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# NAZIFE ORUC BACI

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## PROFESSIONAL SUMMARY

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Responsible and motivated research assistant graduate student ready to apply science in the workplace. Offers excellent technical abilities with software and applications, ability to handle challenging work, and excellent time management skills.

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## SKILLS

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- **GIS & Modeling Software:** ArcGIS, HEC-RAS, AutoCAD, SMS: PTM
- **Data Analysis & Statistics:** Statistical Analysis, Data Analysis
- **Research & Experimentation:** Experimental Design, Field Research, Data Collection
- **Scientific Computing & Modeling:** Research and Publication, Analytical Thinking, Problem-Solving
- **Programming:** Python

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## EDUCATION

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**Ph.D.:** ENGR-Environmental, Civil, Agriculture & Mechanic  
**University of Georgia** - Athens, GA

**Master of Science:** Civil, Construction Environmental Engineering, 12/2022  
**The University of Alabama** - Tuscaloosa, AL

**M.S. in Civil Engineering:** 01/2017  
**Pamukkale University** - Denizli, Turkiye

**M.S. in Civil Engineering (Exchange Erasmus student):** 01/2015  
**University of Genoa** - Genoa, Italy

**Bachelor of Science:** Civil Engineering, 01/2013  
**Pamukkale University** - Turkiye

**B.S. in Civil Engineering (Exchange Erasmus student):** 01/2012  
**University of Genoa** - Genoa, Italy

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## EXPERIENCES

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**Graduate Research Assistant**, 01/2023 - Current

**University Of Georgia** – Athens, GA

- Research topic is Inland Litter Hydrodynamics: Characterizing the Litter Transport during Wet Weather Events in Communities

**Graduate Research Student**, 01/2020 - 12/2022

**The University of Alabama** – Tuscaloosa, AL

- The thesis work was done on the Cahaba River
- The most important contribution of the study to the literature is the inclusion of the lateral arms in the model
- ArcMap, Hec-RAS and Python were actively used during the thesis.

**Research and Teaching Assistant and P.h.D student**, 01/2015 - 01/2022

**The University of Harran**

- In addition to the work of the department, worked in the field of research and teaching.

**Designer of Static Project**, 01/2013 - 01/2015

**Ucuyıldız Mimarlık-Insaat**

- Responsible for the static analysis of static projects such as schools and houses, adhering to architecture.

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## RESEARCH INTERESTS

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- Fluid transport techniques
- 2D- flood inundation models
- Flood risk maps and calibration
- Hydrologic Modeling and Data Assimilation
- Uncertainty and Risk Analysis
- Drought

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## ONGOING RESEARCH

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Inland Litter Hydrodynamics: Characterizing the Litter Transport during Wet Weather Events in Communities which is supported by Bantam Materials UK Ltd., the supplier of Prevented Ocean Plastic™

**Refereed Journal Article**

- Oruc Baci, N., Santiago Collazo, F., Woodson, C., Jambeck, J., 2025. Advancing Numerical Models for Land-to-Ocean Litter Transport: A Review of Hydrodynamic Processes and Inland Contributions. *Science of the Total Environment*. 41C60A54-86E1-4BF1-90FF-C86B42BF4BAA
- Oruc Baci, N., Jafarzadegan, K., Moradkhani, H., 2023. Improving flood inundation modeling skill: interconnection between model parameters and boundary conditions. *Model. Earth Syst. Environ.* <https://doi.org/10.1007/s40808-023-01768-5>,
- GUMUS, V., YENIGUN, K., TOPRAK, Z., ORUC BACI, N., 2018. Sanliurfa ve Diyarbakır istasyonlarında sıcaklık tabanlı buharlaşma tahmininde YSA, ANFIS ve GEP yontemlerinin karşılaştırılması. *DUMF Muhendislik Dergisi*, 9 (1), 553-562.,
- GUMUS, V., BASAK, A., ORUC, N., 2016. Standartlaştırılmış Yagıs Indeksi (SYI) Yontemi ile Sanliurfa Istasyonunun Kuraklık Analizi. *Harran Universitesi Muhendislik Dergisi*, 1(1): 36-44.

