


Resume

1.	Name	RAJIV ARORA rajiv_fzr@yahoo.com	
2.	Designation	Assistant Professor	
3.	Date of Birth	December 30, 1972	
4.	Educational Qualification	<ul style="list-style-type: none"> ➤ B.Tech. (Chemical. & Bio Engg), NIT, Jalandhar (1991-95) ➤ M.Tech. (Chemical Engg.), Panjab Technical Uni. Jalandhar (2008) ➤ Ph.D (pursuing) Punjab University, Chandigarh (2016) 	
5.	Work Experience	Teaching & Industrial Experience: 20 years and 6 months	
		Assist. Prof. in S.B.S. State Technical Campus, Ferozepur (Formerly, SBSCET Ferozepur) Moga Road, Ferozepur-152004	17.07.2000 to till date
		Industrial experience : 4.5 Years	
		'Sales & Service Technologist' in Asian Paints India Limited	08.07.1996- 08.07.2000
		'Sales Engineer' in Nixon Chemicals Pvt Limited, Ludhiana	15.01.1996- 30.06.1996
		Others: <ul style="list-style-type: none"> ➤ Head of the Department: presently holding , also from July 2006 – July, 2009 ➤ Chairman - Board of Studies Chemical Engg. – Maharaja Ranjit Singh Punjab Technical University (MRSPTU), Bathinda : 2015 onwards ➤ Coordinator M. Tech. (Chemical Engg.) : presently holding ➤ Store & Purchase Officer of SBSSTC : presently holding since 2014. ➤ Member- Board of Studies Chemical Engineering, IKGPTU Jalandhar - 2010 onwards ➤ Member Board of Studies - Petroleum Engg. Department, Guru Kashi University, Talwandi Sabo. - 2014 onwards ➤ Member, Pre-Audit Committee of SBSSTC, Ferozepur, 2014 onwards ➤ Member Secretary - Board of Studies Chemical Engineering, SBSSTC, Ferozepur 	
6.	Area of Specialization	<ul style="list-style-type: none"> ➤ Biofuels ➤ Oil Extraction ➤ Reaction Engineering ➤ Environmental pollution control ➤ 	
7	Patents	<ul style="list-style-type: none"> ➤ (01 Filed) - Microwave assisted Simultaneous Extraction and Esterification/ Transesterification of oil containing materials of biological origin 	

8.	Subjects teaching at	(a) Undergraduate level:	<ul style="list-style-type: none"> ➤ Chemical Process Control ➤ Intro. To Polymer Sci & Engg ➤ Fluid flow ➤ Heat Transfer ➤ Numerical Methods in Chemical Engg. ➤ Chemical Engineering Thermodynamics ➤ Chemical Reaction Engg.-I ➤ Chemical Process Instrumentation ➤ Energy Engg. ➤ Petroleum Engg. ➤ Safety in Chemical Plants ➤ Chemical Process Calculations ➤ Industrial pollution Control ➤ Process Engg. & Economics ➤ Bio-chemical Engg.
		(b) Post Graduate Level	<ul style="list-style-type: none"> ➤ Environmental Engineering ➤ Modeling & Simulation ➤ Advanced Chemical Reaction Engineering ➤ Advanced Mass Transfer
8.	Research Publications (Annexure- A)	<ul style="list-style-type: none"> ➤ International Journals - 03 ➤ International Conferences - 18 ➤ National Conferences – 17 	
9.	Books Edited	Frontiers in Materials Research and Applications (ISBN 978-93-85777-23-3)	
10	No. of Students Guided : Master's	Completed : 01 In progress: 05	
11.	Academic Achievements and Awards	<ul style="list-style-type: none"> ➤ Shortlisted Innovator for Tirupati Incubation Centre, Andhra Pradesh by IC2 Institute of The University of Texas (USA) in August 2016 ➤ Awarded 2nd Prize for Paper Presentation in '9th Chandigarh Science Congress (Chascon-2015) held at Panjab University, Chandigarh. ➤ Awarded second prize for major project entitled 'Extraction of rice bran oil using greener solvent' in TECHNO-OPUS-2015 organized in SBSSTC, Ferozepur. ➤ Awarded second prize for major project entitled 'Valuable Products from waste rice bran' in TECHNO-OPUS-2014 organized in SBSSTC, Ferozepur ➤ 'Special Invitee' in in 'Global R & D Summit' organized by Federation of Indian Chambers of Commerce and Industry (FICCI) in collaboration with Department of Science & Technology on December 7-8, 2015, at Vigyan Bhawan, New Delhi. ➤ Awarded 1st Prize for Paper Presentation in '6th Chandigarh Science Congress (Chascon-2012) held at Panjab University, Chandigarh. 	

