EDUCATION

Robert Lanzafame

Abstract

A description of the work life of Robert Lanzafame: teacher, engineer, co-founder of TeachBooks.

Robert Lanzafame, Ph.D., P.E.
Senior Lecturer, Civil Engineer

Relocated to California, in August, 2025 (San Francisco Bay Area).

The easiest way to contact me is via LinkedIn (linkedin.com/in/robert-lanzafame).

1. EDUCATION

University of California, Berkeley, Department of Civil and Environmental Engineering

2012-2017	Ph.D. Geosystems: Reliability Analysis of the Influence of Vegetation on Levee Performance
2011-2012	MS Geosystems
2004-2008	BS Civil and Environmental Engineering

2. ACADEMIC AND PROFESSIONAL EXPERIENCE

2018-2025	Delft University of Technology, The Netherlands *Civil Engineering and Geosciences Faculty* *Hydraulic Engineering Department* *Hydraulic Structures and Flood Risk Section* 9/2021-8/2025: Senior Lecturer 9/2018-8/2021: Lecturer
2018	Post-doctoral researcher, UC Berkeley *1/2018-5/2018; extended PhD-research*
2012-2017	Graduate student researcher (PhD) and Graduate Student Instructor, UC Berkeley.
2012, 2013	Staff Engineer, GEI Consultants, Oakland, CA (summer).
2008-2011	Staff Engineer, DCM Engineering/GeoEngineers, Walnut Creek, CA.

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2000-2008	Laborer during flood season, Reclamation District 1607, Van Sickle Island, CA.

3. PROFESSIONAL CERTIFICATIONS AND CONTINUING EDUCATION

2023	Leading a Project or Team Training; TU Delft/TwynstraGudde (∼40 hours)
2022	Short course: Designing an Online Course TU Delft Style (20 hours).
2021	University Teaching Qualification (Netherlands certificate program; 160 hours)
2012-present	Licensed Professional Civil Engineer, California (No. 80001)
	Dutch Language: professional proficient (Level C1/C2)

4. PROFESSIONAL AFFILIATIONS

- Corresponding Member, Technical Committee TC306 Geo-education, International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)
- ASCE Member

5. AWARDS

2024	Nominated, SURF Onderwijsawards 2024 (SURF Education Award)
2022-23	Nominated, Education Team Award (entire University), MUDE Module.
	The following Delft awards are student-nominated (out of ∼600 academic staff).
2023-24	1st place, Best Teacher: Environmental Engineering Program Core/MUDE
2023-24	1st place, Best Teacher: Civil Engineering Program Core/MUDE
2022-23	2nd place, Best Teacher: Program Core/MUDE Modules.
2022-23	2nd place, Best Teaching Team: Structural Eng. and Waste Eng. Tracks.
	The following Delft awards are student-nominated (out of ∼50 academic staff).
2021-22	Best Teacher of Hydraulic Engineering
2021-22	2nd place, Best Teacher Construction Management Engineering.
2020-21	Best Teacher of Hydraulic Engineering.
2017-18	Outstanding Graduate Student Instructor, UC Berkeley.

6. ACADEMIC APPOINTMENTS AND PROJECTS

2023-2025	Module Manager: Modelling, Uncertainty and Data for Engineers *12 ECTS module, all 1st-year MS students in CEG department (∼300). Teaching team: 20 instructors, 10 student assistants, collaborators across dept.*
2024	Created TeachBooks initiative (T. van Woudenberg, co-creator) *Software and teacher support for creation and use of online books in education.* https://teachbooks.io
11/2024	Delivered Workshop, India Institute of Technology, Madras *Invited to give 3-day workshop to guide set up of MS module similar to MUDE.*
2024	Collaborator and Co-Lead: Software and Jupyter Books for use in Education *Granted ∼€50,000 from CEG faculty and University for projects throughout year.*
2023	Reviewer, Faculty Representative for TU Delft Open Education Stimulation Fund _Invited based on past experience with open education projects.
2023	Project lead: Jupyter Book Project, CEG faculty *Granted €10,000 (unsolicited) by faculty to support and coordinate development of interactive digital textbook for several open edu. project teams, with TA.*
2023	Project lead: Open edu resource development *Obtained €9,000 grant from CEG faculty to further develop open online courses on 1) applied probability and statistics and 2) Python, adapted to digital textbook.*
2021-22	Project lead: open-access online education resources for probabilistic applications. *Obtained €27,000 grant from CEG faculty to develop open online courses on 1) applied probability and statistics for civil engineers, and 2) Python.*
2020-22	MS Curriculum Redesign, Faculty of Civil Engineering and Geosciences *Design team member and project lead for numerous modules and courses as part of a complete revision of all courses within the 2-year MS programs (3 degree programs: Civil Engineering, Environmental Engineering and Applied Earth Sciences).*
2020	Collaborator: Online Education Resource Program with TU Dresden, Germany. *Coordinated sharing of teaching resources; Hydraulic Engineering Departments.*

