrial Engineering and Automation ISIEA 2026 - People, Planet, and Progress: New Trends in Products, Processes, and Supply Chains, Bolzano (Italy), June 17<sup>th</sup> - 19<sup>th</sup>, 2026.
- Member of the organizing committee and part of the scientific committee of the 2nd International Symposium on Industrial Engineering and Automation ISIEA 2023 - Towards a Smart, Resilient and Sustainable Industry, Bozen-Bolzano (Italy), June 22<sup>nd</sup> - 23<sup>rd</sup>, 2023
- Member of the organizing committee in the 21<sup>st</sup> ETRIA World Conference “TRIZ Future 2021”, Online, September 22<sup>nd</sup> - 24<sup>th</sup>, 2021

#### Conferences Reviews

Dr. Berni has served as reviewer for the following conferences

- International Conference on Engineering Design (ICED) 2021 (Gothenburg, Sweden); 2023 (Bordeaux, France)
- ADM Conference 2021 (Rome, Italy); 2023 (Florence, Italy)
- International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM) 2022 (Ischia, Italy)
- International Symposium on Industrial Engineering and Automation (ISIEA) 2023 (Bolzano, Italy)

#### Journal Reviews

Dr. Berni has served as reviewer for the following scientific journals:

- Design science
- International Journal on Interactive Design and Manufacturing (IJIDeM)
- Artificial Intelligence in Engineering Design, Analysis and Manufacturing (AI EDAM)

### Research Interests

Design process, ergonomics, product affordances, cognitive psychology, use of biometric instruments, Virtual Reality, industrial design, market survey, communication strategies, product functional aspect and prototyping, sustainability and well-being.

### Participation in and collaboration with national and

Collaborations evinced from publications (in the published articles, submitted and in preparation) and teaching collaboration with the following institutions:

- Otto-Friedrich-University of Bamberg in the field of user experience and cognition

## international research groups

- University Jaume I in the field of engineering design and creativity
- Loughborough University in the field of Design for Additive Manufacturing (DfAM)
- Technical University of Munich and TU Delft in the field of artificial intelligence for engineering design and creativity
- University of Florence for experiments and in the field of engineering design and creativity
- Aalto University, Brunel University of London, Design School of London, Royal College of Art of London, Politecnico di Milano in the field of sustainable design research.

Dr. Berni spent a three-month period abroad at the Otto-Friedrich-University of Bamberg where she conducted part of PhD research, designed and run experiments independently.

Dr. Berni visited the following international institutions both for research and teaching reasons: University Jaume I, Technical University of Munich, Technical University of Denmark, Technical University of Valencia.

## Personal Research Skills and

- Design and management of experiments, especially for human-product interaction; organization of participants' samples; preparation of privacy and ethics-related documents, such as informed consent modules
- Data analysis and use of statistical tools (SPSS, Jasp)
- Use of laboratory instruments (remote eye tracking, eye tracking glasses, Virtual Reality headsets with eye tracking integration)
- Consultation of scientific databases, state-of-the art analysis
- Organization of surveys, including online surveys
- Use of software for 3D modelling and graphics (AutoCad, Solidworks, SketchUp, Rhinoceros, Zbrush, Unity, Adobe Photoshop, Adobe Illustrator, Adobe Indesign, Adobe After Effects)
- Preparation of teaching materials and choice of contents
- Organization of scientific and divulgation events
- Support in the preparation of reports for academic and administrative purposes

## Courses Attended

- 23rd Summer school on Engineering Design Research (SSEDR22) (12<sup>th</sup> – 18<sup>th</sup> June 2022 and 31<sup>st</sup> July – 6<sup>th</sup> August 2022); the school provided knowledge about techniques and standards for research in design.
- E-Prime course at CESlab in Brixen-Bressanone Free University of Bozen-Bolzano. The participants learnt how to use E-prime, which is one of the most widespread software for the study of human behavior and UX. (17<sup>th</sup> -19<sup>th</sup> December 2020)
- "Fondamenti di CAD 3D" held at the Smart Miny Factory in Bolzano (15<sup>th</sup> ,23<sup>rd</sup> and 29<sup>th</sup> January 2020); the seminar introduced the participants to CAD 3D modeling.
- "Stampa e scansione 3D, panoramica delle tecnologie di stampa 3D" held at the Smart Miny Factory in Bolzano (30<sup>th</sup> January 2020), during the seminar an overview of the main Additive Manufacturing technologies has been given.

