

CURRICULUM VITAE

Ali Rıza ALAN

CONTACT INFORMATION

Address: Bahçeşehir University, Faculty of Engineering and Natural Sciences, Department of Civil Engineering, 34353, Beşiktaş, İstanbul, Turkey

Phone: +90 212 381 05 45

E-mail: aliriza.alan@bau.edu.tr

EDUCATION

Doctorate Degree: İstanbul Technical University, Graduate School, Department of Coastal Sciences and Engineering Ph.D. in English – İstanbul/TURKEY – 02/2021 – 06/2024

Master's Degree: Işık University, Graduate School of Science and Engineering, Department of Civil Engineering M.S. in English, Full Scholarship awarded by the University – İstanbul/TURKEY – 07/2017 – 06/2020

Bachelor's Degree: Işık University, Faculty of Engineering, Department of Civil Engineering B.S. in English, Full Scholarship awarded by the University – İstanbul/TURKEY – 09/2012 – 06/2017

WORK EXPERIENCE

Assistant Professor: Bahçeşehir University, Faculty of Engineering and Natural Sciences, İstanbul/TURKEY, 02/2025 – on

Research Assistant: İstanbul Technical University, Faculty of Engineering, İstanbul/TURKEY, 12/2021 – 06/2024

Research Project Assistant: Işık University, Faculty of Engineering, İstanbul/TURKEY, 10/2018 – 06/2020

Student Assistant: Işık University, Faculty of Engineering, İstanbul/TURKEY, 09/2015 – 06/2016

PUBLICATIONS

Thesis

M.S. Thesis: Impact of traffic incident duration and road characteristics on traffic flow performance, Işık University, 2020.

Ph.D. Thesis: The analytical solutions and deep learning assessment of long waves over linear and nonlinear breadth and depth profiles: 30 October 2020 İzmir Tsunami Case, İstanbul Technical University, 2024.

Book Chapters

B1. Alan, A. R. and Bayındır, C., “Spectral analysis and predictability of the 30 October 2020 İzmir-Samos Tsunami via ANFIS fuzzy network,” in *Intelligent and Fuzzy Systems. INFUS 2024. Lecture Notes in Networks and Systems*, eds. Kahraman, C., Cevik Onar, S., Cebi, S., Oztaysi, B., Tolga, A.C., Ucal Sari, I., vol 1088, Springer, Cham, 2024.

B2. Bayındır, C., Erişti, T. and **Alan, A. R.**, “Modeling coastal and port hydrodynamics using sparse nonlinear dynamic system intelligent algorithms,” in *Intelligent and Fuzzy Systems. INFUS 2024. Lecture Notes in Networks and Systems*, eds. Kahraman, C., Cevik Onar, S., Cebi, S., Oztaysi, B., Tolga, A.C., Ucal Sari, I., vol 1089, Springer, Cham, 2024.

Journal Papers/Preprints

J1. Bayındır, C. and **Alan, A. R.**, “Efficient sensing of ground-borne vibrations induced by pile driving using compressive sampling”, *TWMS Journal of Applied and Engineering Mathematics*, vol. 12, no. 1, pp. 24-33, 2022.

J2. Alan, A. R., Bayındır, C., Ozaydin, F. and Altintas, A. A., “The predictability of the 30 October 2020 İzmir-Samos Tsunami hydrodynamics and enhancement of its early warning time by LSTM deep learning network”, *Water*, vol. 15: 23, no. 41951, 2023.

J3. Alan, A. R. and Bayındır, C., “The analytical solutions of long waves over geometries with linear and nonlinear variations in the form of power-law nonlinearities with solid vertical wall”, *Ocean Engineering*, vol. 295, no. 117031, 2024.

J4. Alan, A. R. and Bayındır, C., “The analytical solutions of long waves over geometries with linear and nonlinear variations in the form of power-law nonlinearities with solid inclined wall”, *Dynamics of Atmospheres and Oceans*, vol. 106, no. 101458, 2024.

J5. Alan, A. R. and Bayındır, C., “Analysis of the 30 October 2020 İzmir-Samos Tsunami measurements with compressive sensing method”, *Firat University Journal of Engineering Science*, vol. 36: 2, 2024. (In Turkish)

J6. Alan, A. R. and Bayındır, C., “Identification of Lagrangian drifting by sparse nonlinear dynamic system algorithm”, *Uludağ University Journal of the Faculty of Engineering*, vol. 29: 3, 2024. (In Turkish)

J7. Alan, A. R. and Bayındır, C., “Computational statistical analyses for efficient wave inundation measurements with compressive sensing”, under review, 2025. (In Turkish)

J8. Bayındır, C., Ozaydin, F., Altintas, A. A., Erişti, T. and **Alan, A. R.**, “Lagrangian drifter path identification and prediction: SINDy vs Neural ODE”, *Ocean Modelling*, under review, 2025.

