

# Resume



**Name** : Dr. Rahul Saha  
**Designation** : Assistant Professor  
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## Other Profile Links

**Research Gate Link :**

**Personal Web Link :**

**Google Scholar Link :**

**Research Profile**

**Research Interests :** Chemical Enhanced Oil Recovery, Adsorption Kinetics, Rheology, Nanotechnology in Oil and Gas, Colloids & Interface Science, Flow through Porous Media, Biodiesel

**Brief Research Profile :** Today, the energy demand across the globe is increasing at a rapid rate and to maintain the supply, the production of crude oil from reservoirs has to be enhanced, as majority of the energy demands are fulfilled by crude oil. During the production of crude oil, the natural pressure inside the reservoir declines which causes more than two third of the original oil in place resides in the pores of the reservoir rock. Therefore to recover this enormous amount of crude oil advanced techniques is required. Chemical enhanced oil recovery (EOR) is one of the advanced techniques which came up with great potential in reducing the amount of residual oil saturation thus ultimately improving the oil recovery factor. However, the success of chemical EOR depends on several parameters which are highly complex and because of which no direct correlations are available. The mechanisms which are responsible for efficient residual oil recovery are the reduction in interfacial tension, emulsification, creaming index, wettability alteration, rheology and sweep efficiency. Chemical has adsorption characteristics which not only dilutes the optimum slug formation but also affects the economy of the process. Therefore nanoparticles are induced in the chemical slug not only to reduce the adsorption behavior but simultaneously improves the mechanisms responsible for higher oil recovery.

## Qualification

Name of the Degree	Year Of Passing	Institute/University
B.E. (Chemical Engineering)	2010	Pune University
M.Tech (Chemical Engineering)	2013	IIT Guwahati
Ph.D (Chemical Engineering)	2019	IIT Guwahati

## Publications

Year	Journal	Publication	Indexed In
2019	Energy and Fuels	Impact of Natural Surfactant (Reetha), Polymer (Xanthan Gum) and Silica Nanoparticles to Enhance Heavy Crude Oil Recovery, 33 (5), 4225-4236	SCI
2018	Industrial & Engineering Chemistry Research	Silica nanoparticle assisted polymer flooding of heavy crude oil: emulsification, rheology, and wettability alteration characteristics, 57 (18), 6364-6376	SCI
2018	Colloids and Surfaces A: Physicochemical and Engineering Aspects	Effects of interfacial tension, oil layer break time, emulsification and wettability alteration on oil recovery for carbonate reservoirs, 559, 92-10	SCI
2018	Journal of industrial and engineering chemistry	Influence of emulsification, interfacial tension, wettability alteration and saponification on residual oil recovery by alkali flooding, 59, 286-296	SCI
2017	Colloids and Surfaces A: Physicochemical and Engineering Aspects	Effect of mineralogy on the adsorption characteristics of surfactant—Reservoir rock system, 531, 121-132	SCI
2017	International Journal of Oil, Gas and Coal Technology	Interfacial interaction and emulsification of crude oil to enhance oil recovery	SCI
2015	Biomass Conversion and Biorefinery	Ultrasound assisted transesterification of high free fatty acids karanja oil using heterogeneous base catalysts, 5 (2), 195-207	SCI
2014	International Energy Journal	Studies on Thermal, Oxidative and Cold Flow Properties of Ethyl Esters prepared from High FFA Karanja Oil, 14 (1), 15-24	SCI

## Edited Book/Book Chapter

Type	Title	Publisher	Authors	ISBN/ISSN No.	Year
Book	Chemical Nanofluids in Enhanced Oil Recovery: Fundamentals and Applications	CRC Press, Taylor and Francis	Rahul Saha, Pankaj Tiwari & Ramgopal V.S. Uppaluri	9780367425241	2021

## Research Projects

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
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## Research Supervision

Programme Name	Scholar Name	Research Topic	Status	Year	Co-Supervisor
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**Patents**

Name	Reg./Ref.No.	Date Of Award/Filing	Organization	Status
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**Teaching**

Programme Name	Subjects Taught	From	To	Credits
Assistant Professor	School of Petroleum Technology, Pandit Deendayal Petroleum University, Gandhinagar	05/03/2019	17/10/2019	7
Assistant Professor	NIMS University, Jaipur	23/09/2013	30/06/2014	9

**Administrative Responsibilities**

Position Held	Organization	From	To	Remarks
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**Expert Talks**

Title	Place	Year	Description
Improved Residual Oil Recovery by Chemical EOR Schemes	Dibrugarh University, Assam, India	2020	AICTE Training and Learning (ATAL) Academy, Faculty Development Programme (FDP), Upstream Petroleum Technology, 23 rd to 27 th November, 2020
Heavy residual oil recovery from reservoirs by chemical EOR	National Institute of Technology Hamirpur, Himachal Pradesh, India	2020	e-STC on Advanced Research Trends in Chemical Engineering (ARTCE - 2020), 28th October - 1st November 2020
Role of Polymer and Nanoparticle for Heavy Oil Recovery	National Institute of Technology Hamirpur, Himachal Pradesh, India	2021	AICTE Training and Learning (ATAL) Academy, Faculty Development Programme (FDP), Computational Methods in Chemical Engineering, 6th to 10 th September, 2021

**Professional Activities**

Name of Activity	Role	Duration	Organization
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**Courses Organized**

Category	Type	Title	Venue	From	To	Designation
stc	e-STC - Coordinator	Advanced Research Trends in Chemical Engineering (ARTCE) - 2020	National Institute of Technology Hamirpur	28/10/2020	01/11/2020	Assistant Professor
workshop	e-Workshop - Convener	Frontiers in Sustainable Chemical Processes (FSCP) - 2021	National Institute of Technology Hamirpur	01/02/2021	05/02/2021	Assistant Professor

**Date :****Place :****Signature**