2/2020	Supervisor and invited expert: 2019 Hurricane Dorian Build Back Better, The Bahamas. *Supervised multidisciplinary student project teams from TU Delft and the University of the Bahamas; advised local authorities on flood risk and flood protection measures.*
2019-2025	Graduation coordinator: Hydraulic Structures and Flood Risk Section, TU Delft. *Advised and checked courses and thesis committee members, MS students.*
2019-2021	Graduation coordinator: Department of Hydraulic Engineering, TU Delft. *Advised and checked courses and thesis committee members, MS students.*
2019-2021	International intake coordinator: Department of Hydraulic Engineering, TU Delft. *Reviewed and made admissions decisions on incoming international MS students.*

7. TEACHING EXPERIENCE

2023-2025	Probabilistic Modelling of Real-World Phenomena
2022-2025	CEGM1000 Modelling, Uncertainty and Data for Engineers (12 ECTS module)
2022-2025	Responsible lecturer, Probabilistic Design Unit (3 ECTS unit)
2022-23	CIEM4220 Dikes, Dams and Breakwaters (15 ECTS module)
2022-23	CIEM3220 River Engineering (15 ECTS module)
2022-2025	Probability and Statistics for Engineers (develop and maintain online open course)
2022-2025	Python for Engineers (develop and maintain online open course)
2018-2022	Lecturer, Responsible Instructor and Coordinator for 3 courses: • CIE4130 Probabilistic Design, 4 ECTS, 300-380 students. • CME4130 Probabilistic Design Practical, 2 ECTS, ∼50 students • CIE5314-19 Flood Defenses, 4 ECTS, 40 students.

2012-2017 Graduate Student Instructor, UC Berkeley:

- CE 281 Engineering Geology, 3 units, 23 students.
- L&S 70C Living on the Edge, 4 units, 151 students.
- CE 176 Environmental Geotechnics, 3 units, 12 students.
- CE 270 Advanced Geomechanics, 3 units, ∼30 students.
- CE 174 Engineering Geomatics, 3 units, 15 students.
- EPS 3 The Water Planet, 3 units, 196 students.
- EPS 117 Geomorphology, 4 units, 43 students.

- CE 176 Environmental Geotechnics, 3 units, 15 students..
- CE 270 Advanced Geomechanics, 3 units, 23 students.

8. SUPERVISION AND MENTORING

All supervision is at TU Delft, 2018-2025, unless noted otherwise.

51 students	MS thesis project; supervisor and committee member (assessor). *Four awards received by students for thesis reports or associated publication.*
21 students	BS thesis project; supervisor and committee member (assessor).
8 groups	MS Multidisciplinary project, 4-5 students, 10 ECTS; supervisor and assessor.
2 groups	Computer Science Software Project, 5-6 students; 15 ECTS; supervisor/client.
6 students	Internships, 10 ECTS; assessor.
2 student	PhD Go/No-go meeting (qualifying exam after 1 year); assessor.
∼60	Student assistants, main task: development of course material; direct supervisor.
2021-2025	DeltaDenker Bachelor Minor Program Field Trip, 1 day; co-coordinator.
2019	Hydraulic Engineering Student Association Field Trip, 4 days; faculty supervisor.
2015-2016	Undergraduate Researcher, Ph.D. research assistant at UC Berkeley; supervisor.