## Publications

### Journal articles

1. *Borgianni, Y., Berni, A., Gaziulusoy, I., Ceschin, F., Terzioglu, N., Franconi, A., ... Becattini, N. (2025). A survey to investigate approaches, methods, contents and*

objectives in education for sustainable design. *Design Science*, 11, e32.  
<https://doi.org/10.1017/dsj.2025.10020>

2. **Berni, A.**, & Borgianni, Y. (2025). An experimental study on familiarity, contextual factors and representation forms in human-product interaction. *International Journal of Design Creativity and Innovation (IJDCI)*, in press.  
<https://doi.org/10.1080/21650349.2025.2476488>
3. **Berni, A.**, Ruiz-Pastor, L., & Borgianni, Y. (2024). User evaluation of a tiny house design through eye-tracking-integrated virtual reality: the role of sense of presence, visual behaviour and informative context. *International Journal on Interactive Design and Manufacturing (IJDeM)*, in press. <https://doi.org/10.1007/s12008-024-02055-y>
4. **Berni, A.**, Borgianni, Y., & Carbon, C. C. (2024). Association change and its relationship with designs in context and form: how product evaluation is affected by negative framings. *Journal of Engineering Design (JED)*, 35:12, 1487-1517.  
<https://doi.org/10.1080/09544828.2024.2380620>
5. **Berni, A.**, Borgianni, Y., Basso, D., Carbon, C. C. (2023). Fundamentals and issues of user experience in the process of designing consumer products. *Design Science*, 9, E10. <https://doi.org/doi:10.1017/dsj.2023.8>
6. Borgianni, Y., Pradel, P., **Berni, A.**, Obi, M., Bibb, R. (2022). An investigation into the current state of education in Design for Additive Manufacturing, *Journal of Engineering Design*, 33:7, 461-490.  
<https://doi.org/10.1080/09544828.2022.2102893>
7. Nezzi, C., Ruiz-Pastor, L., Altavilla, S., **Berni, A.**, Borgianni Y. (2022). How Sustainability-Related Information Affects the Evaluation of Designs: A Case Study of a Locally Manufactured Mobile Tiny House. *Designs*. 6(3):57.  
<https://doi.org/10.3390/designs6030057>
8. **Berni A.**, Borgianni Y. (2021) Making Order in User Experience Research to Support Its Application in Design and Beyond. *Applied Sciences*., 11(15):6981.  
<https://doi.org/10.3390/app11156981>
9. **Berni, A.**, Maccioni, L., & Borgianni, Y. (2020). Observing Pictures and Videos of Creative Products: An Eye Tracking Study. *Applied Sciences*; 10(4):1480. <https://doi.org/10.3390/app10041480>
10. **Berni, A.**, & Borgianni, Y. (2020). Applications of Virtual Reality in Engineering and Product Design: why, what, how and when. *Electronics*; 9(7): 1064.  
<https://doi.org/10.3390/electronics9071064>

## Conference papers

- a) Sierra-Fontalvo, L.M., Borgianni, Y., **Berni, A.**, & Ruiz-Pastor, L. (2025) Guidelines for the successful design of products with environmental certifications. 34th INGEGRAF International Conference, Seville, Spain, 25<sup>th</sup>- 27<sup>th</sup> June 2025. [Presented as poster]
- b) **Berni, A.**, & Borgianni, Y. (2025) From UX to design for wellbeing: which research is needed to develop pleasing products. 34th INGEGRAF International Conference, Seville, Spain, 25<sup>th</sup>- 27<sup>th</sup> June 2025. [Presented as poster]
- c) **Berni, A.**, Borgianni, Y., Rotini, F., Gonçalves, M., & Thoring, K. (2024). Stimulating design ideation with artificial intelligence: present and (short-term) future. in: Proceedings of the Design Society. Presented at the DESIGN Conference, Cambridge University Press, Cavtat, Croatia, Vol. 1, pp. 1939–1948.  
<https://doi.org/10.1017/pds.2024.196>
- d) **Berni, A.**, Borgianni, Y., & Basso, D. (2024). Creativity of products as meant by ordinary people: to what extent do novelty and usefulness matter? in: Proceedings of the Design Society. Presented at the DESIGN Conference, Cambridge University Press, Cavtat, Croatia pp. 895–904. <https://doi.org/10.1017/pds.2024.92>

