

INITIAL LIST OF THEMATIC RESEARCH AREAS

1. Geological & Geophysical studies

- a. Microwave based Remote sensing
- b. Rock physics modeling including anisotropy and elastic properties to rock and fluid properties
- c. CSEM forward modeling
- d. Seismic Interferometry

2. Reservoir characterization, modeling & simulation

- a. Carbonate reservoir characterization
- b. Directional permeability; non-radioactive tracers
- c. Petrophysical data propagation using Artificial intelligence

3. Oil & gas Production & Recovery Enhancement

- a. HF design/flow assurance
- b. Development of SOFC from ultra-low pressure gas
- c. New chemicals/additives, nanomaterial, nano-sensors, nano-particle for water control etc.
- d. Carbonate reservoirs
- e. Biotechnology

4. Software Development

- a. G&G interpretation software
- b. Reservoir performance & behavior
- c. Database management

5. Unconventional Energy Resources

- a. Shale Gas- shale characterization, non-aqueous fracking, Effluent treatment & recycling
- b. UCG-tapping un-mineable coals
- c. Gas Hydrates exploration and exploitation
- d. Uranium leaching solution (In-situ Leaching)

6. Engineering solutions/tools & technology development

- a. Development & Application of nano-technology, laser beams, Robotics in different fields of E&P.
- b. Drilling efficiency, high temp/high pressure solutions, self-healing cements, detection of gas kicks in SOBM, HT stable viscosifiers, etc.
- c. Completion fluids, tools in deep waters

- d. Production engineering (Turbo gas lift),
- e. Offshore engineering including process intensification technologies to reduce footprints & cost,
- f. Composite materials/alloys
- g. Safety solutions

7. Alternate Energy researches

- a. Biofuels, Algal fuels
- b. Geothermal energy
- c. Hydrogen production and storage
- d. CO₂ to methanol
- e. In-situ CTL processes

**PROFORMA FOR SUBMISSION OF INITIAL PROJECT PROPOSAL UNDER PAN
IIT ONGC RESEARCH COLLABORATION**

1. Title of the Project
2. Thematic area and sub area
3. Name of the Institute:
4. Name of the Relevant ONGC Institute
5. Name(s) of the Investigator (s) with Complete Address:
6. Total Cost of the Project:
7. Project Summary (Not to exceed 200 words):
8. Keywords

TECHNICAL DETAILS OF PROJECT (two pages maximum)

9. Background of the proposal highlighting relevance to ONGC
10. Objectives and Scope
11. Deliverables

**LIST OF Hols
ONGC Institutes**

Institute	Head of Institution	Address	
Institute Of Oil & Gas Production Technology (IOGPT)	Mr. BudhinDeori, ED-Hol	ONGC Complex Phase-ii Panvel Navi Mumbai – 410221, India	Design, development and consultancy including laboratory studies and training for hydrocarbon production and processing.
Institute Of Drilling Technology (IDT)	Mr. Suresh Jandial, ED-Hol	Kaulagarh Road Dehradun, 248195, India	Research & Development in all drilling related aspects of oil industry. Conducts training & refresher courses for ONGC executives and also imparts training to personnel of foreign oil companies
Geodata Processing & Interpretation Centre (GEOPIC)	Mr. Ashutosh Bharadwaj, ED-Hol	KDMIPE Campus, New Computer Bldg. 8th. Floor, Kaulagarh Road Dehradun, 248195, India	Processing & interpretation of geophysical data for oil exploration activities of ONGC.
Keshav Dev Majvi Institute Of Petroleum Exploration (KDMIPE)	Dr. Harilal, ED-Hol	9, Kaulagarh Road Dehradun, 248195, India	Center to the geoscientific research needs of ONGC's operating regions in the field of petroleum exploration, development and alternative sources of energy.
ONGC Academy (ONGCA)	Mr. Y.K. Srivastava,	KDMIPE Campus, Kaulagarh	The Academy emphasizes inculcation of technical,

	ED-HoI	Road, Dehradun-248195, India	managerial and soft skills through quality training, qualification up gradation programmes, accreditation courses all conducted through world renowned faculties & institutes – both from in-house as well as outside.
Institute Of Engineering & Ocean Technology (IEOT)	Mr. Dinesh Kumar, ED-HoI	IEOT Building, Ongc Complex, Phase-ii, Panvel-ii, New Mumbai, Maharashtra, 410221,India	Caters to the specialised needs of offshore including corrosion, metal fatigue mitigation & offshore soil investigation. research in newer concepts for exploitation of marginal oil and gas fields, storage system & risk assessment, under water technology.
Centre for Excellence in Well Logging Technology (CEWELL)	Mr. P.P. Deo, GGM-HoI	Makarpura Road, Vadodara – 390009, India	CEWELL is an applied R&D center in the area of quality log data processing, interpretation, assimilation, and dissemination of knowledge in the well logging related discipline. It acts as the nodal point for state-of-art data center and repository of logging data acquisition in ONGC.
Gas Hydrate Research & Technology Centre (GHRTC)	Dr. A. K.Misra, GGM-HoI	Panvel, Navi Mumbai, India	This centre gives impetus to the Gas Hydrate research & technology development and contributes to GOI's plan to

			commercialize Gas Hydrates as energy resource at the earliest.
Institute of Petroleum Safety, Health and Environment Management (IPSHEM)	Mr.Atul Garg, GGM-Hol	Via Velim, Betul, South Goa 403723, India	Promotes safety, occupational health and environment practices and standards in Petroleum sector
School of Maintenance Practices (SMP)	Mr. BhoopalPrasad ,GM_Hol	Sri Saibaug Society, ONGC, Danteshwar, Vadodara, Gujarat 390009, India	Provides comprehensive technical development of Maintenance Engineers and therefore the focus of trainings are the Field Engineers who operate and maintain the Oil Field Equipment.
Institute Of Reservoir Studies (IRS)	O.N Gyani, GM- Head	ChandkhedaCampus, Ahmedabad, Gujarat, 380005, India	Research In Order To Maximise Oil Recovery & Optimise Exploitation & Formulation Of Reservoir Development Schemes, Reservoir Management, Eor Studies, Pilot Schemes, Pvt Analysis, Well Productivity Improvement, Reservoir Geophysical Studies, Consultancy Services.
Institute of Biotechnology and Geo-tectonic Studies (INBIGS)	Dr. Harendra Singh, GM-Hol	Ongc Complex, Cinnamara Jorhat Assam, 785008, India	Engaged in the innovative research of petroleum biotechnology through a talented and dedicated team of scientists.