ISHA DOGRA

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Curious and quick learning engineer that is a self-starter with a passion for working on environmental sustainability, specifically managing and treating solid and hazardous waste, water, and wastewater and improving operational efficiency

EDUCATION

Georgia Institute of Technology, Atlanta, GA   **Aug 2021-Dec 2022**
Master of Science in Environmental Engineering (GPA = 3.75/4)
Coursework: Process Principles, Chemical Principles, Sustainable Engineering, Environmental Nanotech, Physicochemical Processes, Biological Processes, Sustainable Chemistry, Engineering Communication, Industrial Ecology, Intro to GIS, Climate & Global Change, Water Resources Systems
Memberships: AEES, ASCE, EWRI

Birla Institute of Technology and Science (BITS), Pilani, India   **Aug 2017-Feb 2021**
Bachelor of Engineering in Chemical Engineering (Major GPA = 3.6/4)
Coursework: Fluid Mechanics, Transport Phenomena, Separation Processes, Membrane Engineering, Environmental Biotechnology & Waste Management, Environmental Pollution Control, Process Equipment Design, Biochemical Engineering

WORK EXPERIENCE

Los Alamos National Laboratory, Los Alamos, NM   **June 2022-present**
Water Management Specialist Graduate Intern, Utilities & Infrastructure- Operations Support and Improvement
- Analyzing water quality data and treatment technologies for complex effluents from various high-performance and supercomputing buildings and their cooling towers at the Lab to suggest optimizations to reduce site-wide water consumption potentially by 58%
- Successfully worked with a cross-functional team and interacted with industrial, federal, and municipal stakeholders to develop a site-wide water balance, comprehensive metering list and water conservation plan across more than 1000 buildings
- Won the award for the best student poster at the Annual Student Symposium held in the summer for the group project

Tech Dining, Georgia Institute of Technology, Atlanta, GA   **Jan 2022-May 2022**
Student Assistant
- Performed data entry and multivariate assessment using Excel to design signage and displays for more than 150 food items across four retail outlets on campus with a daily footfall of more than 500 students and visitors
- Communicated with outlet managers to understand and meet their administrative needs in the most efficient and supportive way

Leave It in the Ground Initiative (LINGO), Radebeul, Germany   **May 2021-Dec 2021**
Project Intern (Remote)
- Created a database for 95% of the world's countries to map the overlap between fossil fuel distribution and protected areas globally using ArcGIS to prevent indiscriminate mining; results presented at the COP26

Defence Research and Development Organization (DRDO), Delhi, India   **May-July 2019**
Internship Trainee, Centre for Fire, Explosive and Environment Safety
- Developed a novel and low-cost filter with Graphene Oxide-based nanocomposites and natural materials like fallen leaves
- Designed performance testing experiments, modeling a higher removal efficiency of 80.93% for toxic dyes from industrial effluent

RESEARCH AND PROJECTS

Mixed Matrix Membranes (MMMs) for Water-based Contaminant Removal   **Aug 2020-present**
Publishing a review paper on critical analysis of 100 research articles for 15 heavy metal and salt ions to quantify the efficiency and capabilities of various MMMs for contaminant removal from water

Graphene Oxide-cellulose nanocomposite for drinking water treatment   **May 2020-June 2022**
Published research on the development of a novel nanocomposite filter with a aqueous toxic dye removal efficiency higher than conventional materials (Dogra et al., 2022, https://doi.org/10.1016/j.jksus.2022.102122)

Natural gas versus Solar: A Preliminary Impact Assessment   **Aug-Dec 2021**
Performed Life Cycle Analysis to compare retrofitting a coal-fired power plant to natural gas and constructing a photovoltaic solar field with a cross-functional team of six using SimaPro simulation software

Algae for Biodiesel Production   **Jan-Jul 2020**
Created a database discussing 14 relevant parameters to find the best strain of microalgae for biodiesel production quantitatively

SKILLS

Software and Programming: Microsoft Office (Word, Excel, PowerPoint, Outlook), AutoCAD, ESRI ArcGIS Pro, MATLAB, SimaPro, BioWin, ANSYS Fluent, ASPEN Plus, Python, C
Essential Skills: Teamwork, written and verbal communication, problem-solving, research and analysis, attention to detail, planning and organizational skills, public speaking, leadership

LEADERSHIP/SERVICE

VP, Industry Relations (May 2022-present), Association of Environmental Engineers and Scientists, Georgia Tech
Secretary-cum-Treasurer (Jan 2020-Feb 2021), **Chapter President** (Mar 2019- Jan 2020), AIChE, BITS Pilani
Secretary (Apr 2019- Feb 2021), Indian Institute of Chemical Engineers, BITS Pilani
Head of Human Resources (Apr-Dec 2018), **Volunteer** (Aug 2017-Jul 2020), National Service Scheme, BITS Pilani

HONORS AND AWARDS

The Monali Dey Award (2021) for the Best graduating student, Department of Chemical Engineering, BITS Pilani
Winner of the Bright Idea Competition (2021), Department of Scientific and Industrial Research, Government of India

HOBBIES

Hiking, writing poetry, listening to music, reading, watching movies & stand-up, spending time with family & friends

References upon request; aiming to obtain EIT certification within the next six months