- e) **Berni, A.**, Borgianni, Y., Carbon, CC. (2023). Fluency of Stimuli Comparing Two Different Representation Forms: Image and Real Product. In: Borgianni, Y., Matt, D.T., Molinaro, M., Orzes, G. (eds) Towards a Smart, Resilient and Sustainable Industry. ISIEA 2023. Lecture Notes in Networks and Systems, vol 745. Springer, Cham. [https://doi.org/10.1007/978-3-031-38274-1\\_39](https://doi.org/10.1007/978-3-031-38274-1_39)
- f) **Berni, A.**, Nezzi, C., Piazzolla, N., & Borgianni, Y. (2023). Visual behaviour in the evaluation of physical and virtual prototypes. in: Proceedings of the Design Society. Presented at the ICED23, Cambridge University Press, Bordeaux, France, Vol., 3, pp. 3821–3830. <https://doi.org/10.1017/pds.2023.383>
- g) **Berni, A.**, Nezzi, C., Ruiz-Pastor, L., Altavilla, S., Kofler, I., Borgianni, Y. (2023). Exploring People's Visual Perception and Its Impact on Evaluation of a Tiny House Prototype Using Eye Tracking Technology. in: Gerbino, S., Lanzotti, A., Martorelli, M., Mirálbes Buil, R., Rizzi, C., Roucoules, L. (Eds.), Advances on Mechanics, Design Engineering and Manufacturing IV. Presented at the JCM22, Springer International Publishing, Ischia, Italy, pp. 1471–1482.
- h) **Berni, A.**, Altavilla, S., Ruiz-Pastor, L., Nezzi, C., & Borgianni, Y. (2022). An Eye-Tracking Study to Identify the Most Observed Features in a Physical Prototype of a Tiny House. in: Proceedings of the Design Society. Presented at the DESIGN Conference, Cambridge University Press, Dubrovnic, Croatia, Vol., 2 pp. 841–850. <https://doi.org/10.1017/pds.2022.86>
- i) **Berni, A.**, Borgianni, Y. (2022). User Experience Design in Software and Hardware Components Studied in Human-Computer Interaction. in: Rizzi, C., Campana, F., Bici, M., Gherardini, F., Ingrassia, T., Cicconi, P. (Eds.), Design Tools and Methods in Industrial Engineering II. Presented at the ADM22, Springer International Publishing, Rome, Italy, pp. 91–99.
- j) **Berni, A.**, Dallago, F., Maccioni, L., Concli, F., Borgianni, Y. (2022). The Role of Rapid Prototyping Devices in the Design and Manufacturing Practices of FabLab Visitors: A Survey. in: Rizzi, C., Campana, F., Bici, M., Gherardini, F., Ingrassia, T., Cicconi, P. (Eds.), Design Tools and Methods in Industrial Engineering II. Presented at the ADM22, Springer International Publishing, Cham, pp. 401–409.
- k) **Berni, A.**, Borgianni, Y., Obi, M., Pradel, P., & Bibb, R. (2021). Investigating perceived meanings and scopes of design for additive manufacturing. in: Proceedings of the Design Society. Presented at the ICED21, Gotheborg, Sweden, Vol. 1, pp. 1937–1946. <https://doi.org/10.1017/pds.2021.455>
- l) **Berni, A.**, & Borgianni, Y. (2021). From the definition of user experience to a framework to classify its applications in design. in: Proceedings of the Design Society. Presented at the ICED21, Gotheborg, Sweden, Vol. 1, pp. 1627–1636. <https://doi.org/10.1017/pds.2021.424>
- m) **Berni, A.**, Maccioni, L., & Borgianni, Y. (2020). An Eye-tracking supported investigation into the role of forms of representation on design evaluation and affordances of original product features. in: Proceedings of the Design Society. Presented at the DESIGN Conference, Dubrovnic, Croatia, pp. 1607–1616. <https://doi.org/10.1017/dsd.2020.296>

#### Under review:

Sierra-Fontalvo L., **Berni A.**, Borgianni, Y., (2025) Sustainability cues in users' perception and consumption: a product design-oriented review. *Design science* (under second review round after major revision).

#### Third mission and academic responsibilities

- Contribution to the drafting of “Riesame ciclico” of the Master in Industrial Mechanical Engineering 2025.
- Participation in the Long Night of Research (LUNA), Bolzano (Italy), September, 27<sup>th</sup>, 2019 through the set-up of a booth and communication with visitors
- Participation in the Science Live event, Bolzano (Italy), October, 6<sup>th</sup> 2023

- Member of the committee for selection procedure of the ERASMUS+ short mobility call to assign scholarships for the Blended Research Summer School “Creative product design: towards a more sustainable society through research”, University Jaume I, Spain

**Statement of interest**

The applicant is deemed particularly suitable for the advertised position due to her expertise in the specified research domains, which align closely with the requirements of the call. Her research activities before and during their PhD, and in current studies are well-suited to the main activities outlined in the call.

Notably, the applicant highlights the following:

- User Experience (UX) and Human-Product Interaction (HPI) are the core of her research interests.
- The applicant has employed various methods and virtual, digital, and physical prototyping techniques as representation forms to assess user perception of products.
- She has explored the connection between UX and representation forms using mixed methods, integrating both objective and subjective data acquisition.
- Advanced systems, such as Virtual Reality and various Eye Tracking devices, were used both for representation/prototyping and data acquisition.
- The applicant has experience in product representation through sketching and drawing (due to personal interest and talent in art), technical drawing, and 3D modeling (as she has taught Technical Drawing and CAD).
- The applicant is also experienced in teaching at the university level.

**Language competence**

Italian: mother tongue  
 English: C1, internal UNIBZ exam  
 German: C1, Patentino Bilinguismo  
 Spanish: B1, Instituto Cervantes  
 South Tyrol bilingualism certificate A (Level C1 for Italian and German)

Date

*Digitally signed*

01/10/2025