9. RESEARCH AND PROFESSIONAL ACTIVITIES

2021-2025	Coordinator for TU Delft, Delft Reliability Exchange, Netherlands. *Knowledge exchange between TU Delft, Deltares and TNO to share new approaches and challenges for application of structural reliability in practice.*
2021-2022	Co-investigator, Dynamic Testing of Human Stability to Wave Overtopping. *Internal inter-faculty university grant, €15,000.*
4/2021	Co-convener, European Geophysical Union General Assembly. *Recent innovations and advances in flood modeling, assessment and risk management (vPICO session NH1.1)*

2020-2025	Administrator and researcher, International Levee Performance Database. *Responsible for communication, maintenance of database, identifying new case studies, procure future funding.* Website: leveefailures.tudelft.nl.
7/2020	Volunteer, Redders van Dordt, Dordrecht, Netherlands. *City-sponsored program to educate Dutch primary school children about flood risk and emergency response. Students built rafts and practiced water evacuation.*
2020-2023	Participant, Polder2C's Project, Hedwige-Prosperpolder, Netherlands/ Belgium. *Interreg project focused on flood risk and climate change adaptation along the North Sea and English Channel; collaborators in UK, NL, BE, FR.*

10. INVITED PRESENTATIONS

29/3/2025	Modernizing the Engineering Curriculum: Bringing Programming into the Classroom with Online Interactive Textbooks *International Webinar Series on Geoenvironmental Engineering, Sustainability, and Resiliency.* doi:10.5281/zenodo.15058449 🔗 *Link: Lanzafame (2025)* Recording: youtube.com/watch?v=VALeVvSbtYg
4/3/2025	TeachBooks Workshop: Implement your Ideas Now! *Workshop During Open Education Week, TU Delft.* doi:10.5281/zenodo.14965083 🔗 *Link: Lanzafame & Woudenberg (2025)*
4/3/2025	Teachers Empowering Teachers: Finding and Reusing Online Edu. Resources *Workshop During Open Education Week, TU Delft.* doi:10.5281/zenodo.14964995 🔗 *Link: Lanzafame & Várkonyi (2025)*
11/2024	Workshop for Engineering Instructors at Indian Institute of Technology, Madras. *Taught innovative approaches in education, computing and online book software to ∼30 educators.* *Developed 3 day workshop, delivered with two colleagues.* https://iitm-mude.github.io/2024-workshop/summary/

29/5/2024	Online Interactive Textbooks and Programming in Education *Lunch Presentation, Civil Engineering and Geosciences Faculty, TU Delft.* doi:10.5281/zenodo.10879004 🔗 *Link: Woudenberg & Lanzafame (2024a)*
26/3/2024	Enhancing Student Experience While Modernizing the Curriculum *Meet and Eat Lunch Lecture, TU Delft Teaching Lab.* doi:10.5281/zenodo.10879193 🔗 *Link: Lanzafame et al. (2024)*
14/3/2024	Using Python in your interactive textbook, immediate and with feedback! *Python4All Workshop, TU Delft Teaching Lab (Freek Pols, organizer).* doi:10.5281/zenodo.10848458 🔗 *Link: Woudenberg & Lanzafame (2024b)*
4/3/2024	The MUDE Book and what it led to *Online Interactive Textbooks Symposium, TU Delft Library.* doi:10.5281/zenodo.10879004 🔗 *Link: Woudenberg & Lanzafame (2024a)*
11/2023	Jupyter Books in Education at Civil Engineering & Geosciences *Lunch presentation to University-wide Open Interactive Textbooks collaboration.*
2022	Introduction to flood defenses and animal burrowing field exercise. *Lecture and field activity for Polder2C's Late Summer School; 15 MS/PhD level.*
2021	Introduction to flood defenses. *Lecture and educational activity for Polder2C's Winter School. Online, 15 MS and PhD level participants.*
2019	Improving the reliability of flood defense systems through a better understanding of failure mechanisms. *Represented Dutch universities at Joint Workshop of the State of Saxony-Anhalt (Germany) and the Netherlands on Future strategies for Flood Risk Management.*
12/2018	Flood defense levees: a perspective from California. *Hydraulic Engineering Department Symposium, TU Delft.*
2016	Incremental risk of levee failure due to vegetation and animal burrowing. *Association of Engineering Geologists Student Night, Oakland, CA.*

