

## CURRICULUM VITAE

NAME : Dr. Sardar ali

Current Address : Gas Processing Centre, Qatar University, P.O. Box 2713, Doha, Qatar.

Date of Birth : 16<sup>th</sup> Oct 1984

Marital Status : Single

Nationality : Pakistani

Passport : LU1797742

Mobile : +974 50194979



### **ACADEMIC QUALIFICATIONS:**

1. Doctor of Philosophy (**Chemical Engineering**), Universiti Teknologi **PETRONAS** Malaysia (September 2012).  
**PhD Research Topic:** Synthesis, characterization and performance of carbon nano-tubes (CNTs) supported bimetallic nanocatalysts in Fischer-Tropsch reaction.
2. M. Sc, Quaid-i-Azam University, Islamabad, Pakistan, 2007.
3. B. Sc, Government College University, Lahore, Pakistan, 2005.

### **EMPLOYMENT AND RESEARCH EXPERIENCE:**

1. **Graduate Assistant (August 2008- September 2012).**

Involved in laboratory demonstration and teaching Tutorial to undergraduate students in Chemical Engineering Department at Universiti Teknologi **PETRONAS** Malaysia.

## **2. Researcher (4<sup>th</sup> Feb 2013 to 4<sup>th</sup> Feb 2014)**

Allocated to Centralized Analytical Laboratory (CAL) and Catalytic Reaction Laboratory (CARE) at Universiti Teknologi **PETRONAS**, Malaysia.

- Member of the catalyst development group in the collaborative research project of PETRONAS Malaysia and Transwater TENAGA Sdn. Bhd Malaysia. The project entitled “Reforming of condensates using zeolites” (\$20 million).
  - Characterization of the feed (composition, MON & RON, total metals and total mercury).
  - Characterization of the zeolite based catalyst (XRD, XPS, TEM, and TPDRO).
  - Characterization of the products (GC/MS)
- Core member of **CO<sub>2</sub> management Mission Oriented Research (MOR)** Centre in catalyst development group for utilization of CO<sub>2</sub> into useful products.
  - Synthesis of the catalysts (Ni based) for dry reforming, characterization and catalytic performances in fixed bed micro reactor.
- Synthesis, characterization and performance of CNTs supported bimetallic (CoFe, CoMn) nanocatalysts for Fischer-Tropsch Synthesis at CARE research laboratory, UTP Malaysia.
  - Various synthetic routed of the catalysts such as impregnation, micro emulsion and strong electrostatic adsorption (SEA) method.
  - Characterization (XRD, XPS, TEM, FE-SEM, TPDRO Chemisorption system).
  - PID Microreactivity fixed bed micro reactor (Micromeritics)

## **3. Researcher (Feb 2014 to present)**

Gas Processing Centre (GPC), Qatar University, Doha, Qatar.

#### 4. Instruments used

I have been trained to use:

- ❖ Fourier transform infrared spectrophotometer (FTIR, model 8400S) with high vacuum purge system (HVPS).
- ❖ X-ray photoelectron spectroscope (XPS, Thermo-Fischer K-Alpha).
- ❖ N<sub>2</sub>-adsorption (Micromeritics, ASAP 2020).
- ❖ Universal force microscope (UFM).
- ❖ Gas-chromatograph (Agilent 6890 Hewlett Packard).
- ❖ Temperature programmed reactions (TPDRO1100 MS, CE instruments).

#### Trainings, workshops and Courses:

- Advanced training on ZetaSizer ZSN 90, Malvern, at Universiti Teknologi PETRONAS, Malaysia, 7-8<sup>th</sup> January 2014.
- Workshop and hands on training on chemisorption () analysis by GAT Scientific at Universiti Teknologi PETRONAS, Malaysia, 29-31 Oct, 2013.
- Advanced training on FTIR-HVPS (High Vacuum Purge System), at Universiti Teknologi PETRONAS, Malaysia, 25-27<sup>th</sup> April 2013.
- Short course Petrochem Knowledge Enrichment-Sampling Option, by PerkinElmer at University Technology PETRONAS, Malaysia, 11<sup>th</sup> October 2012.
- Operational training of Micromeritics Model ASAP 2020 AT Universiti Teknologi PETRONAS, Malaysia, 30-31 May 2012.
- Short course and training on electron diffraction and electron energy loss spectroscopy for TEM 10-11 May 2012.
- Short course on porous materials and training for BET Micromeritics ASAP 2020.
- Workshop on Green Technology held at University Technology PETRONAS Malaysia, March 2010.
- Advanced training on Temperature Programmed Reduction, Desorption and Oxidation (TPDRO) system (Advanced Catalyst Characterization), Thermo Scientific, 9-11<sup>th</sup> May 2009.

