



# IAESTE India

WORK OFFER

Ref. No. IN-2016-0604-MU

---

## Employer Information

*Employer:*

MANIPAL INSTITUTE OF TECHNOLOGY

576104 MANIPAL  
KARNATAKA  
India

*Website:*

<http://www.manipal.edu>

*Location of placement:*

MANIPAL

*Number of employees:*

500

*Working hours per week:*

40

*Working hours per day:*

8

*Business or products:*

---

## Student Required

*Field of Studies:*

Chemistry, Chemical Engineering

*Study Level:*

Middle (4-6 semesters)

*Specialization:*

Material Science/ Chemistry

*Language required:*

English excellent

*Other requirements:*

---

## Work Offered

*Work description:*

The project will be based on synthesis of Nano materials like CeO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> with high surface area using Sol-Gel Technique. This technique is widely employed due to its capability in controlling the textural and surface properties of the resulting oxides. The sol-gel approach is interesting in that it is a cheap and low-temperature technique that allows for the fine control on the product's chemical composition. The sol-gel process is a wet-chemical technique that uses either a chemical solution or colloidal particles (called as sol) to produce an integrated network (gel). Metal alkoxides and metal chlorides are typical precursors. They undergo hydrolysis and polycondensation reactions to form a colloid, a system composed of nanoparticles dispersed in a solvent. The sol evolves then towards the formation of an inorganic continuous network containing a liquid phase (gel). After a drying process, the liquid phase is removed from the gel. Then, a thermal treatment (calcination) may be performed in order to favor further polycondensation and enhance mechanical properties.

*Number of weeks offered:*

12 - 16

*Within the months:*

01-JUL-2016 to 30-OCT-2016

*Or within:*

*Holidays:*

*Working environment:*

Research and Development

*Gross pay:*

6000.00 INR monthly

*Deduction to be expected:*

17%

---

## Accommodation

*Lodging will be arranged by:* IAESTE INDIA LC MANIPAL

*Estimated cost of lodging:*

0.00 INR monthly

*Estimated cost of living:*

4500.00 INR monthly

---

## Additional information

---

## Nomination information

*Deadline for nomination:* 30-MAR-2016

Please send nominations by IntraWeb

*Date:* 22-MAR-2016

*On behalf of receiving country:* Yash Dhanuka