Shah **Nawaz**

PHD GEOMECHANICS

Grenoble, France

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Soil mechanics | Geotech | Discrete element Modelling | Soil Structure Interaction | Transportation Engineering and Planning | Data Science

Education

PhD Geomechanics
GRENOBLE ALPES UNIVERSITY

Grenoble, France

2020 –>

Masters Civil engineering and Hydraulics
MASTERS CIVIL ENGINEERING AND HYDRAULICS
- 12.17/20, 120 European credits (ECTs)

Online

2018 –> 2019

Masters Transportation Engineering (Only coursework)
UNIVERSITY OF ENGINEERING AND TECHNOLOGY
- 3.3/4, 24 Credit Hours (CH)

Lahore - Pakistan

2015 –> 2016

Bachelors Transportation Engineering
UNIVERSITY OF ENGINEERING AND TECHNOLOGY
- 3.21/4, 24 Credit Hours (CH)

Lahore - Pakistan

2010 –> 2014

Research Experience

Post graduate project: Soil structure interaction under cyclic loading
GRENOBLE ALPES UNIVERSITY

3SR Laboratory, Grenoble, France

2022

- Conducted cyclic interface shear experiments on modified direct shear machine with variable shear amplitude using glass ballotini and fountaine blue sand.
- Tested effect of shear rate on the interface shear experiments with monotonic and cyclic configuration.
- Completed discrete element modelling (DEM) numerical experiments with interface direct shear configuration.

Master thesis: Railway ballast fines production under cyclic loading
GRENOBLE ALPES UNIVERSITY

3SR Laboratory, Grenoble, France

2019

- 2D cyclic shear experiments with individual Granite ballast rocks at 50 to 1000 cycles.
- Laser scanning of surface of rocks before and after the 2D and 3D shear experiment.
- Studied wear of granite rocks low normal loads of below 1kN.

Graduate Assistant
UNIVERSITY OF ENGINEERING AND TECHNOLOGY, LAHORE

Geotechnical Engineering Lab

2016

- Prepared results of cone penetration test, atterberg limits, soil particle size distribution etc. tests with clay and sand for different industrial projects from Pakistan defense forces and other national organizations.
- Assisted teachers of Department of Transportation Engineering to write teaching material, scientific papers and semester reports.

Publications

Sample Preparation of dense granular materials with 2D DEM

Powders and Grains conference

NAWAZ, S. AND COMBE, G., 2021. SAMPLE PREPARATION OF DENSE GRANULAR MATERIALS INFLUENCE OF VOID RATIO e AND COORDINATION NUMBER Z* ON THE MECHANICAL BEHAVIOUR AT FAILURE. IN EPJ WEB OF CONFERENCES (VOL. 249, P. 02012). EDP SCIENCES. HTTPS://DOI.ORG/10.1051/EPJCONF/202124902012

2021

Conferences

Poster Presentation - Ecole Doctorale for Industrial, Materials, Mechanical and Process Engineering (I-MEP2) Day
PRESENTED A SCIENTIFIC POSTER RELATED TO THE RESULTS OF 2D INTERFACE SHEAR EXPERIMENTS.

Grenoble, France

06/2022

Mech'Alpes FED3G Young Researchers Conference *Grenoble, France*

Poster Presentations with fellow Researchers under the FED3G Research labs. *05/2022*

Poster presentation - Powders and Grains Conference *Virtual*

Presented the results of 2D DEM shear paper. *03/2021*

Employment

Operation Supervisor *Lahore - Pakistan*

Punjab masstransit authority *2016 –> 2018*

- Monitored the operation of Metrobus and Feeder Buses with the help of the International Kentkart portal.
- Prepared monthly reports on Microsoft Excel. Managing the operation stoppages by communicating with vendors.

Certifications

Writing in the sciences *Coursera*

Online scientific writing course authorized by Stanford University. *2023*

Particle-based continuum Methods in Geomechanics *ALERT Geomaterials*

Lectures and notes on SPH, DEM and advancements in numerical modelling of granular materials. *2021*

Ethics of Research *Université de Lyon*

Courses helps to articulate rules of ethics and scientific integrity. *2020*

Scholarships

Higher education commission Pakistan UESTP scholarship *France*

Granted to Pakistani nationals for Masters and PhD study on France with Campus France collaboration. *2018*

Skills

Programming Languages

Python, R, SQL

Markup Languages

CSS, HTML, LaTeX, Markdown, RMarkdown

Scientific Softwares

HECRas, PLAXIS, Synchro traffic simulation,ABAQUS

English Language

Reading(C1), Writing (C2),Listening(C2),Speaking(B2)

French Language

Reading(A1), Writing (A2),Listening(A2),Speaking(A1). Levels: A1 and A2: Basic user; B1 and B2: Independent user;

C1 and C2: Proficient user according to Common European Framework of Reference for Languages.

Interests and Volunteering

Programming *Online*

Being part of the R4DS community and founder of courses for pass outs slack channel, I meet with fellow tech *2023*
researchers to teach and learn new Python and R programming methods through discussion live on Youtube

Hiking *Auvergne Rhone Alpes, France*

Member of an English and French-speaking hiking group *2023*

Freelance Data analysis Projects *Online*

Completed freelance assignments on statistical analysis and machine learning using R and Python. *2023*

(https://shah.quarto.pub/)(https://rpubs.com/shahworld)