

# Dr. Abrar Inayat

<b>Qualifications</b>	PhD Chemical Engineering (Renewable Energy/Biomass Energy Systems) MS Energy Engineering (Sustainable Energy Systems) BSc Chemical Engineering (Process Systems Engineering)
<b>Experience to Date</b>	15 Years <ul style="list-style-type: none"><li>• Teaching &amp; Research: 12</li><li>• Industry: 03</li></ul>
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## 1. Academics

**Doctorate of Philosophy in Engineering (PhD Eng)** (2009-2012)

(Chemical Engineering)

Universiti Teknologi PETRONAS, Tronoh, Malaysia

**Master in Energy Engineering (M Eng)** (2004-2006)

(Master with Focus on Sustainable Energy Systems)

Mälardalens University, Västerås, Sweden

**Bachelor of Science in Engineering (BSc Eng)** (1998-2002)

(Chemical Engineering)

University of the Punjab, Lahore, Pakistan

## 2. Academics/ Research Experience

- (i) **2015 to date:** As *Assistant Professor* in Department of Sustainable & Renewable Energy Engineering, University of Sharjah, Sharjah, United Arab Emirates
- (ii) **2014 to 2015:** As *Senior Lecturer* in Chemical Engineering Department, Universiti Teknologi PETRONAS, Tronoh, Malaysia
- (iii) **2013 to 2014:** As *Lecturer* in Chemical Engineering Department, Universiti Teknologi PETRONAS, Tronoh, Malaysia
- (iv) **2008 to 2012 (2009-2012 on Study Leave):** As *Assistant Professor* in Department of Chemical Engineering, COMSATS University Islamabad (CUI), Lahore Campus, Pakistan
- (v) **2009 to 2012:** As *Research Officer* in Biohydrogen Research Cluster (Green Technology Mission Oriented Research), Department of Chemical Engineering, University Teknologi PETRONAS (UTP), Malaysia
- (vi) **2007 to 2008:** As *Lecturer* in Department of Chemical Engineering, COMSATS University Islamabad (CUI), Lahore Campus, Pakistan

### Professional Roles in Academics & Research

#### • Courses Taught

- Heat Transfer
- Statics and Dynamics
- Biomass Energy Systems
- Intro. to Energy Science & Technology
- Energy Storage
- Fluid Mechanics
- Process Plant Design

- Health, Safety and Environment
  - Introduction to Materials Science and Engineering
  - Chemical Engineering Plant Design
  - Chemical Engineering Transfer Operations
  - Fuel and Combustion
  - Process Control
  - Heat Integration
  - Process Heat Transfer
  - Process Instrumentation
- **Key Responsibilities (Management and Leadership)**
    - Coordinator of Biomass and Bioenergy Research Group
    - Leader of Sustainability Circle- Sustainable Studies
    - In-charge ABET Program's Home Room
    - Coordinator of Seminar Organizing Committee
    - Coordinator Community Service of SREE Department
    - Department Course Schedule Coordinator
    - Chair for the Committee of Department Engineering Innovation and Entrepreneurship
    - Department Annual Report Coordinator
    - Research Celebration Events Coordinator
    - Head of the Departmental Specialty Group "Mechanics"
    - Senior Design Project Coordinator
    - Departmental Coordinator for Final Year Projects (UTP)
    - Industrial liaison officer (CUI)
    - In-charge Departmental Seminar Organizing Committee (CUI)
    - Convener Comsats Society for Sustainability (CUI)
    - Event management coordinator (CUI)
  - **Key Responsibilities (Team Work)**
    - Member of research center "Renewable Energy Technologies Research Center"
    - Member of Community Service, Outreach and Communication Committee
    - Member of ABET accreditation of SREE program
    - Member of student activities & welfare committee
    - Member research and graduate studies committee
    - Member of MOHESR accreditation of SREE program
    - Member Departmental Teaching and Learning Committee
    - Member Ad-hoc College Committee for New Undergraduate Program of BSc in Chemical and Desalination Engineering
    - Member of Committee for the Preparation of Department Annual Report
    - Member Departmental CAA Accreditation Committee
    - Member of Ad-Hoc Committee for Lab Engineer Positions
    - Member Departmental Graduate Program Development Committee
    - Member Departmental Strategic Planning Committee
    - Member University Waste Management Sustainability Circle
    - Member University Climate Change Sustainability Circle

- Member PhD Accreditation Committee
- Member MSc Accreditation Committee
- Member of College Engineering Innovation and Entrepreneurship Committee
- Member of the Departmental Specialty Group “Thermal Energy”
- Member of Ad-Hoc committee for new program “Food Process Engineering”
- Member of University Center of Continuing Education and Professional Development Council
- Member of “College of Engineering Research Week” committee
- Member of University 2020 UI Green Matric World University Ranking Application Committee
- Member of Sustainability Tracking, Assessment and Rating Systems (STARS) Committee
- Member of College Senior Design Project Committee
- Member of process system engineering cluster (UTP)
- Member of task force for the MSc Process System Engineering program (UTP)
- Course analysis via outcome based education (OBE) system (UTP)
- Core member of mission oriented research (MOR) Green Technology (UTP)
- Evaluation of students industrial training reports and projects (UTP)
- Examiner for the postgraduate students symposium (UTP)
- Reviewer for the conference papers submitted by UTP staff and students (UTP)
- Judge of engineering design exhibitions (UTP)
- Examiner for the plant design projects (UTP)
- Auditor for the final examination papers (UTP)
- Mentor in the mentor mentee program (UTP)
- Examiner for the research completion seminar (PhD students) (UTP)
- Associate member of center for biofuels and biochemical research (CBBR) (UTP)
- Assists with planning, development and execution for project meetings, workshops, programs and other events (UTP)
- Member for chemical transfer operations laboratory establishment team(CUI)
- Member biomass conversion research center (CUI)
- Member departmental Financial Assistance Committee and Disciplinary Committee (CUI)