11. JOURNAL AND CONFERENCE PUBLICATION REVIEWER

- Geotechnical Engineering Education 2025 Conference: International Society for Soil Mechanics and Geotechnical Engineering
- Journal of Geotechnical and Geoenvironmental Engineering

- Environmental Geotechnics
- Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards
- 31st European Safety and Reliability Conference (ESREL), 2021.

12. ONLINE TEXTBOOKS

Lanzafame, R. C. (2024). Risk and Reliability for Engineers. TU Delft OPEN Publishing. doi:10.59490/tb.89

Link here

Lanzafame, R., van Woudenberg, T., Verhagen, S. (2024), Modelling, Uncertainty and Data for Engineers (MUDE) Textbook, Delft University of Technology. https://mude.citg.tudelft.nl/book/2024, CC BY 4.0. doi:10.5281/zenodo.16236358

Link here

Lanzafame, R., Verhagen, S., Alvarenga, G., Farahat, A., Mendoza Lugo, M. (2025), Python for Engineers. https://oit.tudelft.nl/learn-python/2025, CC BY 4.0. doi:10.5281/zenodo.16753127

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van Woudenberg, T. R., Lanzafame, R. C., Kirsch, J. A. A., Jungbacker, C. A. A., Pols, C. F. J., den Ouden-van der Horst, D., & Slingerland, I. C. (2024). TeachBooks Manual. GitHub. doi:10.5281/zenodo.15100848

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13. JOURNAL PAPERS

Mares Nasarre, P., van Boldrik, N., Bakker, E., Lanzafame, R., & Morales Napoles, O. (2025). Unlocking Student Choices: Assessing Student Preferences in Courses in Engineering Education. Education Sciences, 15(7), Article 859. doi:10.3390/educsci.15070859

Link: Mares-Nasarre et al. (2025)

Keirsebelik, H., Tsimopoulou, V., Lanzafame, R., Van Putte, N., Koelewijn, A., Rikkert, S., De Kleyn, T., Schoelynck, J. (2024). Assessing the extent and connectivity of animal burrows using smoke: a practical tool for levee inspections. Journal of Coastal and Riverine Flood Risk , 3. doi:10.59490/jcrfr.2024.0012

Link: Keirsebelik et al. (2024)

Reinders, K., Pouliasis, G., Lanzafame, R., & Morales, O. (2020). Evaluating the Test-Expectancy Effect in a Graduate Engineering Course. [Unpublished manuscript]. Civil Engineering and Geosciences Faculty, Delft University of Technology.

Lanzafame, R., & Sitar, N. (2019). Reliability analysis of the influence of seepage on levee stability. Environmental Geotechnics, 6(5), 284-293.

14. TECHNICAL REPORTS

Tsimopoulou, V., Koelewijn, A., Lanzafame, R., Rikkert, S., Aljer, A., Nguyen, S. Karaoulis, M., Idsinga, J., Kieftenburg, A. (2023) Management of harmful animal activities on levees: Fact finding fieldwork in the Living Lab Hedwige-Prosperpolder, Polder2C's Project, Interreg European Regional Development Fund. https://polder2cs.eu/results/reports/flood-defence

Lanzafame, R. & Sitar, N. (2018). Reliability analysis of the influence of vegetation on levee performance, California Levee Vegetation Research Program, Department of Water Resources, Sacramento, CA.

Cohen-Waeber, J., Lanzafame, R., & Bray, J. (2014). Section 4: Effects of Surface Fault Rupture on Infrastructure, Geotechnical Engineering Reconnaissance of the August 24, 2014 M6 South Napa Earthquake. In J. D. Bray, J. Cohen-Waeber, T. Dawson, T. Kishida & N. Sitar (Eds.), GEER Association Report No. GEER–037 (Vol. Version 2).

