# Waquar Kaleem

### SENIOR UNDERGRADUATE | PETROLEUM ENGINEERING Rajiv Gandhi Institute of Petroleum Technology (RGIPT) ②(+91) 9618-46-2167<sup>S</sup> ≥ epe16040@rgipt.ac.in, wzk5140@psu.edu | <sup>6</sup> waguar-kaleem

I look to use my knowledge of petroleum engineering as a tool to create an impact across various verticals. My projects and steep-learning curve reflect my ambition and passion to serve not only hydrocarbon sector but energy.

# Education

Rajiv Gandhi Institute of Petroleum Technology   RGIPT	Jais, India
An Institute of National Importance under the aegis of Ministry of Petroleum	2016 - 2020 (Expected)
and Natural Gas, Government of India.	
Bachelor of Technology (B.Tech), Major in Petroleum Engineering	
<ul> <li>Cumulative Grade Point Average CGPA 9.60/10.0</li> <li>Gold medalist, Holds overall first position in Petroleum Engineering Department</li> </ul>	
Narayana Junior College (XI-XII) Percent Scored 96.8%	Hyderabad, India 2014-2016
Narayana Junior College (X)	Hyderabad, India
Grade Point Average 9.7/10.0	2014

## Internships

Penn State Geostatistical and GeoModeling Applications Industry Membership Program		
<b>Project Title:</b> "Development of a Lattice Boltzmann Simulator for Modeling CO <sub>2</sub>	State College, PA	
Plume Migration in Saline Reservoirs"   Advisor: Dr. Sanjay Srinivasan	12th May -14th Aug 2019	

- Pore-scale modeling of multicomponent LBM (shan-chen, oxford free energy and color gradient/RK) in order to describe and predict flow patterns of miscible fluid systems in porous media.
- Study of interfacial instabilities of CO<sub>2</sub>-water drainage displacement in a 2D/3D synthetic granular • rock models with a fixed viscosity ratio and varying capillary numbers by rothman-keller method
- Upscaling the model for field scale applicability at the same time cost comparison with conventional • monitoring technologies such as time-lapse seismic.

### **Essar Oil and Gas Exploration and Production Limited**

Project Title: 'Unconventional Play: Coal Bed Methane | Reservoir Characteristics, Production and Workover Jobs – A study of Raniganj CBM Block'

Study of various reservoir characteristics (fractured permeability, pressures) which directly control • CBM production. We also used data analytics on production data of 347 CBM wells in Durgapur to predict the trends in work over jobs.

Oil and Natural Gas Corporation Limited ONGCL	Dehradun, India
Well Control School (WCS), Institute of Drilling Technology (IDT)	21st May-20th June 2018
Project Title: 'Well Control Techniques and Analysis of Well Control Incidents'	

- Knowledge of various types of well control techniques i.e. conventional mainly Drillers, Weight & ٠ Wait, Volumetric, Concurrent and unconventional methods such as Bull heading, Low choke pressure method, Reverse circulation etc. Familiarization with the necessary actions to be taken during well activity with simulator-based knowledge for successful well killing.
- Analyzed global (UKCS) and local well control incident data to enlighten drillers technically at which stage during the life period of well, kicks are most likely to occur.

# Publication

### 'Luminescent N, S-Doped Carbon Nanodot: An Effective Two-Fluorophore System of Pyridone and Thiazolopyridone' [LINK]

Authors | Waguar Kaleem, Anand Kumar, Dr. Debashis Panda. J. Phys. Chem. C, 2018, 122 (46), pp 26722–26732 DOI: 10.1021/acs.jpcc.8b08249 American Chemical Society (ACS), Journal of Physical Chemistry-C (Impact Factor 4.484)

#### **Durgapur**, India

# 4th Dec-15th Dec 2018

### Projects \_

#### **1. Enhanced Oil Recovery by Adopting Water Alternating Gas Injection (WAG)** (EOR/IOR Laboratory)

Research Trainee | Short Term Research Project | Supervisor: Dr. Tushar Sharma

- Investigated the role of varying water and gas saturations in improving oil recovery via WAG.
- Primarily involved preparation of sand packs for core flooding using CO<sub>2</sub>.
- Calculating oil recovery in various stages of flooding and analyzing the results.

#### 2. Nano-Dimensional Water-Soluble, Naturally Derived Doped Carbon Nanodots CND

and their various Applications (Nano-Biotechnology Laboratory)

Research Trainee | Short Term Research Project | Supervisor: Dr. Debashis Panda

- Worked on the synthesis of naturally derived carbon nanodots by hydrothermal autoclave method
  Doping the highly luminescent CND with nitrogen and sulphur for increasing the luminescent properties
- Application in energy storage, metal ion sensor, nano thermometers, solar cells, biological cell.

### 3. Design and Development of a Caliper Log Tool (Tinkering Lab)

Winter School Project | Guide: Dr. Satish Kumar Sinha (HOD)

- Developed a caliper log which is used to log the borehole diameter.
- The electronic log created a 3D model of the borehole geometry and calculated its volume
- Caliper log tool used ultrasonic waves to find the diameter of the borehole at varying depth and plot the same in real time using a microcontroller. Programmed the microcontroller using arduino open software and simultaneously plotting the graph using python.

# Honors & Awards

2019	SN Bose Scholar, only petroleum engineering student from India selected by the Indo-	)-	
	US Science and Technology Forum to undertake a fully funded intern at Penn State	State College, PA	
2019	DAAD WISE scholarship Awardee	Bonn, Germany	
2019	Second Runner-up, SPE South Asia Regional Student Paper Contest	Mumbai, India	
2018	<b>One among 100 students worldwide</b> selected to participate in the Young Gastech event for potential young students in Hydrocarbon sector.	Barcelona, Spain	
2018	<b>One among 10 Students to represent RGIPT at</b> Federation of Indian Petroleum Industry annual student convention.	Dehradun, India	
2018	Represented RGIPT as a Student Delegate at 8th World Petro Coal Congress.	Delhi, India	
2017	Academic Excellence Award, Department Rank1.	RGIPT, Jais	
2016	RGIPT Meritorious Scholarship Awardee.	RGIPT, Jais	
2011	Innovation in Science Pursuit for Inspired Research (INSPIRE) Science fair awardee Department of Science and Technology, GOI	Govt of India	

### Skills

Software Skills:

- CMG | Reservoir simulation
- IHS Kingdom | Seismic interpretation
- Tableau10.5 | Data-analytics, visualizations
- Microsoft office, ILWIS, GIS.

Computer Languages:

• C++, Python, Matlab.

### Positions of Responsibility

- President | Society of Exploration Geophysicist RGIPT Chapter
- Former Organizing Secretary | Science and Technical Committee, RGIPT
- Volunteer | Gyan-Arpan, an initiative by social club Arpan to teach children's from local schools.

RGIPT, Jais

Aug.2017-Dec.2017

**RGIPT**, Jais

Oct 2017 –June 2018

**RGIPT, Jais** Oct 2018 – Feb 2019