### 3. Industrial Experience

- (i) **2007:** As *Assistant Manager* in Utility Process Department, Dewan Salman Fibre Ltd. (DSF), Hattar Industrial Estate, Haripur-Pakistan
- (ii) **2002 to 2004:** As *Assistant Engineer* in Utility Process Department, Dewan Salman Fibre Ltd. (DSF), Hattar Industrial Estate, Haripur-Pakistan

#### Professional Role in Industry

- **Key Responsibilities**
  - Supervised production & process control section (DSF)
  - Study & analyze the daily process data and daily report submission (DSF)
  - Study, suggest and implement changes for process & production improvement (DSF)
  - To ensure safety and health of staff (DSF)
  - Training of junior officers and staff (DSF)

- Communication & co-ordination with local and international delegates and contractors/vendors (DSF)
- Participated in the hiring process of the staff (DSF)
- Supervised the whole utility process equipment. (Chillers, Compressors, Boilers, Cooling Towers, Air Handling Units) (DSF)
- Co-ordinates at nitrogen production unit & water treatment section (DSF)

## 4. Supervision

- **Supervised Undergraduate Final Year Research & Design Projects**

- Heat Energy Recovery via Heat Integration in Cost Iron Industry
- Biomass Pyrolysis using Hybrid Energy systems
- Preparation of Silica Aerogel for application in solar cells and fuel cells.
- Biodiesel Production from Waste Vegetable Oil via Capillary Micro -reactors Technique using Nanomaterials as Catalyst
- Converting Waste to Hydrogen using Microwave Plasma Technology
- Sustainable Irrigation System Via Biomass Anaerobic Digestion Process
- Slow Pyrolysis system to produce Activated Carbon from Coffee waste used for Medical Application
- Design of Integrated CRS for HP Steam Production Using Solar and Biomass
- Energy Efficient Biomass Combustion System using Municipal Solid Waste as feedstock
- Design of Pyrolysis Process for Bio-Oil Production from Coffee Waste
- Biodiesel Production from Neem Oil using KOH with Activated Carbon as Catalyst
- Biomass Gasification Technology for Irrigation Pumping
- Design of Hybrid Central Receiver Systems (CRS) for Electricity Generation using Solar and Biomass
- Biodiesel Production from Waste Cooking Oil via Micro reactors
- Hydrogen Production From Waste Via Integration Of Anaerobic Digestion And Catalytic Dry Reforming
- Syngas Production from Municipal Solid Waste via Plasma Gasification
- Biodiesel Production from Date Seeds via Microwave Assisted Technique Farm house
- Design of Self-Sustained Vegetable farm house using integrated power production and water cooling system via Solar and Wind Energy
- Generation of Electricity using speed breakers
- Design of a Solar Assisted Reactor for the Pyrolysis of HDPE to Fuel and Petrochemicals
- Design of Direct Methanol Fuel Cell
- Plant Design Project for the Production of Ethylene
- Simulation for Hydrogen Production from Palm Waste via Supercritical Gasification using Concentrated Solar Energy
- Simulation and Parametric Study for the Hydrothermal Gasification of Palm Waste
- Parametric Study to Investigate the Coal Bottom Ash as CO<sub>2</sub> Sorbent
- Plant Design Project for the Production of Propylene Glycol
- Simulation of District Cooling System using Solar Cooling with Water-Ammonia Absorption Chillers

- Determination of Kinetics Parameters for the Reactions Involved in Biodiesel Production via Optimization Approach
  - Design of Formaldehyde Production Plant
  - Model Development of Tar Cracking for Biomass Steam Gasification for Hydrogen Production
  - Development of Reaction Kinetics Model for the Production of Syngas from using CO<sub>2</sub> (Dry Methane Reforming)
  - Development of the Reaction Kinetics Modelling for the Production of Biodiesel from Palm Oil
  - Parametric study for the Production of Di Methyl Ether (DME) as a Fuel from Palm Wastes using iCON Process Simulator
  - Simulation of Synthetic Natural Gas (SNG) Production through Catalytic Gasification of Biomass
  - Superstructure Optimization for Hydrogen Production from Air-Steam Gasification
  - Gasification Model of Hydrogen Production from EFB using ASPEN HYSIS
  - Heat Integration Study on Biomass Gasification Plant for Hydrogen Production
  - Simulation of Integrated Pressurized Steam Gasification of Biomass for Hydrogen Production using iCON
  - Superstructure Optimization for Hydrogen Production from Biomass Pyrolysis
- **Supervision of Post Graduate Students**
    - Co-Supervisor - Hessa Alhaddad (MSc)-“Assessment of Regulatory Reforms to Enhance the Viability of Waste to Energy Systems”. (In Progress)
    - Co-Supervisor - Mr Muhammad Ammar (MSc) – “Development of Systematic Algorithm for the Production of Synthetic Natural Gas for Vehicles (SNGV)”. [Successfully Defended PhD Viva on 20 Jun 2018]
    - Co-Supervisor - Mr Muhammad Shahbaz (PhD) – “Modelling and Experimental Study for In-Situ Catalytic Biomass Gasification for Syngas Production by Utilization of Coal Bottom Ash”. [Successfully Defended PhD Viva on 28 Aug 2018]

