

Curriculum Vitae



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Academic Qualification (Undergraduate Onwards)

S.No	Degree	Month & Year	% or GPA	Specialization	University/Institution
1.	B.Tech	May & 2002	74.5%	Chemical Engineering	Shanmugha College of Engineering, Bharathidasan University, Trichy, India
2.	M.Sc (Engg)	August & 2008	75%	Environmentally Sustainable Process Technology	Chalmers University of Technology, Goteborg, Sweden
3.	Ph.D.	July & 2020	-	Technology (Titled: 'Production of Biodiesel from vegetable oil using Zeolite as catalyst')	Anna University, Chennai, India

Work experience (in chronological order).

S. No	Institution	Month/Year	Experience in years
1.	Assistant Professor (Selection Grade), Kongu Engineering College, Erode	June 2014 –Nov. 2021	7.5
2.	Consultant, ECN AS, Stavanger, Norway.	Sept 2013 – Mar 2014	0.5
3.	Process Engineer, Nestejacobs AB, Finland.	Sept 2012 –Sept 2013	1
4.	Project /Research Assistant in Surface Chemistry, Prem Refinery AB / Chalmers University of Technology, Sweden	Sept 2007 –Sept. 2012	5
5.	Assistant Chemical Engineer, EnTech Consultant, Chennai, India	Jan. 2003 –Dec. 2004	2

International Publications:[Citations:94, h-index: 6 , i10-index: 5 (as on 1st Oct.2022)]

1. **Shanmugam Palanisamy**, Borje S Gevert, Thermal treatment of Rapeseed oil, World Renewable Energy, Linköping University Electronic Press, 2011, Vol1, BE07, 546-551
2. B Gevert, O Anseau, M Arsad, AR Khokar, K Nandyala, **S Palanisamy**, Fischer-Tropsch synthesis with simultaneous water gas shift reaction, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 239, 2010
3. B Gevert, T Ahmad, **S Palanisamy**, Alkylation of ethylene with zeolite Beta Journal of Chemical Technology 11, 337-345, 2011
4. BS Gevert, A Azadrad, K Glembring, C Hallung, **S Palanisamy**, Alkylation of light alkenes with zeolite hydrogen beta, ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 245, 2013
5. **S Palanisamy**, BS Gevert Hydroprocessing of fatty acid methyl ester containing resin acids blended with gas oil Fuel Processing Technology 126, 435-440, 2014
6. **Shanmugam Palanisamy**, Borje S. Gevert, Study of non-catalytic thermal decomposition of triglyceride at hydroprocessing condition, Applied Thermal Engineering, Volume 107, 25 August 2016, Pages 301–310
7. **Shanmugam Palanisamy**, Borje S. Gevert, Hydrodeoxygenation of fatty acid methyl ester in gas oil blend–NiMoS/alumina catalyst, Green Processing & Synthesis, vol.6, 2017, <https://doi.org/10.1515/gps-2016-0117>
8. **Shanmugam Palanisamy**, Börje Sten Gevert, Pranav Sankaran, Kannan Kandasamy, Produce Low Aromatic Contents with Enhanced Cold Properties of Hydrotreated Renewable Diesel Using Pt/Alumina-Beta-Zeolite: Reaction Path Studied via Monoaromatic Model Compound, Energies 12 (15), 2019, PP. 2853.
9. Sathish Thangamuthu, **Shanmugam Palanisamy**, Subramanian Nallasamy, Gowri Shankar Velusamy, Studies Of Chemical Precipitating Agents Magnesium, Sodium And Calcium Oxide In Removal Of Chromium From Chrome Tan Liquor, Test Engineering and Management, 2020, 82, 7675 - 7680
10. Malathi Devendran, Senthil Kumar Kandasamy, **Shanmugam Palanisamy**, Sangavi Selvaraj, Ragavi Vetrivel, Roobak Selvarajan, Murugesan Govindasamy, Kannan Kandasamy, Preparation of Chemically Modified Porous Carbon Networks Derived from Citrus Sinensis Flavedos as Electrode Material for Supercapacitor, Int. J. Electrochem. Sci, 15, 2020, p.4379-4387
11. **Shanmugam Palanisamy**, Kannan Kandasamy, "Direct Hydrogenation and Hydrotreating of Neat Vegetable Oil into Renewable Diesel Using Alumina Binder with Zeolite". Revista de Chimie, 71(9), 2020, 98-112. <https://doi.org/10.37358/RC.20.9.8321>
12. **Shanmugam Palanisamy**, Bhavya Shri Subramaniam, Sathish Thangamuthu, Subramanian Nallusamy, Parthasarathi Rengasamy. Review on Agro-Based Nanotechnology through Plant-Derived Green Nanoparticles: Synthesis, Application and Challenges. Journal of Environmental Science and Public Health 5 (2021): 77-98.
13. **Shanmugam Palanisamy**, Durna Palanisamy, Mugaishudeen Gul, Kannan Kandasamy, Borje S Gevert, Hydro-treating and Hydro-isomerisation of Sunflower Oil using Pt/SAPO-11: Influence of Templates in Ultrasonic Assisted with Hydrothermal Synthesis, Bulletin of Chemical Reaction Engineering & Catalysis 16 (1), 2021, 120-135