15. CONFERENCE PAPERS AND PRESENTATIONS

Lanzafame, R., van Woudenberg, T. (2024). Online interactive textbooks: creating a book and using it with your students is easier than you think - we'll prove it! SURF Onderwijsdagen, Den Haag, Netherlands, doi:10.5281/zenodo.14068656

🔗 *Link: Lanzafame & Woudenberg (2024)*

Wüthrich D., Rikkert, S. J., & Lanzafame, R. (2023). Human Stability on Slopes Under Overtopping Waves. Coastal Engineering Proceedings, (37), Wüthrich et al. (2023)

Shields, D. & Lanzafame, R. (2022). Ensuring that Green Is Not Unfairly Penalized: Quantifying Effects of Trees on Levee Reliability. Poster presented at 20th River Restoration Northwest Symposium, Stevenson, WA.

Lanzafame, R., Timmermans, M., Orlin, F., Valls, S., & Morales, O. (2021). Probabilistic design for civil engineering infrastructure using vine-copulas. Paper presented at the 31st European Safety and Reliability Conference, Angers, France.

Lanzafame, R. & Sitar, N. (2017). Reliability analysis of levee performance including vegetation effects, Presentation at Floodplain Management Association Annual Conference, Long Beach, CA.

Lanzafame, R., Teng, H., & Sitar, N. (2017). Stochastic Analysis of Levee Stability Subject to Variable Seepage Conditions. Paper presented at the Geo-Risk 2017: Reliability-Based Design and Code Developments, Denver, CO.

Cohen-Waeber, J., Lanzafame, R., Bray, J., & Sitar, N. (2015). The Performance of Structures Subjected to Surface Fault Rupture during the Mw 6.0 South Napa Earthquake, California, USA. Paper presented at the 6th International Conference on Earthquake Geotechnical Engineering, Christchurch, New Zealand.

Mathy, D., Lanzafame, R., Adams, W., & Gallyer, S. (2012). Guided Boring and the Lafayette-Pleasant Hill Road Trunk Sewer. Paper presented at the North American Society for Trenchless Technology (NASTT) No-Dig Show 2012, Nashville, TN.

16. SOFTWARE AND PROGRAMMING RESOURCES

Lanzafame, R. (2024) Modelling, Uncertainty and Data for Engineers (MUDE) Files. https://github.com/TUDelft-MUDE/2024-files. CC BY 4.0 License. doi:10.5281/zenodo.16782515

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TeachBooks Development Team. (2025). TeachBooks Package. GitHub/Zenodo. doi:10.5281/zenodo.15168077

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Keirsebelik, H., Tsimopoulou, V., Lanzafame, R., Van Putte, N., Koelewijn, A., Rikkert, S., De Kleyn, T., & Schoelynck, J. (2024). Assessing the extent and connectivity of animal burrows using smoke: a practical tool for levee inspections. *Journal of Coastal and Riverine Flood Risk*, *3*. https://doi.org/10.59490/jcrfr.2024.0012

Lanzafame, R. (2025). *Modernizing the Engineering Curriculum: Bringing Programming into the Classroom with Online Interactive Textbooks*. https://doi.org/10.5281/ZENODO.15058449

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Mares-Nasarre, P., Boldrik, N. van, Bakker, E., Lanzafame, R., & Morales-Nápoles, O. (2025). Unlocking Student Choices: Assessing Student Preferences in Courses in Engineering Education. *Education Sciences*, *15*(7), 859. https://doi.org/10.3390/educsci15070859

Woudenberg, T. van, & Lanzafame, R. (2024b). *Programming in MUDE*. https://doi.org/10.5281/ZENODO.10848458

Woudenberg, T. van, & Lanzafame, R. (2024a). *The MUDE Book and what it led to*. https://doi.org/10.5281/ZENODO.10879004

Wüthrich, D., Rikkert, S. J., & Lanzafame, R. (2023). HUMAN STABILITY ON SLOPES UNDER OVERTOPPING WAVES. *Coastal Engineering Proceedings*, *37*, 129. https://doi.org/10.9753/icce.v37.management.129