## 5. Research Interest

- Renewable and Sustainable Energy Systems
- Biomass and Bioenergy
- Waste to Energy
- Process System Engineering
- Heat Integration
- Modelling, Simulation and Optimization
- Biofuels and Hydrogen Production
- Environmental Science & Engineering
- Solar Thermal Energy
- Energy Management
- Hybrid Energy Systems
- CO<sub>2</sub> Capture and Utilization

## 6. Awards

1. **Distinguished Faculty Award - Scientific Research** (2019-2020) University of Sharjah, United Arab Emirates
2. **2nd Award** in Youth Sustainability Competition at 1<sup>st</sup> International Forum on Sustainable Development and Sustainable Innovations, as supervisor of senior design project, 10 Feb 2021. University of Sharjah and Bee'ah, United Arab Emirates
3. **First Place in UAE 2020 UI Green Metric World Ranking** (2020) as Leader for Sustainability Circle- Sustainable Studies. University of Sharjah, United Arab Emirates
4. **Appreciation Certificate** as outstanding faculty member in the department from SREE Club for the online teaching during the Covid-19 pandemic period.
5. **2<sup>nd</sup> Position** in 2<sup>nd</sup> Engineering Undergraduate Design Projects Exhibition 2019 (EUDPE 2019) as Supervisor of senior design project, 09 May 2019, University of Sharjah, United Arab Emirates
6. **2<sup>nd</sup> Position** in 1<sup>st</sup> Engineering Undergraduate Design Projects Exhibition 2018 (EUDPE 2018) as Supervisor of senior design project, 09 May 2018, University of Sharjah, United Arab Emirates
7. **Appreciation Certificate** for serving as Judge. *SREE Renewable Energy Challenge*, 08 May 2018, University of Sharjah, United Arab Emirates
8. **Appreciation Certificate** for serving as Judge. *UAE Undergraduate Research Competition*, 08 May 2017, Abu Dhabi, United Arab Emirates
9. **Best Researcher of the University Award**. *12<sup>th</sup> Convocation Ceremony, 21 October 2012, University Teknologi PETRONAS, Perak, Malaysia.*
10. **Gold Medal**. *23rd International Invention, Innovation and Technology Exhibition (23rd ITEX 2012)*, 17-19 May 2012, Kuala Lumpur, Malaysia. "Integrated Catalytic Adsorption (ICA) Steam Gasification for Biohydrogen Production from Biomass"
11. **Silver Medal**. *12th Invention & Innovation Awards 2012, Malaysian Technology Expo (MTE)*, 16-18 February 2012, Kuala Lumpur, Malaysia. "Integrated Catalytic Adsorption (ICA) Steam Gasification for Biohydrogen Production from Biomass"
12. **Gold Medal**. *The Belgian and International Trade Fair for Technological Innovation (60<sup>th</sup> INNOVA 2011)*, 19 November 2011, Brussels, Belgium. "Integrated Catalytic Adsorption (ICA) Steam Gasification for Biohydrogen Production from Biomass"
13. **Special Sustainable Development Award**. *The Belgian and International Trade Fair for Technological Innovation (60th INNOVA 2011)*, 19 November 2011, Brussels, Belgium. "Integrated Catalytic Adsorption (ICA) Steam Gasification for Biohydrogen Production from Biomass"

14. **Silver Medal.** *The Belgian and International Trade Fair for Technological Innovation (60<sup>th</sup> INNOVA 2011)*, 19 November 2011, Brussels, Belgium. “Bio-Gasoline from Agricultural Waste via Catalytic Conversion Process(BIOGAX)”
15. **Gold Medal.** *Geneva Inventions, Salon International Des Inventions*, 8 April 2011, Genève, Switzerland. “Fuel bio provenant de dechets de l’agriculture via un processus de conversion catalytique”
16. **Saudi Arabia Mawhiba Award** (An award from King Abdul Aziz). *Geneva Inventions, Salon International Des Inventions*, 8 April 2011, Genève, Switzerland. “Creativity for the effort in managing waste and converting waste to wealth”
17. **Gold Medal.** *10th Invention & Innovation Awards 2011, 10th Malaysian Technology Expo (MTE), 17-19 February 2011, Kula Lumpur, Malaysia*, “Bio-Gasoline from Malaysian Agricultural Waste via Catalytic Conversion Process (BIOGAX)”
18. **Bronze Medal.** *Engineering Design Exhibition (EDX-26), 25-26 October 2010, University Teknologi PETRONAS, Perak, Malaysia*. “Feasibility Study of H<sub>2</sub> Production from Empty Fruit Bunch (EFB) Gasification via Modeling and Simulation Approach”
19. **Silver Medal.** *Engineering Design Exhibition (EDX-25), 21-22 April 2010, University Teknologi PETRONAS, Perak, Malaysia*. “Kinetics Modeling for Enriched Hydrogen Gas Production through Steam Gasification of Biomass”
20. **PhD Research Scholarship**, *University Teknologi PETRONAS, Perak, Malaysia*