12.	Projects in hand	<ol style="list-style-type: none"> 1. Extraction of oils using greener and renewable solvents. (in collaboration with A.P.Solvex, Dhuri) 2. Utilization of Rice husk ash (with Punjab Pollution Control Board, Patiala) 3. Extraction of rice bran nutrients ((in collaboration with A.P.Solvex, Dhuri). 	
13.	Conferences/ Workshops organized	<ul style="list-style-type: none"> ➤ One day workshop on “Application of Chemical Engineering in Alternative Sources of Energy” in association with Indian Institute of Chemical Engineers(IICChE) Student Chapter, Doaba Regional Centre(DRC) on October 30, 2015. ➤ 2nd National Conference on ‘Frontiers in Materials Research & Applications on 24.12.2015 in SBSSTC, Ferozepur. 	
14.	Short-Term attended	<ul style="list-style-type: none"> ➤ Total Quality Management and ISO-9000 Quality Systems sponsored by AICTE at SBSSTC, Ferozepur 	2 weeks
		<ul style="list-style-type: none"> ➤ ‘Hydrocarbon Engineering’ sponsored by AICTE at N I T , Jalandhar 	2 weeks
		<ul style="list-style-type: none"> ➤ Faculty Development Programme organised by North India Technical Consultancy Organisation Ltd. (NITCON) 	1 week
		<ul style="list-style-type: none"> ➤ Short Term Training Programme on Auto-CAD conducted by NTTTR , Chandigarh 	1 weeks
		<ul style="list-style-type: none"> ➤ Short Term Training Programme on MATLAB conducted by NITTTR, Chandigarh 	1 week
		<ul style="list-style-type: none"> ➤ Short Term Training Programme on Advanced AutoCAD conducted by NITTTR, Chandigarh 	1 week
		<ul style="list-style-type: none"> ➤ Strategies for Implementing TQM & ISO” organized by DAV Institute of Engg & Tech., Jalandhar. 	2 weeks
		<ul style="list-style-type: none"> ➤ “Recent Advances in Multiphase Reactors” organized by Indian Institute of Technology, Delhi. 	1 week
		<ul style="list-style-type: none"> ➤ “Intelligent Computational Techniques” AICTE sponsored at SBSSTC, Ferozepur. 	2 weeks
		<ul style="list-style-type: none"> ➤ Multi-Criteria tools in research, AICTE sponsored at SBSSTC, Ferozepur. 	2 weeks
		<ul style="list-style-type: none"> ➤ TEQIP sponsored FDP on “Recent trends in Polymers composites & their Engineering. applications” at SBSSTC, Ferozepur 	1 week
		<ul style="list-style-type: none"> ➤ TEQIP-II sponsored “Management enhancement Programme for Administrators”, at IIM Lucknow (Noida Campus) 	1 week
		<ul style="list-style-type: none"> ➤ TEQIP-II sponsored FDP on ‘Material Technology and Characterization’ in SBSTSC, Ferozepur 	1 week
15.	Membership of professional bodies:	<p>Life Member of ‘Indian Society for Technical Education’ (ISTE), New Delhi</p> <p>Life Member ‘ India Institute of Chemical Engineers’ (IICChE), Kolkotta</p>	

(Annexure A)

Papers Published in journals

1. **Arora R**, Toor A P, Wanchoo R K, *Esterification of high free fatty acid rice bran oil: parametric and kinetic study* Chem. and Biocem. Engg. Quar., Vol. 29, No. 4, pp 617-623, December 2015
2. **Arora R**, Kapoor V, Kumar V, Agnihotri S and Jaiswal M, *Esterification of Free Fatty Acids in waste cooking oil by carbonaceous sulfated acid catalyst: Optimization and Kinetic Study*, Int. J.Engg. Res. & Sci. & Tech. Vol. 3, No. 4, pp, 109-15, November 2014
3. Grover N K, **Arora R**, Ray A and Kale S R, *Numerical Studies on Droplet Evaporation at High Ambient Pressures and Temperatures*, Int. J. of Advances in Therm. Sc. and Engg., pp 133-137, Dec 2010.

