Exponent®
Engineering & Scientific Consulting

Anu Radhakrishnan, Ph.D.

Associate | Thermal Sciences
Menlo Park
+1-650-688-7167 | aradha@exponent.com

Professional Profile

Dr. Radhakrishnan earned her doctoral degree from the University of Texas at Austin. She leverages her expertise in diverse industries, including oil and gas, chemicals, petrochemicals, automobiles, and consumer products. She specializes in both utilization of a wide range of computational tools, complemented by the development of innovative lab-based experimental methodologies.

Academic Credentials & Professional Honors

Ph.D., Petroleum Engineering, University of Texas, Austin, 2023

M.S., Statistics, University of Texas, Austin, 2022

B.E., Chemical Engineering, Birla Institute of Tech and Sci, 2016

Academic Appointments

Teaching Assistant, Thermodynamics/ Transport Phenomena

Prior Experience

Doctoral Researcher, The University of Texas at Austin, 2018-2023

Teaching Assistant, Thermodynamics and Transport Phenomena courses, The University of Texas at Austin, 2018-2023

Computational Intern, Chevron Phillips Chemical, 2021-2022

Process Engineer, Sulzer Chemtech, 2016-2018

Professional Affiliations

Society of Petroleum Engineers

American Institute of Chemical Engineers

American Physical Society

Society of Women Engineers

Publications

Radhakrishnan, A., Gigliotti, A., Johnston, K. P., DiCarlo, D., & Prodanović, M. (2022). Experiments and simulations to study transport and structure of foam in rough carbonate fractures. Transport in Porous Media, 145(3), 745-760.

Collins, W., Orbach, R., Bailey, M., Biraud, S., Coddington, I., DiCarlo, D., Peischl, J., Radhakrishnan, A., Schimel, D. (2022). Monitoring methane emissions from oil and gas operations. Optics Express, 30(14), 24326-24351.

Radhakrishnan, A., DiCarlo, D., & Orbach, R. L. (2023). Discrepancies in the current capabilities in measuring upstream flare volumes in the Permian Basin. Upstream Oil and Gas Technology, 10, 100084.

Radhakrishnan, A., Gigliotti, A., Johnston, K. P., DiCarlo, D., & Prodanovic, M. (2022, April). Understanding Foam Flow in Rough Carbonate Fractures. In SPE Improved Oil Recovery Conference.

Radhakrishnan, A., Johnston, K., DiCarlo, D., & Prodanović, M. (2021). Experimental investigation of foam rheology in rough fractures. In Unconventional Resources Technology Conference, 26–28 July 2021 (pp. 3456-3466). Unconventional Resources Technology Conference (URTeC).

Prodanović, M., Esteva, M., McClure, J., Chang, B. C., Santos, J. E., Radhakrishnan, A., ... & Khan, H. (2023). Digital Rocks Portal (Digital Porous Media): Connecting data, simulation and community. In E3S Web of Conferences (Vol. 367). EDP Sciences.

Churchwell, L., Radhakrishnan, A., & DiCarlo, D. (2020, August). Measurements of Three-Phase Relative Permeability as a Function of Fluid Composition. In SPE Improved Oil Recovery Conference.

Presentations

Radhakrishnan, A., DiCarlo, D., Orbach R.L., “Data Analysis of Flaring in Upstream Oil and Gas”, AIChE Trends in Invigoration of Manufacturing and Engineering. July 2021

Prodanovic, M., Radhakrishnan, A., McClure, J., “Visualization and Reuse competition for Digital Rocks Portal Datasets”, National Science Foundation EarthCube Annual Meeting. June 2021

Radhakrishnan, A., Prodanovic, M., DiCarlo, D., Johnston.K., “Experimental Investigation of Foam Flow in Rough and Smooth-Walled Fractures” University of Texas Graduate and Industry Networking, Austin, Texas. March 2021

Radhakrishnan, A., Prodanovic, M., DiCarlo, D., Johnston.K., “Experimental Investigation of Foam Flow in Rough Fractures” University of Texas Digital Rocks IAP annual meeting, Austin, Texas. September 2020

Project Experience

Dr. Radhakrishnan's doctoral research primarily focused on sustainability in the energy sector. Research work included, conducting lab-experiments and computer-simulations to understand foam flow within porous media containing fractures and machine learning based methods for detection of methane emission.

In addition to her doctoral research, she worked for Chevron Philips Chemical Company, specializing in CFD (Computational Fluid Dynamics) and process simulations to troubleshoot fluid flow problems in process equipment. She helped identify the root-cause of several fluid flow issues that led to millions of dollars in savings. Prior to her graduate studies, she was a Process Engineer, where her responsibilities

included the design and simulation of separation technologies. Her proficiency extended to software tools such as COMSOL, Ansys Fluent, Aspen, and PRO/II.

Peer Reviews

Transport in Porous Media