

2nd International Conference and Expo on

Oil & Gas

December 02-03, 2019 | Dubai, UAE

A comprehensive study on causes of oil spills and remediation**Ansh Kapoor**

DIT University, India

Objectives/Scope: This review describes the recent progress concerning oil spills caused due to carelessness of workers, crashing of systems, natural disasters or vandalism, etc. by incorporating remediation techniques based on applications of super hydrophobicity, superoleophobicity and surfactants.

Methods, Procedures, Process: A number of preventive measures are discussed in this study that includes- treatment of oil spillage using temporary floating barriers/booms, scattering of oil by dispersants or emulsifiers, development of nano fibrillated cellulose sponge that soaks up oil and omits water, natural disintegration of oil by bacterial species present in *Spartina* plant tissues, dispersion of lodestone particles that stick to the oil and isolate it from water through magnetism, development of MnO₂ coated inverse wetting meshes or of Cu surfaces with laser induced micro holes and CuO nanowires, biosorption involving Nao materials that help in getting rid of spilled oil, etc.

Results, Observations, Conclusions: Oil spill causes heavy economic loss and has long term effects on ecological system along with habitation and vegetation at coastal regions. The oil slick blocks the pathway of oxygen and harms the aquatic life. The dispersed oil combines with marine snow and form oil-related marine snow which is larger than natural marine snow and is consumed by aquatic animals, this leads to oil sedimentation. Exposure to chemicals during the containment

process can cause cardiac arrest or arterial congestion in workers. Some other hazardous effects may include exposure to crude oil that causes heart electrophysiology dysfunction and nervous system breakdown in fish and collection of crude oil in intertidal region that intoxicate the intertidal species.

Novel/Additive Information: An oil tanker spilled 240-260 million gallons oil, near Kuwait as a result of deliberate act by Iraq. Environmental Protection Agency (EPA) in the US handles law enforcement regarding oil spillage. Most laws established by it carry criminal charges. The International convention for prevention of pollution caused by ships set in 1973, modified by the protocol of 1978 which is MARPOL, governing marine pollution via discharge or spillage comes under an International regulation.

Speaker Biography

Ansh Kapoor pursuing B.Tech in petroleum engineering and STPO (Student Training & Placement Officer) at DIT university, India. He completed summer internship at Directorate General of Hydrocarbons and completed IWCF Level 1 Programme with 99.17% (793.33 out of 800 marks). He secured 3rd position in Transcendence (Paper presentation) during JIGYASA 2019, the Annual Colloquium of UPES FIPI Student Chapter. He was the Campus ambassador for JIGYASA 2019, the Annual Colloquium of UPES FIPI Student Chapter.

e: ak24458@gmail.com

 *Notes:*