Book Chapter

Rajiv Arora, Amrit Pal Toor and R K Wanchoo, “*Parametric Study of Esterification of High Free Fatty Acid Rice Bran Oil Using Heterogeneous Nano-Catalyst*” a book chapter in **McGraw Hill (USA)** International Edition titled "Nanotechnology: Novel Prospects and Perspectives"(2015), pp 587-92.

Papers Published in International conferences

1. **Arora R**, Toor A P, Wanchoo R K, ‘*Simultaneous extraction and esterification of high free fatty acid rice bran using heterogeneous catalyst*’, proc. ‘21st International Congress of Chemical and Process Engineering’, **Prague (Czech Republic)**, August 23 to 27, 2014
2. **Arora R**, Kapoor V, and Toor A P, *Esterification of Free Fatty Acids in Waste Oil Using a Carbon-based Solid Acid Catalyst*, Proc. 2nd International Conference on Emerging Trends in Engineering and Technology (ICETET'2014), **London (UK)**, 196-99, May 30-31, 2014.
3. **Arora R**, Toor A P, Wanchoo R K, *Parametric Study of esterification of high free fatty acid rice bran oil using heterogeneous nano-catalyst*, proc. International Conference on Nanotechnology in the Service of Health, Environment & Society, Panjab University, Chandigarh, India , 2014
4. Kapoor S, **Arora R** and Narang, ‘*Latest Development on Heterogeneous Catalysts for Transesterification of Oils to Produce Biodiesel: a review*’ proc. International Conference on ‘Frontiers in Materials Research and Applications’, SBSSTC – Ferozepur, 2014
5. Grover N K, Sharma R, **Arora R**, *Simulation of Evaporation of a Fuel Droplet in High Pressure Environment*, proc. “International Conference on "Recent Advances in Mechanical Engineering and Interdisciplinary Developments, Ponjesly College of Engineering, Nagercoil, India, 2014
6. **Arora R**, Toor A P, Wanchoo R K, *Transesterification of triglycerides to biodiesel using nanoneedles of MgO as solid basic catalyst*, proc. “International conference on interdisciplinary areas with chemical sciences, Panjab University, Chandigarh, India, 2013
7. **Arora R**, Toor A P, Wanchoo R K, *Algae cultivation in water bodies as a potential source for biodiesel production*, International Conference on ‘Advances in Water Resources Development and Management’, Panjab University, Chandigarh, India, 2013