## 7. Research Funds (Awarded)

1. **Abrar Inayat**, Chaouki Ghenai, Abdullah Shanableh. “Development and Simulation of Integrated System for the Hydrogen Production from Waste via Anaerobic Digestion, Dry Reforming and Steam Gasification”. [Amount Secured: 48,000 AED] Competitive Project, University of Sharjah, United Arab Emirates
2. **Abrar Inayat** (Coordinator), Abdullah Shanableh, Chaouki Ghenai, Mohammad Abdallah. “Biomass and Bioenergy Research Group”. [Amount Secured: 135,000 AED] Research Group Grant, University of Sharjah, United Arab Emirates
3. Chaouki Ghenai, **Abrar Inayat**, Tareq Salameh. “Plasma Gasification of Municipal Solid waste”. [Amount Secured: 200,000 AED] Targeted Research Grant, University of Sharjah, United Arab Emirates
4. Mohammad A Abdelkareem, Anis Allagui, Di Zhang, **Abrar Inayat**, Hussain Alawadhi. “Development of Photo-electrochemical Fuel cells for Simultaneous Wastewater Treatment and Power Generation”. [Amount Secured: 80,000 AED] Competitive Project, University of Sharjah, United Arab Emirates



5. Chaouki Ghenai, Ali Al-Keblawy, **Abrar Inayat**. “Renewable and Alternative Fuels (Biodiesel and Biogas) from UAE Plants”. [Amount Secured: 400,000 AED] Collaborative Project, University of Sharjah and Sharjah Research Academy
6. Tareq Salameh, Chaouki Ghenai, Ahmed Hachicha, **Abrar Inayat**, and Shek Atiqure Rahman. "Thermo hydraulic performance of heat transfer process provided with roughened surface and construction materials for renewable energy applications". Competitive Research Project [Amount Secured: 80,000 AED]: University of Sharjah, United Arab Emirates
7. Muhammad Zubair, **Abrar Inayat**, Muhammed Hashim. “Reliability Evaluation of Reactor Protection System (RPS) Considering Different Failure Modes”. [Amount Secured: 71,000 AED] Competitive Project, University of Sharjah, United Arab Emirates
8. **Abrar Inayat**, Chaouki Ghenai, Mohammad Ali Abdelkareem, Tareq S Z Salameh, Muhammad Zubair. “Development of Systematic Algorithm for the Production of Synthetic Natural Gas for Vehicles (SNGV) from Biomass”. [Amount Secured: 64,000 AED] Competitive Project, University of Sharjah, United Arab Emirates
9. **Abrar Inayat**, Chaouki Ghenai, Tareq S Z Salameh. “Energy efficient and cost effective hydrogen production process development form date pits via steam gasification”. [Amount Secured: 40,000 AED] SEED Project, University of Sharjah, United Arab Emirates
10. **Abrar Inayat**, Suzana Yusup, M I Abdul Mutalib. “Heat Integration and Optimization for the Development of Energy Efficient Bio-Hydrogen Production Process from Palm Waste”. [Amount Secured: 22,700 RM] Short Term Internal Research Fund (STIRF), Universiti Teknologi PETRONAS, Malaysia
11. Muhammad Ayoub, **Abrar Inayat**. “Biodiesel-derived glycerol conversion to valuable polglycerol via solvent free etherification over inexpensive and environmental friendly Aluminum pillared clay”. [Amount Secured: 25,000 RM] Short Term Internal Research Fund (STIRF), Universiti Teknologi PETRONAS, Malaysia
12. Lemma D Tufa, Suzana Yusup, Yoshimitsu Uemura, Haslinda B Zabiri, **Abrar Inayat**. “Dynamic Model and Dynamic Behavior of Fluidized Bed Biomass Gasification System”. [Amount Secured: 75,200 RM] Fundamental Research Grant Scheme (FRGS), Ministry of Education, Malaysia
13. Suzana Yusup, Murni M Ahmad, Anita B Ramli, Ku Z K Shaari, **Abrar Inayat**, Mas Fatiha, Sharifah Shahidah, Taufif M Arfin, Zakir Khan, Athirah M Tamidi, Siti B Eda. “Development of integrated biomass catalytic gasification systems for sustainable hydrogen production”. [Amount Secured: 20 Million RM] Petronas Research Fund (PRF), PETRONAS Sdn Bhd, Malaysia

## 8. Reports and Thesis

### (i) Reports

1. Murni M Ahmad, Zakir Khan, **Abrar Inayat**, Siti A M Saman, Azwan F Z Abidin, Noor A Zaina and Tigabwa Yosef. “Commissioning and performance testing of the developed gasification system”.