14. Bhavya Shri S Ramasamy, **Shanmugam Palanisamy**, A review on occurrence, characteristics, toxicology and treatment of nanoplastic waste in the environment, *Environmental Science and Pollution Research*, 28, 2021, 43258–43273.
15. **Shanmugam Palanisamy** "Hydrodenitrogenation of 2-Methyl Quinoline - Effect Of Steric Hindrance In Liquid Phase Catalytic Hydrogenation". *Revista de Chimie*, 72(3), 2021, 58-70.
16. Ramanan Mahadevan, **Shanmugam Palanisamy**, Role of Nanoparticles as oxidation catalyst in oxidation treatment of textile wastewater- A review of the fundamental and progress, *Environmental Technology Reviews*, 2022. [*Under Correction Process*]

Funded Seminar/workshop organized:

1. CSIR sponsored National Conference on Contaminate and Pollutant Management (ConCPM-2021) at Department of Chemical Engineering in Kongu Engineering College, Erode. Tamilnadu held on 22 to 23rd April 2021.
2. Entrepreneurship Development Institute of India (EDII) sponsored 3-day programme of Entrepreneurs Awareness Camp in collaboration with TBI, EMDC for School of Chemical and Food Science in Kongu Engineering College, Erode. Tamilnadu held on 23 to 25rd Jan. 2019.
3. Entrepreneurship Development Institute of India (EDII) sponsored 3-day programme of Entrepreneurs Awareness Camp in collaboration with TBI, EMDC for School of Chemical and Food Science in Kongu Engineering College, Erode. Tamilnadu held on 21 to 23rd Jan. 2019.
4. Self-sponsored 5-days workshop on "Energy integration of the process industries using ASPEN ENERGY ANALYSER" (Sept- 2017 and Dec-2018)

Paper Presented in International & National Conferences:

1. Börje Gevert, Talut Ahmad and **Shanmugam Palanisamy**, Alkylolation of ethylene with zeolite Beta, International Conference on Biology, Environment and Chemistry (ICBEC 2010), Hong Kong, China, December 28 - 30, 2010.
2. **Shanmugam Palanisamy** and Börje Gevert, Influences of thermal decomposition on Methyl ester catalytic hydrogenation, Poster in Synbios III, 28-29 May, 2009, Goteborg, Sweden.
3. Renewable diesel oil production from slaughter waste, Poster and extended abstract in International Conference on ESD, Pakistan, August 2008.
4. **Shanmugam Palanisamy**, Börje Gevert, Björn Harrysson and Ahmad Kalantar, Kinetics of Quinaldine Hydro-denitrogenation, Poster and extended abstract in EUROPACAT VIII, August 2007, Åbo, Finland.
5. **Palanisamy, S.**; Anjun, W.M.; Gevert, B. Thermal and Catalytic Hydrogeoxygenation Of Rapeseed Oil For Biodiesel Production, 7th Asia pacific Conference on Sustainable Energy and Environmental Technologies, October 15-19, 2009, Qingdao, China.
6. **Palanisamy, Shanmugam.**; Gevert, Börje.; Hydro-cracking of Rapeseed oil, The Renewable Energy Research Conference 2010, June 7th - 8th 2010, Trondheim, Norway.
7. Shifna Ashraf, Kannan Kandasamy, **Shanmugam Palanisamy**, Sivakumar Murugaiyan, Studies on Isomerization of palm oil using SAPO catalyst synthesised by Hydrothermal Process, International conference on Advances in chemical Engineering-2015, NITK, Surathkal, India.
8. Pranav Sankaran, Shifna Ashraf, Kannan Kandasamy, **Shanmugam Palanisamy**, Sivakumar Murugaiyan "Synthesis of Cage type catalysts from Kaolin Clay using Hydrothermal and Ultrasonic methods and studies on their Properties and Catalytic Activity", International