#### DISCTIONS:

- First Position in S.S.C. (O-Level Equiv.) Examination in 2001.
- Certificate of Academic Distinction in B.Sc (2005).
- Certificate of Academic Distinction in M.Sc. (2007).

- Got fully funded scholarship for Ph.D. in the department of chemical engineering University Technology **PETRONAS**, Malaysia.

## **PUBLICATIONS: PUBLISHED/ACCEPTED/SUBMITTED**

1. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Performance characterization of CNTs and  $\gamma\text{-Al}_2\text{O}_3$  supported cobalt catalysts in Fischer-Tropsch reaction”. *American Institute of Physics Proceedings*. 1621, 29 (2014).
2. Noor Asmawati MOHD Zabidi, **Sardar Ali** and Duvvuri Subbarao. “Effects of K and Pt promoters on the performance of cobalt catalyst supported on CNTs”. *American Institute of Physics Proceedings*. 1621, 17 (2014).
3. Noor Asmawati MOHD Zabidi, **Sardar Ali** and Duvvuri Subbarao “Effects of Pressure on the Performance of CNTs-Supported Catalyst in a Fischer-Tropsch Reaction”. *Journal of Materials Science and Engineering B* 4 (2) (2014) 28-33.
4. N.A. Mohd Zabidi, R. Pilus, S. Rahman and **Sardar Ali** “Characterization of Co-Mn catalysts synthesized via reverse microemulsion method”. In press for publication in *Advanced Materials Research*.
5. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effects of platinum promoter on monometallic and bimetallic nanocatalysts supported on carbon nanotubes”. 2<sup>nd</sup> revised manuscript under review in *Journal of Catalysis*.
6. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Performance Characterization of Promoted Fe and Co Catalysts” In press for publication in *Advanced Materials Research*.
7. **Sardar Ali**, N.A. Mohd Zabidi, M.A. Abdul Aziz, K. Ahmad, M.I. Sidik and M. A. Muin “Effects of synthesis technique on the physical properties of Co-Fe nanoparticles on CNTs support”. *Malaysian Journal of Microscopy*. 9, 35-39 (2013).
8. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effect of potassium promoter on cobalt nano-catalysts for Fischer-Tropsch reaction”. *American Institute of Physics Proceedings*. 1482, 639(2012).

9. Noor Asmawati Mohd Zabidi, Muhammad Nur Azizi Abdul Aziz, Sardar Ali and Mohd Faisal Taha “Synthesis and characterization of Fe-Co catalyst prepared via reverse microemulsion method”. *American Institute of Physics Proceedings*. 1482, 590 (2012).
10. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Synthesis and characterization of  $\gamma$ -alumina-supported cobalt and iron nanocatalysts” *Advanced Materials Research*. 545(2012)129-136.
11. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Synthesis and characterization of Fe/Co Nanocatalyst for Fischer-Tropsch reaction” *Journal of Nano Research*. 16(2012) 9-14.
12. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effect of niobium promoter on iron-based catalyst for Fischer-Tropsch reaction” *Journal of Fuel Chemistry and Technology*. 40 (2012) 48-53.
13. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Development of CNTs supported modified nanocatalyst for Fischer-Tropsch reaction” *Journal of Natural Gas Chemistry*. 20(2011)659–663.
14. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Correlation between Fischer-Tropsch catalytic activity and composition of catalysts”. *Chemistry Central Journal*. 2011(5) 68.
15. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effect of Loading on the Physicochemical Properties of Alumina Supported Co/Mo Bimetallic Nanocatalysts” *Journal of Applied Sciences*, 11(8) 1421-1425.
16. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Synthesis and Characterization of bimetallic Co/Mo Nanocatalysts” *Journal of Materials Science and Engineering A*. 1 (2011) 390-397.
17. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Synthesis and Characterization of Cobalt bimetallic Nanocatalysts: Effect of loading”, *Journal of Industrial Technology*. (Accepted).
18. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effect of manganese on Cobalt-based Fischer-Tropsch catalyst”, *Catalysis Today*. (Accepted).