2. Murni M Ahmad, Ku Z K Shaari, Athirah M Tamidi and **Abrar Inayat**. “Process modelling, simulation, optimization and integration for integrated catalytic biomass gasification systems and validation”.
3. Mohd K Yunus and **Abrar Inayat**. “Preliminary economic analysis of catalytic steam gasification of empty fruit bunch for hydrogen production”.
4. Callistus Ezeani, Ekun Ferdin, **Abrar Inayat** and Njah M Ezewudo. “Project report on feasibility of water pumping applications using photovoltaic solar cells”.
5. **Abrar Inayat**, Michel John, Roman Pietropaolo and Adam Peters. “Project design of heat pump using outdoor heat as air source”.
6. **Abrar Inayat**, Ekun Ferdin and Callistus Ezeani. “Project report on sustainability of dimethyl ether as fuel in Volvo trucks”.
7. Ekun Ferdin, **Abrar Inayat**, Callistus Ezeani, and Njah M Ezewudo “Project report on feasibility fuel cell power stations in Västerås”.
8. **Abrar Inayat**, Kamran Akhter, Naveed Izhar and Yasser Ahmad. “Process design on the manufacturing of medicated soaps”.

**(ii) Thesis Tittles**

*Doctorate of Philosophy in Engineering (PhD Eng)* “Systematic design algorithm for energy efficient hydrogen production from palm waste”

*Master in Engineering (MS Eng)* “Designing of district cooling system using deep cooling water as a source”

*Bachelor of Science in Engineering (BSc Eng)* “Plant design on the production of ammonia from synthesis gas”

## **9. Patents and Copy Rights**

1. **[Patent No: MY-157067-A]** Suzana Yusup, Murni M. Ahmad, Chok V Soon, **Abrar Inayat**, Zakir Khan, Mohamad T Arpin. “Integrated Catalytic Adsorption (*ICA*) Biomass Steam Gasification Systems for Hydrogen Production”
2. **[Copy Right]** **Abrar Inayat**, Suzana Yusup, Murni M. Ahmad, M I Abdul Mutalib. “Systematic Design Algorithm for Energy Efficient Hydrogen Production from Palm Waste” (Under Filling)
3. Senior Design Project “Biomass Gasification Technology for Irrigation Pumping” received **Intellectual Property Certificate** from the ministry of Economics (MOE) in the UAE

## 10. Research Statistics

Type of Publication	Number	Remarks
Journal Papers	98	Total publications in Q1 Journals = <b>59</b>
Conference Papers	62	Total Journals Impact Factor = <b>421</b>
Books & Book Chapters	5	
<b>Total</b>	<b>165</b>	

## 11. Journals Publications

- Hegazy Rezk, **Abrar Inayat**, Mohammad A. Abdelkareem, Abdul G Olabi, Ahmed M. Nassef. (2021). "Optimal Operating Parameter Determination Based on Fuzzy Logic Modeling and Marine Predators Algorithm Approaches to Improve the Methane Production via Biomass Gasification". *Energy*, Accepted and In Press  
\*Indexing: ISI Web of Science [Impact Factor=7.147], Scopus, Q1
- S Y A Siddiki, M Mofijur, S F Ahmed, **Abrar Inayat**, F Kusumo, P S Kumar, I A Badruddin, T M Yunus Khan, L D Nghiem, T M I Mahlia. (2022), "Microalgae biomass as a sustainable source for biofuel, chemical and biobased products: An integrated biorefinery concept". *Fuel*, Vol. 307, pp 121782  
\*Indexing: Web of Science, [Impact Factor=6.609], Scopus, Q1
- S F Ahmed, M Mofijur, Tahlil A Parisa, Nafisa Islam, F Kusumo, **Abrar Inayat**, Van G Le, I A Badruddin, T M Y Khan, Hwai C Ong. (2022), "Progress and challenges of contaminate removal from wastewater using microalgae biomass". *Chemosphere*, Vol. 286, pp. 131656  
\*Indexing: ISI Web of Science [Impact Factor=7.110], Scopus, Q1
- Shams F Ahmed, Nazifa Rafa, Md Mofijur, Irfan A Badruddin, **Abrar Inayat**, Md S Ali, Omar Farrok, T M Yunus Khan. (2021), "Biohydrogen production from biomass sources: Metabolic pathways and economic analysis". *Frontiers in Energy Research*, Vol. 9, pp. 753878  
\*Indexing: Web of Science, [Impact Factor=4.002], Scopus, Q1
- Abrar Inayat**, Farrukh Jamil, Chaouki Ghenai, Mohammed Kamil, Awais Bokhari, Ammara Waris, Sikander Rafiq, Shahzad Khurram. (2021), "Biodiesel Synthesis from Neem Oil using Neem Seeds Residue as Sustainable Catalyst Support". *Biomass Conversion and Biorefinery*, DOI: <https://doi.org/10.1007/s13399-021-01807-0>  
\*Indexing: Web of Science, [Impact Factor=4.987], Scopus, Q1
- Bashria A A Yousef, Ahmed Hachicha, Ivette Rodriguez, Mohammad A Abdelkareem, **Abrar Inayat**. (2021), "Perspective on integration of concentrated solar power plants". *International Journal of Low-Carbon Technologies*. DOI: <https://doi.org/10.1093/ijlct/ctab034>  
\*Indexing: Web of Science, [Impact Factor=2.455], Scopus, Q1

