



Role Profile

- A role profile should be a concise document.
- The organisation needs to ensure that all employees know in clear terms what they are responsible for and to whom they are accountable.
- A generic role profile is not expected to specify every minor aspect of responsibility or task, which a person carries out. Its purpose is to outline the primary reason for the job's existence, and the major tasks, decisions or responsibilities in it.

1. Role Particulars:	
Role Title: Research Technician	Region/Segment: CoE AC&P, Dalian Team
Reports to: Xuebin Liu	Location: Dalian, China
Job Level:	Travel Required (10%,25%, 50%): Yes - up to 10%
Additional Hire/Replacement (if replacement, who and what)	Relocation: n.a.
Posted to: DICP	Job Category Research & Technology Research, Development & Technology
2. Organogram:	
3. Purpose of role:	
<p>Over many years BP has developed an exceptional relationship with the Dalian Institute of Chemical Physics (DICP) and BP has an Office located in the Institute for over 7 years. This special and valuable relationship is set to grow and an expanding BP team has recently moved in to a new office and laboratory known as the Energy Innovation Laboratory (EIL) also located on the DICP campus. The objective of the EIL is for DICP and BP staff to work together to build a research capability to discover and develop exciting new thermo-catalytic technologies which have the potential to materially impact BP's global business. The role of the Reseach Technican is to carry out operational work on advance catalyst testing units in the EIL Laboratory. In particular, the role exists to operate the suite of experimental equipment located at Dalian to achieve maximum value from the experimental programmes. In addition to laboratory operations, the incumbent is required to maintain (hardware and software) highly advanced experimental, analytical and characterization equipment</p>	
4. Key Results/ Accountabilities expected from role (not more than 8)	
<p>1. Carry out experimental work using the high throughput equipment in the EIL, i.e. YashenTech rig, Strata rig and three Meryer rigs. In charge of rigs' daily operation and maintenance, focusing on lab preparation (gas station, gas detectors, cooling machine, vacuum system, on-line MicroGCs and off-line GC, QMS etc.), inert fillers and catalyst samples preparation and loading, feed (gas/liquid) distribution confirmation, reaction control, product samples collection & analysis and data processing, post-experiment work (catalyst collection, reactor cleaning etc.).</p> <p>2. Compile work flow programmes with PCS (Process Control System) to realize fully automated and high efficient rig operation. Post-process experimental data with DMS (Data Management System) based on established data analysis methods. Prepare rig daily record and preliminary experimental reports. Familiarity with the usage of Lab-view software is preferred.</p> <p>3. Carry out catalyst synthesis and catalyst characterization. Commission and operate new lab equipment in the EIL. Operate and maintain lab routine equipment, e.g. muffle furnace, pellet machine, rotary evaporator, centrifuge, water bath, ultrasonic cleaner, DI water system, PH meter and conduct meter, analytical balance etc. Operation and routine maintenance of GC, QMS, HPLC, GC-MS, NPD, Chemisorption and Liquid pumps.</p>	
5. Key challenges faced on the role (In relation to section 4 above)	



There are two sets of high throughput equipment in BP Dalian, i.e. YashenTech (16 reactor system) and Strata (4 reactor system). Although they are equipped with highly automatic control systems, their operation, maintenance and trouble-shooting are significantly complicated. The data quality (conformity, reliability and repeatability) strongly depends on the skills and attention to detail of the operator. Considerable modification and upgrading (including hardware and software) activities are essential and unavoidable for a research laboratory like BP Dalian, which handles various chemistries based on BP business requirements and demands from continuously emerging research programmes.

The nature of the research centre is something of an outpost, lacking the infrastructure, systems and core roles that are found in locations such as Hull and Naperville. Because of this a high degree of initiative is often required to solve problems at this location.

6. Any Other Relevant Information (Particular reference to planning (nature and impact), scope of impact (Team, BU, Segment, BP globally etc)

The Research Technician is expected to organize his/her individual time to provide operation of multiple pieces of laboratory equipment in support of CoE ACP research programmes. This includes determining timing related to beginning and ending experiments, obtaining appropriate chemicals and materials for support of the project, actual operation of the equipment, and any post-analysis dissemination of data/analysis from the completed test. Typically, the results from these experiments are used in solving problems related to research projects, which is further used to make decisions around next steps for advancing project goals. Typical planning cycles are short-term in that the Research Technician is expected to be flexible to account for the daily/weekly needs of the engineers and chemists that he/she supports. However, longer term planning is also required when the requirements of maintenance and modifications are considered. These may have flexible timings or be quite rigid based upon legal or company policy testing requirements and the experimental programmes have to be planned in along with these

7. Experience & Expertise (Typical educational qualification& experience)

A bachelor education in chemistry or chemical engineering or related majors is required for this role. In addition, one key part of this role relates to the operation and maintenance of lab equipment, high throughput equipment in particular. Therefore, at least 3 - 5 years of relevant work experience including small scale operation is required in this role. Moreover, the role should also have certain experiences in chemical research lab HSSE, set-up, operation and management and maintenance

8. Desirable criteria and qualifications

- Experience in rig automation (both hardware and software, e.g. LabView) is preferred
- Broad experience of research scale equipment design and operation up to pilot plant
- Demonstrated experience of working effectively as part of a team as well as on your own initiative.
- Languages Needed: Mandarin - Fluent; English - Preferred

9. Country / Cluster specific information

China / Group Technology / CoE for Applied Chemistry and Physics