## International Conferences Papers

19. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effect of K and Pt Promoters on the Performance of Co/CNTs Nanocatalyst”. To be presented at 3<sup>rd</sup> International Conference on Fundamental and Applied Sciences (ICFAS, 2014), 3<sup>rd</sup> -5<sup>th</sup> June 2014, Kuala Lumpur, Malaysia.
20. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Performance Characterization of CNTs and  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> Supported Cobalt catalysts in Fischer-Tropsch Reaction”. To be presented at 3<sup>rd</sup> International Conference on Fundamental and Applied Sciences (ICFAS, 2014), 3<sup>rd</sup> -5<sup>th</sup> June 2014, Kuala Lumpur, Malaysia.
21. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Performance Characterization of Promoted Fe and Co Catalysts”. Presented at International Conference on the Advancement of Materials and Nanotechnology 2013 (ICAMN III 2013) – Next Generation of Sustainable Materials, 19-22<sup>nd</sup> November 2013, Penang, Malaysia.
22. N.A. Mohd Zabidi, R. Pilus, S. Rahman and **S. Ali** “Characterization of Co-Mn catalysts synthesized via reverse microemulsion method”. Presented at 1<sup>st</sup> International Conference on the Science and Engineering of Materials (ICOSEM)”. 13-14<sup>th</sup> November, Kuala Lumpur, Malaysia.
23. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effects of platinum promoter on monometallic and bimetallic nanocatalysts supported on carbon nanotubes”. Presented at 8th International Conference on Surface, coatings, & Nanostructured Materials (NANOSMAT), 22-25<sup>th</sup> September 2013, **Granada, Spain**.
24. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Synthesis and characterization of Co/Mo nanocatalysts on MWCNTs for Fischer-Tropsch Synthesis”. Presented at Join international conference on nanoscience, engineering and management (BOND 21), 19-22<sup>nd</sup> September Penang, Malaysia.

25. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Synthesis and Characterization of Co based Nanocatalysts: Effect of Support’ to be Presented in 2nd International Conference on Nanotechnology: Fundamentals and Applications. July, 2011, **Ottawa, Ontario, Canada.**
26. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effect of Mn into Co-based catalysts for Fischer-Tropsch Synthesis” to be presented in SynFuel 2012” June 29-30<sup>th</sup>, **Munich, Germany.**
27. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Development of Potassium Promoted Cobalt Nano-catalysts on Carbon Nano-tubes for Fischer-Tropsch Reaction” to be Presented at International Conference on Fundamental and Applied Science, June 2012, Convention Centre, Kuala Lumpur , Malaysia.
28. Noor Asmawati MOHD Zabidi, **Sardar Ali**, and Faisal Taha “Effect of preparation method on Co-Fe catalysts supported on CNTs for Fischer-Tropsch Synthesis” to be Presented at International Conference on Fundamental and Applied Science, June 2012, Convention Centre, Kuala Lumpur , Malaysia.
29. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “ CNTs Supported Co/Fe Bimetallic Nanocatalysts for Fischer-Tropsch Reaction’ presented at 7th International Conference of Diffusion in Solids and Liquids (DSL-2011)’ **Algarve, Portugal.**
30. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Effect of Loading on the Physicochemical Properties of Alumina Supported Co/Mo Bimetallic Nanocatalysts’ Presented at International Conference on Fundamental and Applied Science, June 2010, Convention Centre, Kuala Lumpur , **Malaysia.**
31. Subbarao Duvvuri, Noor Asmawati MOHD Zabidi, **Sardar Ali**, Anita Kumari and Leena “ Entrainment-Sedimentation Model for Axial Solid Concentration Profiles in a Slurry bubble Column” presented at Multiphase Reaction Engineering (Annual Meeting, 2009), **USA.**
32. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao “Synthesis and characterization of alumina supported Co and Fe nanocatalysts’ presented at International

Conference on Advanced Materials and Nanotechnology (ICAMN 2010)' December 2010, Prince hotel, Kuala Lumpur, Malaysia.

33. **Sardar Ali**, Noor Asmawati MOHD Zabidi and Duvvuri Subbarao "Synthesis and Characterization of Cobalt bimetallic Nanocatalysts: Effect of loading' presented at International Conference on Nanotechnology: Research and Commercialization (December 2009), Langkawi, Malaysia.

#### **Poster Presentations:**

- Poster Presentation at Asia Nano Camp (ANC) 2010, held in University of Malaya, 11<sup>th</sup> Oct 2010.
- Poster Presentation at Engineering Design Exhibition held at University Technology PETRONAS, 25-26 Oct 2010.

#### **Teaching interests:**

My teaching interests are as follows

- Reaction engineering.
- Natural gas processing and utilization.
- Heterogeneous catalysis
- Analytical characterization of materials