7. Muddasser Inayat, Shaharin A Sulaiman, **Abrar Inayat**, Shaik N Basha, Abdul R Gilal, Shahbaz Muhammad. (2021), "Modeling and parametric optimization of air catalytic cogasification of wood-oil palm fronds blend for clean syngas (H<sub>2</sub>+CO) production". *International Journal of Hydrogen Energy*, Vol. 46, pp. 30559-30580  
\*Indexing: *Web of Science [Impact Factor=5.816], Scopus, Q1*
8. Ahmed I Osman, Umair Qasim, Farrukh Jamil, Ala'a H Al-Muhtaseb, Ahmad Abu Jrai, Mohammed Al-Riyami, Suhaib Al-Maawali, Lamya Al-Haj, Amer Al-Hinai, Mohammed Al-Abri, **Abrar Inayat**, Ammara Waris, Charlie Farrell, M I A Abdel Maksoud, David W Rooney. (2021). "Bioethanol and Biodiesel: Bibliometric Mapping, Policies and Future needs". *Renewable and Sustainable Energy Reviews*, Vol. 152, pp. 111677  
\*Indexing: *ISI Web of Science [Impact Factor=14.982], Scopus, Q1*
9. **Abrar Inayat**, Muhammad Shahbaz, Zakir Khan, Muddasser Inayat, Md Mofijur, Shams F. Ahmed, Chaouki Ghenai, Anis A. Ahmad. (2021), "Heat Integration Modeling of Hydrogen Production from Date Seeds via Steam Gasification". *International Journal of Hydrogen Energy*, Vol. 46, pp. 30592-30605  
\*Indexing: *Web of Science [Impact Factor=5.816], Scopus, Q1*
10. Muhammad B Tahir, Ghulam Nabi, M Sagir, M Rafique, Hussein Alrobei, Tasmia Nawaz, **Abrar Inayat**, Sajjad Hussain, Gul Naz, Khalid Iqbal, Muhammad S Tahir. (2021). "Role of CTF in Bi<sub>2</sub>WO<sub>6</sub>/ZnO photocatalysts for effective degradation and hydrogen energy evolution". *International Journal of Hydrogen Energy*, Vol. 46, pp. 30606-30614  
\*Indexing: *Web of Science [Impact Factor=5.816], Scopus, Q1*
11. Ahmad Mukhtar, Sidra Saqib, Muhammad Mubashir, Sami Ullah, **Abrar Inayat**, Abid Mahmood, Muhammad Ibrahim, Pau L Show. Mitigation of CO<sub>2</sub> Emissions by Transforming to Biofuels: Optimization of Biofuels Production Processes. *Renewable and Sustainable Energy Reviews*, Vol. 150, pp. 111487  
\*Indexing: *ISI Web of Science [Impact Factor=14.982], Scopus, Q1*
12. Chaouki Ghenai, Amira Nemmour, **Abrar Inayat**. (2021), "Parametric Study and Optimization of Bio-Hydrogen Production using Steam Reforming of Glycerol and Biodiesel Fuel Mixtures". *Biomass Conversion and Biorefinery*, DOI: <https://doi.org/10.1007/s13399-020-01230-x>  
\*Indexing: *Web of Science, [Impact Factor=4.987], Scopus, Q1*
13. Abdallah Shanableh, Mohamed Abdallah, Adel Tayara, Chaouki Ghenai, Mohammed Kamil, **Abrar Inayat**, Ahmad Shabib. (2021), "Experimental Characterization and Assessment of Bio- and Thermo-Chemical Energy Potential of Dromedary Manure". *Biomass and Bioenergy*. Vol. 148, pp. 106058  
\*Indexing: *Web of Science [Impact Factor=3.551], Scopus, Q1*
14. Fariha Kanwal, Ashfaq Ahmed, Farrukh Jamil, Sikander Rafiq, H M Uzair Ayub, Moinuddin Ghauri, Shahzad Khurram, Shahid Munir, **Abrar Inayat**, Muhammad S. Abu Bakar, Su S Lam, Surendar Moogi, Young-Kwon Park. (2021), "Co-combustion of blends of coal and underutilised biomass residues for environmentally friendly energy production". *Sustainability*. Vol. 13, pp. 4881  
\*Indexing: *Web of Science [Impact Factor=2.576], Scopus, Q1*

15. **Abrar Inayat**, Muhammad A B Ahmad, Mohsin Raza, Chaouki Ghenai, Salman R Naqvi, Muhammad Ayoub. (2021), “Development of Reaction Kinetics Model for the Production of Synthesis Gas from Dry Methane Reforming”. *Bulletin of Chemical Reaction Engineering & Catalysis*, Vol. 16, pp. 440-445  
\*Indexing: *Web of Science [Impact Factor=0.240], Scopus, Q3*
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### 13. Books Section

1. Chaouki Ghani, **Abrar Inayat**. (2019). “Sustainable Alternative Syngas Fuel”. (ISBN 978-1-78984-581-5) InTechOpen
2. Awais Bokhari, Chuah L Fat, Leow Z Y Michelle, Saira Asif, Muhammad Shahbaz, Majid M Akbar, **Abrar Inayat**, Farrukh Jamil, Salman R Naqvi, Suzana Yusup. (2019). “Microwave enhanced catalytic conversion of canola based methyl ester: optimization and parametric study”, *Advanced Biofuels*, Chapter 6, pp. 154-163 (ISBN 978-0-08-102791-2) Elsevier