Conference on Advances in Chemical Engineering at National Institute of Technology, Suratkal, Karnataka, December 2015.

9. Pranav Sankaran, Shifna Ashraf, Kannan Kandasamy, **Shanmugam Palanisamy**, Sivakumar Murugaiyan “ A Novel Multifunctional Cage type Catalyst from Kaolin” International Conference on Material Science and Technology at University of Delhi, March 2016.
10. **Shanmugam Palanisamy**, Priyanka, Prabhakaran, Catalytic thermal treatment of vegetable oil using SAPO as a Catalyst, Pollution control strategies in chemical & related industries (PCSCRI-2017), 10-11th March, 2017, Tripathi
11. **Shanmugam Palanisamy**, Sujitha Palaniappan, Synthesis and Characterization of Thermoelectric Materials, Pollution control strategies in chemical & related industries (PCSCRI-2017), 10-11th March, 2017, Tripathi
12. **Shanmugam Palanisamy**, Meena Senthilnathan, Synthesis and Characterization of Mesopores Materials, Pollution control strategies in chemical & related industries (PCSCRI-2017), 10-11th March, 2017, Tripathi
13. **Shanmugam Palanisamy**, Ashwin, Hariharan, Karthikeyan, Study of Non-ideal flow pattern in Matrix type heat exchanger using CuO, Industrial Pollution and control Technology, 13-14, March 2019, Annamalai Nagar, Tamilnadu.
14. **Shanmugam Palanisamy**, Ashwin, Hariharan, Karthikeyan, "Matrix type heat exchanger" International Conference on Advanced Science and Engineering Research, AI-AMEEN Engineering College, Erode, March 2019.
15. **Shanmugam Palanisamy**, Priyanka, Siska, "Zeolite for production of renewable diesel" International Conference on Advanced Science and Engineering Research, AI-AMEEN Engineering College, Erode, March 2019.
16. **Shanmugam Palanisamy**, Pavitra Bharathi, Vignesh Maharajan, Mohamed Javith, " Performance and Emission Characteristics of Diesel with Biodiesel” 4thNational Conference on Current & Emerging Process Technologies, e-CONCEPT-2021, Department of Food Technology, Erode, Feb 2021.

Book Chapter:

- Co-author in Chapter 11 - “Microwave-Assisted Graphene-Based Conducting Polymer Materials for Supercapacitors” in edited book titled “Handbook of Supercapacitor Materials” 1st Edition September 2021, ISBN: 978-3-527-34687-5, Wiley-VCH, Weinheim.
- Author of Chapter 3 - "Zinc and Its Composite in Nanoparticles" in edited book titled "Research Trends in Environmental Science (Volume - 8)", October 2021, AkiNik Publications, New Delhi.

Journal Reviewer for

- Fuel (ISBN: 0016-2361, Elsevier)
- Frontiers in Chemistry (ISBN: 2296-2646, Frontiers)
- Current Catalysis (ISBN: 2211-5455, Bentham Science)

Software Proficiency:

1. ASPEN HYSYS and ASPEN ENERGY ANALYSER
2. MATLAB
3. ORIGINLAB 8.0

Funded Research Projects:

S.No	Title of the Project	Name of the funding agency	Grant received (Lakhs)	Active Years
1.	Renewable sources and Energy Materials - Upgrading research lab (intra-department)	FIST-DST, New Delhi	Rs. 5.46	2018-2019
2.	Process Intensification in Dye waste water Treatment - SEED Grant	KVIT Trust,	Rs. 4.73	2020- 2021
3.	Waterless Dye System - New design and investigation of Processes	EDII Voucher, TNSCST, Chennai	Rs. 2.43	2020- 2021

