

# UNIVERSITI TEKNOLOGI PETRONAS

## JOB DESCRIPTION

<b>POSITION TITLE</b>	<b>: Postdoctoral Fellow</b>
<b>DEPARTMENT</b>	<b>: Fundamental &amp; Applied Sciences Department</b>
<b>LOCATION</b>	<b>: Universiti Teknologi PETRONAS</b>
<b>REPORTING TO</b>	<b>: Head- Mission Oriented Research: Nanotechnology</b>
<b>SUPERVISE</b>	<b>: Postgraduates</b>

## ACCOUNTABILITY OBJECTIVES

The research involves development of nanomaterials which requires a robust understanding of the fundamental scientific principles operating at the nanoscale, including interdependent structure-property relationships. Such an understanding will enable cost-effective design, synthesis, and scale-up of materials that deliver selected properties, allowing for the focus on the requirements for specific applications as the primary drivers of the design process. The capability will accelerate nanomaterial development resulting in a large numbers of diverse products to rapidly enter markets to solve long-standing problems and stimulate economic growth. The aim of the research is to establish a library of nanomaterials and synthesis techniques for accelerated production of innovative and beneficial commercialized products in the following areas:

- ✘ Energy
- ✘ Environment
- ✘ Electronics

## JOB DIMENSION

The candidate shall possess the following qualification and criteria as follows:

- a PhD degree in applied science, chemical engineering, material engineering or electrical & electronic engineering or mechanical engineering specializing in material.
- training or work experience in semiconductor material processing, chemical processing, process design, nanomaterial processing, material characterization.
- hands-on experiences in process and device simulation software.
- strong communication skills, and ability to work independently and with an interdisciplinary team.

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### PRINCIPAL ACCOUNTABILITIES

1. To support the Mission Oriented Research head in planning, developing, organizing, implementing, directing and evaluating the operational performance
2. To plan schedule, supervise, coordinate the arrangements of the allocation of subordinates work load, schedule and activities
3. To introduce new ideas, methods and design of product according to market requirements.
4. To execute in the process of tender and contract as well as procuring and evaluating of consumable asset and consumables. (OPEX)
5. To assist in the process of purchasing of fixed asset.(CAPEX)
6. To arrange, and coordinate all public relation and image building matters related to the Center.
7. To support the HSE department in implementing the HSE MS.
8. To enforce compliance at all times with UTP laboratory Safety Policies and UTP laboratory Rules and Regulation.
9. To lodge, compile report and present to the relevant authority in the University any defects in which it may affect safety in labs and facilities.
10. To enforce safe keeping of information obtained in the course of duties performed and to refrain from disclosing information without the consent of Universiti Teknologi PETRONAS, except by court order.
11. Proactively involve in the implementation and maintenance of corporate wide quality culture process (QCP), and health, safety and environment (HSE).
12. Perform other duties as and when requested by superiors.

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### MAN – SPECIFICATIONS

#### **1. Education:**

PhD in applied science, chemical engineering, material engineering or electrical & electronic engineering or mechanical engineering (specialization in materials) with research experience in the relevant areas or knowledgeable in research methodology.

#### **2. Professional Working Experience:**

Plus point: minimum of two years and well verse in latest technology in material processing and analysis.

#### **3. Specific Skills and Knowledge:**

Any of the following qualifications will be an advantage:

- Knowledge and experience in semiconductor processing and nanomaterial processing.
- Experience in using analytical tools for characterization of materials.
- Experience in using simulation software for fabrication and evaluation of device.

Candidates who possess a strong motivation to pursue academic research are encouraged to apply. The candidate should have strong background in material processing and analysis. Advanced knowledge of process and device simulation software, good communication, interpersonal and presentation skills are required. In addition, the candidate should be a team player who is capable of working together with other researchers from different disciplines.

### **COMPETENCIES**

1. Leadership – able to lead and guide team members under his/her custodian to complete any given tasks/ assignments.
2. Supervisory skills – able to supervise subordinates.
3. Communication skills – able to communicate well at all levels and can deliver message accurately.

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4. Planning and Coordination – able to plan and coordinate sequence of work to timely and satisfactory complete any tasks/ assignments.
5. Negotiation skill – able to convince other parties to offer win-win business transaction for both parties.
6. Time Management – able to manage time to suit unexpected events/ tasks and able to prioritize works based on importance and urgency.
7. Motivation – able to stimulate and energize oneself and team members under his/her custodian when facing with difficulties in completing any assignment.
8. Report writing – able to write report/ proposal with tact, accuracy and concise without deviating from its objectives.
9. Assertive – able to exercise assertiveness without attending others.
10. Business Acumen – poses business minded and entrepreneurship thinking that enhances the University vision and mission.
11. Team Work – able to nurture and maintain team work and spirit amongst team member in completing any assignment.
12. Interpersonal relation skills – able to maintain and nurture relationship rapport with internal and external parties.

## MAJOR CHALLENGES

1. To ensure the establishment of guidelines and procedures for the Center are implemented accordingly.
2. To maintain and update knowledge on laboratory and engineering technologies.
3. To ensure proper documentation procedures.
4. To meet day-to-day requirement on office administration.

ENDORSEMENT	PREPARED BY	APPROVED BY	REVISION: 0
SIGNATURE			
NAME			
DESIGNATION			
DATE			

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