3. Abdul G Olabi, Abdul H Alami, Muhammad Tawalbeh, **Abrar Inayat**. (2019). “Towards 100% Renewables”. (ISBN 978-9948-36-625-6) University of Sharjah
4. **Abrar Inayat**, Murni M Ahmad, M I Abdul Mutalib, Suzana Yusup, Zakir Khan. (2014). “Hydrogen Production via Biomass Steam Gasification: A Systematic Review”, *Biomass & Bioenergy*, Chapter 19, pp. 329-343 (ISBN 978-3-319-07640-9) Springer
5. Zakir Khan, Suzana Yusup, Murni M Ahmad, Yushimitsu Uemura, Voi S Chok, Umer Rashid, **Abrar Inayat**. (2011). “Kinetic Study on Palm Oil Waste Decomposition”, *Biofuel's Engineering Process Technology*, Chapter 22, pp. 523-536 (ISBN 978-953-307-480-1) InTechOpen

## 14. Professional Development

- Organized seminar “Sustainability Research in the Humanities, Social Sciences and Law”, 13 June 2021. University of Sharjah, Sharjah
- Attended Workshop “Circular Economy”. 21 Feb 2021, University of Sharjah, Sharjah
- Attended Workshop “Post-Award: Research Funding Opportunities-Grants and Guidelines”. 8 Nov 2020, University of Sharjah, Sharjah
- Attended Workshop titled “Introduction to Open Access workshop at University of Sharjah”. 13 Jul 2021, University of Sharjah, Sharjah
- Attended Course “Heartsaver CPR and AED”. 18 Nov 2020, University of Sharjah, Sharjah
- Attended Training an “SciVal” and “Scopus” 17 Sep 2020 by Elsevier
- Participated in workshop on “Academic Publishing & Enhancing Research Effectiveness, 24 Nov 2020 by Springer
- Attended workshop on “Scholarly book publishing with Springer Nature: Insights on current eBook Trends”. 28 Sep 2020 by Springer
- Attended workshop titled “Step-by-step Guide on How to Prepare a Successful Paper-United Arab Emirates.”. 22 Feb 2021, University of Sharjah, Sharjah
- Attended the 1st National Workshop on “UI Green Matric World University Rankings for Universities in UAE”. 16 Sep 2020, by UI Green Matric, Indonesia
- Attended workshop on “From University Research to Real World Impactful and Patentable Research”. 14 March 2021, University of Sharjah, Sharjah
- Participated in workshop “University of Sharjah and SEWA Collaborations Projects”. 20 May 2021, by SEWA and RISE
- Attended workshop “How to Get Published in Impact Factor Journals” 26 April 2021, organized by Ministry of Education, UAE
- Attended Training on “Create Interactive PowerPoint Presentation using NEARPOD”. 06 April 2021, University of Sharjah, Sharjah
- Attended Training on “Make Learning Fun Using KAHOOT”. 06 April 2021, University of Sharjah, Sharjah
- Attended Workshop on “Explore Respondus 4.0 Exam Generator”. 06 March 2021, University of Sharjah, Sharjah

- Attended Training on “Reach High Level of Engagement Using MENTIMETER”. 11 April 2021, University of Sharjah, Sharjah
- Attended Workshop on “Grade Centre and Online Class Attendance” July 2020, University of Sharjah, Sharjah
- Attended Workshop on “Administering and Troubleshooting Online Exams”. 30 Nov 2020, University of Sharjah, Sharjah
- Attended Workshop on “Addressing Student Anxiety in Academic Advising & Resilience During Times of Crisis”. 29 March 2021, University of Sharjah, Sharjah
- Attended Workshop on “Use Technology to Advance a Teaching and Learning Approach for Advising”. 22 March 2021, University of Sharjah, Sharjah
- Attended Workshop on “Strategies to Increase Student Engagement and Retention by Personalizing the Education Experience”. 15 March 2021, University of Sharjah, Sharjah
- Attended Workshop on “Promoting Excellence in Academic Advising”. 23 Feb 2021, University of Sharjah, Sharjah
- Attended Workshop on “Holistic Advising & Why Should Academic Advisors Care About Students’ Sense of Belonging and inclusion”. 15 Feb 2021, University of Sharjah, Sharjah
- Attended Workshop on “Using Zoom and MS Teams as a Second Camera for Invigilating Online Exams” 06 March 2021, University of Sharjah, Sharjah
- Attended workshop on “Academic Publishing & Enhancing Research Effectiveness” 24 Nov 2020, University of Sharjah, Sharjah
- Attended workshop on “UI Green Matric World Ranking” 16 Sep 2020, University of Sharjah, Sharjah
- Training on “Chemical Storage in Laboratories and Research Facilities” 28 May 2020, University of Sharjah, Sharjah
- Workshop on “New Energies as Conveyors for Innovation and Sustainable Development”. 19 Jan 202, Sharjah, United Arab Emirates
- Delivered a seminar on the “Writing a Literature Review”. 01 May 2019, Sharjah, United Arab Emirates
- Training workshop “How to prepare for program reaccreditation”. 20 Sep 2019, Sharjah, United Arab Emirates
- Attended and Delivered Presentation on the Workshop “Current Trends and Developments in Biomass Energy and Water Desalination”. 3-4 Feb 2019, American University of Sharjah, Sharjah, United Arab Emirates.
- Delivered a workshop on “Energy Efficiency and Heat Recovery”. 25 April 2018, Sharjah, United Arab Emirates
- Workshop on “Materials Selection and the Environment”. 15 Jan 2018, Sharjah, United Arab Emirates
- “Training Workshop on Research-Based Course Design-Putting it all Together”. 18 Jan 2018, Sharjah, United Arab Emirates
- “Training Workshop on Metacognition and Transfer-What Faculty Members Expect Their Students to Learn, but Never Teach”. 17 Jan 2018, Sharjah, United Arab Emirates
- Delivered a workshop training on “Simulation using ASPEN HYSYS”. 07 May 2017, Sharjah, United Arab Emirates
- “Training Workshop on Course Design”. 02 February 2017, Sharjah, United Arab Emirates
- “Training Workshop on Designing an Instructional Plan Incorporating Research-Based Instructional Strategies”. 01 February 2017, Sharjah, United Arab Emirates