Consultancy Projects:

S.No	Title of the Project	Name of the Company	Status	Year
1.	Disposal of Alumina Liquor	MALCO Energy Ltd, Mettur	Completed	2015-2016
2.	Feasibility of Palm esters substitute diesel in heavy truck	Hari Processes, Erode	Completed	2018-2019
3.	Removal of metal oxides from water washing section	Shri-kaliswari metal powder P. ltd, Sivakasi	Completed	2020- 2021

Patent Applied/ Published

- A method for removing Chromium from Tan Liquor using low cost Precipitating Agents, App. No: 202041050652, Dated 27.11.2020

Membership in Professional Bodies

- Life Member of Indian Institute of Chemical Engineers (LAM-71290)
- Innovation Faculty Mentor in IIC

Awards/Recognitions

- Received **Best Faculty Award** in the Department of Chemical Engineering in 2017
- **Outstanding contribution** of Young Indians Erode Chapter in 2014-2015

Research Area in industries and Institution

- Conception and Feasibility Study of chemical Industries
- Refinery Downstream Processes
- Renewable fuels and fine chemical synthesis from biobased feedstocks
- Biomass carbonization as a supercapacitor materials
- Synthesis of Catalysts and Adsorbents
- Oxidation process in dye wastewater treatment
- Life Cycle Assessment and Risk Management

Institution contribution

- Innovation Ambassador in Institute Innovation Council (IIC) b/w 2018 and 2021.
- Jury in Internal Hackathon for Smart India Hackathon in 2020

- NAAC peer team member for 2015-16 visit.
- IIC Faculty member in Kongu Engineering College b/w 2018-2020.
- Co-ordinator and Overall in-charge of Higher Education in abroad
- Sewage treatment plant In-charge from 2016 onwards
- Institutional document in-charge of NAAC criteria for 2020-21.

Department contribution

- Organising Secretary for three National Level Conference in the academic year 2016, 2017 and 2021
- NBA criteria in-charge of student progression and complaints report preparation for 2017-18, 2018-19 and 2020-21.
- Entrepreneurship cell co-ordinator between 2015 and 2020.
- IIC Faculty member in Kongu Engineering College between 2018 and 2020.
- BoS Internal member of regulation R2014, R2018 and R2020 from 2015 to 2021.
- Offered Non-formal course in ASPEN Energy Analyzer for internal and external students.
- Offered 1 credit course in Process Integration in process industries for internal students.

STTP/Workshop/Training attended

- Workshop on Universal Human Values during 21st– 25th Sept. 2020
- Training undertaken on Innovation Ambassador by AICTE during 28th April - 22nd May 2020
- Hands on Training on ‘Electrochemical Workstation’ during 15th– 19th July 2019
- STTP on Environmental Studies by IIT Bombay from 02nd to 12th June 2015
- STTP on Pedagogy for Effective use of ICT in Engineering Education by IIT Bombay from 5th to 31st Jan. 2015
- FDP on Entrepreneurship by TBI and EMDC during 10th – 22th Nov. 2014

Subjects Handled:

1. Industrial Chemistry
2. Applied Organic Chemistry
3. Organic Technology and Inorganic Technology
4. Process Organic Synthesis
5. Chemical Reaction Engineering – I and -II
6. Fluid Movers
7. Surface Chemistry
8. Oil and Natural Gas Engineering
9. Pilot Plant Scale-Up methods
10. Risk Analysis and Life Cycle Assessment
11. Applied Organic Chemistry Laboratory
12. Process Heat Transfer Laboratory
13. Chemical Reaction Engineering Laboratory

Other contribution and activities

- Invited for Few Guest lectures in the area of material science and process development.
- Mentor for weak students of 2015-19 batch.
- Lab in-charge for Chemical Reaction Engineering Lab between 2015 and 2018.
- Lab in-charge for Applied Organic Chemistry Lab between 2018 and 2019.
- Lab in-charge for Technical Analysis Lab between 2019 and 2021.
- Industrial visit and Training carried out every year.
- Volleyball and Football player in college faculty team.