**Conference Proceedings**

- Oruc Baci, N., Santiago Collazo, F., Jambeck, J., 2024. Tracing Plastic Pathways: Laboratory Validation and Sensitivity Insights in Overland Transport Numerical Models. Abstract EGU25-3846
- Oruc Baci, N., Santiago Collazo, F., Bayer, L., Jambeck, J., 2025. A Multi-faceted Approach for Understanding Plastic Transport in Overland Systems: From Physical to Numerical Modeling. AGU24,
- Oruc Baci, N., Santiago Collazo, F., Jambeck, J., 2024. Integrating Numerical Modeling and Fieldwork for Understanding Land-to-Ocean Litter Transport: A Comprehensive Review. EGU General Assembly Conference Abstracts, 6714,
- Oruc Baci, N., Santiago Collazo, F. 2023. Advancements in Hydrodynamic Models for Analyzing Land-to-Ocean Litter Transport: A Review. UGA Water Science & Policy Poster Symposium
- Jafarzadegan, K., Oruc Baci, N., Moradkhani, H., 2022. Advanced flood inundation modeling skills: Improved boundary conditioning and its interconnection with model parameters. AGU Fall Meeting,
- ORUC BACI, N., BACANLI U.G. 2017. Standartlaştırılmış Yagıs Indeksi kullanılarak Meteorolojik Kuraklık: Sanliurfa Calısması. IMCOFE 2017 / Rome Tam Metin Bildiri Kitabı Cilt-1,310,
- ORUC BACI, N., BACANLI U. G., 2017. Evaluation of Drought in Southeastern Anatolia Region, Turkiye, IMCOFE 2017 / Rome Tam Metin Bildiri Kitabı Cilt-1,328.,
- GUMUS, V., YENIGUN K., TOPRAK Z.F., ORUC BACI, N., 2017. Comparison of YSA, ANFIS and GEP Methods in Temperature-Based Evaporation Estimation in Sanliurfa and Diyarbakır Stations. IX. National Hydrological Congress, Diyarbakır-Turkiye.

## Projects

- BACANLI U.G., ORUC BACI, N., 2017. Drought Analysis in the Southeast Anatolia Region. BAP Project, No: 2016FEBE021., -VIII. National Hydrology Congress (08-10 October 2015) Congress Officer, -International VI. Gap Engineering Congress (23- 25 October 2018) Congress Officer

## Thesis/Dissertation

- Oruc Baci, Nazife, 2023, "Impacts of Lateral Flows on the Calibration of 2D- Flood Inundation Models." M.S. Thesis, University of Alabama, Tuscaloosa, AL
- Oruc Baci, Nazife, 2017, "Guneydogu Anadolu Bolgesinde Kuraklik Analizi." M.S. Thesis, University of Pamukkale, Denizli, Turkiye

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## COURSES AND LABORATORY STUDIES TAUGHT

- Hydraulic Laboratory Experiments and Analysis
- Water Resources Engineering I
- Computer Aided Water Structures Design
- Hydraulic
- Water Structures I
- Introduction to Civil Engineering
- Multidisciplinary Integrated Project
- Final project

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## COMMISSIONS SERVED AT THE DEPARTMENT

- Graduation Commission
- Student Vertical Transfer Commission
- Student Transfer Commission
- Exam Program Preparation Committee
- Internship Commission
- Erasmus Commission
- Exemption Commission
- Student Counseling

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## AWARDS, ACCOMPLISHMENTS, AND HONORS

- Awarded the Charles James Moore Prize for Outstanding Research on Plastic Pollution (2025)
- Selection and placement of students to be sent for graduate education abroad (YLSY)- Turkish Ministry of National Education Fellowship 2017-2022
- Graduated as Honor Student in accordance with the relevant article of the Regulation (2013)

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## SERVICE

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- The University of Georgia Turkish Student Association 2025-
- The University of Alabama Turkish Student Association 2020-2022
- Contemporary Life Support Association 2009-2013 (Awarded scholarship)
- TEMA Youth Member

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## LANGUAGES

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Turkish

English

Native/ Bilingual

Professional

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## SOCIAL ACTIVITIES

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- Traveling to different countries and experiencing different cultures
- Photography
- Extreme sports
- Painting
- Hiking

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## REFERENCES

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References available upon request.