- “Workshop on Energy Storage”. 28-29 November 2016, Dubai, United Arab Emirates
- Delivered a short course on “Industrial Safety Engineering”. 15 May 2016, Sharjah, United Arab Emirates
- “Training program on Skills Development using e-services in universities”. 9-10 September 2015, Sharjah, United Arab Emirates
- “Workshop on Writing Final Examination Questions”. 26-27 February 2015, Tronoh, Malaysia
- “Training on OBE (Outcome Based Education)”. 01 October 2014, Tronoh, Malaysia
- “PIRC Online Workshop: Heat Integration & Pinch Technology”. 6, 13, 20 and 27 March 2014, Organized by University of Manchester, Manchester, United Kingdom
- “Effective Education Delivery Workshop”. 15 January 2014 (Eight modules in three days), Tronoh, Malaysia
- “Workshop on Team Building”. 9-12 December 2013, Lumut, Malaysia
- “Training on Student Industrial Internship Program (SIIP) Structure”. 20 November 2013, Tronoh, Malaysia
- “Training on Refinery Performance and Cost Improvement”. 18-19 November 2013, Kuala Lumpur, Malaysia
- Organized and attended “Short Course on Towards Efficient Process Systems”. 17-18 January 2011, Tronoh, Malaysia
- “Training on Agilent Standard Operation & Principle of Gas Chromatography”. 19-23 July 2010, Tronoh, Malaysia
- “Workshop on Biomass to Gas Liquid and Solid Fuels”. 14-15 June 2010, Kuala Lumpur, Malaysia
- “Research Methodology Course”. 19-21 December 2009, Tronoh, Malaysia
- “Short Course on Green Technology: Fundamentals & Applications”. 29-30 July 2009, Tronoh, Malaysia

## **15. Consultancy/ Expert Services**

- Expert service as reviewer for the Master Program Curriculum “Master in Process System Engineering” of Muscat University, Oman. Invited by Ministry of Higher Education Oman.
- Expert service to the school research project “Biodiesel Production from Date Seeds”
- Expert Services to Sustainable Urban Energy Division of International Renewable Energy Agency, Germany
- Lectures on the topic “Clean Energy Policies and Carbon Foot Reduction” for the UI Sustainability course offered at International Level.
- Expert service as a Judge at “Think... Sustainability” competition
- Reviewer for the following Journals;
  - Renewable and Sustainable Energy Reviews
  - Journal of Cleaner Production
  - Energy & Fuels
  - Bioresource Technology
  - Renewable Energy
  - Journal of Renewable and Sustainable Energy
  - Energy Conversion and Management
  - Chiang Mai Journal of Science

- Journal of Molecular Liquids
- Environmental Science and Pollution Research
- International Journal of Greenhouse Gas Control
- Journal of Chemical Thermodynamics
- Applied Energy
- Polish Journal of Chemical Technology
- Journal of the Brazilian Society of Mechanical Sciences and Engineering
- Biofuels
- Iranian Journal of Science and Technology, Transactions A: Science
- Fuel
- Energy Science & Engineering
- Journal of Environmental Chemical Engineering
- Science of the Total Environment
- Journal of Petroleum Science and Engineering

## **16. Membership/ Editorial Board**

- Guest Editor for Biomass Conversion and Biorefinery Journal
- Coordinator for 12<sup>th</sup> International Conference on Sustainable Energy & Environmental Protection (SEEP 2019)
- Associate Editorial Board Member of Energy Conversion and Storage
- Editorial board member of Renewable Energy Research Journal
- Associate Member of Institution of Chemical Engineers (IChemE)
- Registered Engineer of Pakistan Engineering Council (PEC)
- Member of organizing committee for 17<sup>th</sup> International Conference of Nanostructured Materials – NANO 2024 conference in the United Arab Emirates
- Technical Editor of International Journal of Chemical Technology
- Member of Technical Committee for Graduate Student Research Conference, UAE
- Member of The 13<sup>th</sup> International Conference on Development in eSystems Engineering (DeSE2021) Committee