J9. Alan, A. R., “Analysis and forecasting of the wave energy dynamics via LSTM deep learning network”, *Firat University Journal of Engineering Science*, under review, 2025. (In Turkish)

J10. Bayındır, C. and **Alan, A. R.**, “A comparative analysis for locating and forecasting Lagrangian drifter routes: SINDy vs n-ODE instances”, under review, 2025. (In Turkish)

J11. Bayındır, C. and **Alan, A. R.**, “Efficient monitoring of groundwater level changes using compressive remote sensing”, *Journal of Hydro-environment Research*, under review, 2025.

Conference Proceedings

C1. Alan, A. R. and Bayındır, C., “Analysis of wave runup, overtopping and overwash parameters via compressive sensing”, no. 10, 2nd International Conference on Applied Mathematics in Engineering (ICAME 2021), Balıkesir, Turkey, 01-03 September, 2021.

C2. Alan, A. R. and Bayındır, C., “Ocean energy conversion analysis by compressive sensing”, no. 24, 2nd International Conference on Applied Mathematics in Engineering (ICAME 2021), Balıkesir, Turkey, 01-03 September, 2021.

C3. Kesten, A. S. and **Alan, A. R.**, “Modeling the effects of traffic incident duration on traffic flow”, no. 1188, 14th International Congress on Advances in Civil Engineering (ACE 2020-21), İstanbul, Turkey, 06-08 September, 2021.

C4. Alan, A. R. and Bayındır, C., “Predicting ocean energy harvesting dynamics using LSTM deep learning network”, no. 23, The 34th Asian-Pacific Technical Exchange and Advisory Meeting on Marine Structures (TEAM 2020/21), İstanbul, Turkey, 06-08 December, 2021.

C5. Alan, A. R. and Bayındır, C., “The predictability of oceanic circulations via FFT-ANFIS spectral adaptive fuzzy network”, 3rd International Conference on Applied Mathematics in Engineering (ICAME 2024), no. 57, Balıkesir, Turkey, 2024.

C6. Alan, A. R., “The ARIMA predictions and spectral analysis of the 30 October 2020 İzmir-Samos Tsunami”, 3rd International Conference on Applied Mathematics in Engineering (ICAME 2024), no. 151, Balıkesir, Turkey, 2024.

C7. Alan, A. R. and Bayındır, C., “Spectral analysis and predictability of the 30 October 2020 İzmir-Samos Tsunami via ANFIS Fuzzy Network”, Intelligent and Fuzzy Systems INFUS 2024 Conference, no.351, Çanakkale, Turkey, 2024.

C8. Bayındır, C., Erişti, T. and **Alan, A. R.**, “Modeling coastal and port hydrodynamics using sparse nonlinear dynamic system intelligent algorithms”, Intelligent and Fuzzy Systems INFUS 2024 Conference, no.355, Çanakkale, Turkey, 2024.

PROJECTS/EXPERIENCE

Title: The Analytical Solutions and Deep Learning Assessment of Long Waves Over Linear and Nonlinear Breadth and Depth Profiles: 30 October 2020 İzmir Tsunami Case

Sponsor: İstanbul Technical University

Duration: December 2021-June 2024

Involvement: Research Assistant

Title: Optimization and Control of Wave Energy Focusers with Artificial Intelligence Methods

Sponsor: İstanbul Technical University

Duration: June 2022-June 2024

Involvement: Research Assistant

Title: Turkish Academy of Sciences (TÜBA)-Outstanding Young Scientist Award Program (GEBİP)-2022

Sponsor: Turkish Academy of Sciences (TÜBA)

Duration: December 2022-June 2024

Involvement: Research Scholar

Title: Development of Artificial Intelligence-Based Multi-Spectral Methods for Three-Dimensional Vibration and Noise Control in Marine Structures

Sponsor: İstanbul Technical University

Duration: December 2023-June 2024

Involvement: Research Assistant

Title: The Science Academy-Young Scientist Award Program (BAGEP)-2024

Sponsor: The Science Academy

Duration: April 2024-June 2024

Involvement: Research Scholar

TEACHING EXPERIENCE

2024-2025 Spring

CEN3020-Hydraulics: Undergraduate level, In English, 2 hours theoretical, 2+2 hours practical, 27 students

CEN3022-Foundation Engineering: Undergraduate level, In English, 3 hours theoretical, 30 students

LANGUAGE SKILLS

English: YÖKDİL 2018 Fall Term Exam – 90/100

German: Elementary

INTERESTS

Coastal and ocean engineering, nonlinear wave processes, deep learning, remote sensing, fluid mechanics, hydraulics, computational & applied mathematics

AFFILIATIONS

Union of Chambers of Turkish Engineers and Architects – Chamber of Civil Engineers (2018 - on)