8. **Arora R**, Toor A P, Wanchoo R K, *Solid oxide derived from waste shells as catalyst for biodiesel production from rice bran oil*, International Conference on Polymers on the Frontiers of Science & Technology, Panjab University, Chandigarh, 2013
9. **Arora R**, Toor A P, Wanchoo R K, *Microalgae as raw material for biodiesel production-current status and future potential*, International Conference on sustainable technologies for energy and environment in process industries, National Institute of Technology, Jalandhar, 2012
10. **Arora R**, Toor A P, Wanchoo R K, *Parametric Studies on Biodiesel prepared from High Free Fatty Acid Crude Rice Bran Oil*, Chemical Constellation Cheminar-2012, National Institute of Technology, Jalandhar, India, 2012
11. **Arora R**, Toor A P, Wanchoo R K, *Biodiesel production using nano-catalysts*, proc. International Conference on Frontiers of Nanoscience, Nanotechnology & Their Applications, Panjab University, Chandigarh, India 2012
12. **Arora R**, Toor A P, Wanchoo R K, *Microalgae as a feedstock for biodiesel – current status & future trends*, International Conference on ‘Innovations in Chemistry for Sustainable Development, Panjab University, Chandigarh, 2011
13. **Arora R**, Grover N K and Toor A P, *Biofuels in India: Current status and future potential*, proc. “International Conference on Renewable Energy”, University of Rajasthan, Jaipur, India, 2011.
14. **Arora R**, Grover N K and Garg R, *Renewable Energy Resources in India : Sustainable development through eco-friendly approach*, proc. “International Conference on Business Ethics and Human Values”, Panjab University, Chandigarh, India, 2010.
15. **Arora R**, Grover N K and Toor A P, *Calculation of thermo physical properties of n-heptane & nitrogen mixture using vapour liquid equilibrium*, proc. “National Conference on Global Trends in Mechanical Engineering”, Rayat & Bahra Institute of Engineering & Biotechnology, Mohali, India, 2011.
16. **Arora R**, Grover N K and Garg R, *Simulation of Thermodynamic properties for n-heptane-nitrogen mixture at equilibrium*, proc. “International Conference on Emerging Trends in Technology & Education” , Sri Sukhmani Institute of Engg. & Tech., Dera Bassi, India, 2010.
17. Grover N K and **Arora R**, *Numerical Studies on Droplet Evaporation at High Ambient Pressures and Temperatures*, proc. “International Conference on Advances in Mechanical Engineering”, S V National Institute of Technology, Surat, India, 2010.
18. **Arora R**, Grover N K, Toor A P and Garg R, *Comparative Study of Cubic Equations of State for Predicting Phase Behaviour of n-heptane-Nitrogen Systems*, proc. “2nd International Conference and Exhibition on Waste to Wealth And 6th International Conference On Combustion, Incineration Pyrolysis & Emission Control”, Malaysian Nuclear Agency, Kuala Lumpur, Malaysia, 2010

Papers Published in National conferences :

1. **Arora R**, Toor A P, Wanchoo R K, *Transesterification of rice bran oil to biodiesel using Lithium doped Calcium Oxide* in ‘2nd National Conference on Advanced Oxidation Processes’ held in Panjab University from October 15-16, 2016
2. **Arora R**, Toor A P, Wanchoo R K, *Microalgae Chlorella minutissima - A promising feedstock for the production of biodiesel* National Conference on ‘New Frontiers in Chemistry-from Fundamentals to Applications (NFCFA2015)’ during Dec 18th-19th 2015 at RITS Pilani KK Birla Goa Campus

3. Kaur A, Vohra J, Aggarwal J K and **Arora R** , *Modified Egg-shell Catalyst for Production of Biodiesel by Transesterification of Waste Oil with Methanol Using Microwaves*, proc. 2nd National Conference on 'Frontiers in Materials Research and Applications, SBSSTC - Ferozepur (ISBN 978-93-85777-23-3), pp. 3 – 6, Dec 2015
4. Kaur S, **Arora R** and Toor A P, *Esterification of Acetic Acid with Ethanol Using Sulfated Carbon Acid Catalyst*, proc. 2nd National Conference on 'Frontiers in Materials Research and Applications, SBSSTC - Ferozepur (ISBN 978-93-85777-23-3), pp. 19 – 22, Dec 2015
5. Narang A, **Arora R**, Kumar A and Kumar R, *Comparative Study of Esterification of Propionic Acid with Methanol using Heterogeneous Catalyst*, proc. 2nd National Conference on 'Frontiers in Materials Research and Applications, SBSSTC - Ferozepur (ISBN 978-93-85777-23-3), pp. 23 – 26, Dec 2015
6. Agnihotri S, Kumar V, Manisha and **Arora R**, *Preparation of Sodium Silicate from Rice Husk Ash*, proc. 2nd National Conference on 'Frontiers in Materials Research and Applications, SBSSTC - Ferozepur (ISBN 978-93-85777-23-3), pp. 27 – 30, Dec 2015
7. Sharma S, Aggarwal J K and **Arora R**, *Novel Heterogeneous Catalyst for Biodiesel Production by Esterification of High Free Fatty Acid Oil Using Microwaves*, proc. 2nd National Conference on 'Frontiers in Materials Research and Applications (ISBN 978-93-85777-23-3), SBSSTC - Ferozepur , pp. 35 – 37, Dec 2015
8. Kaur H and **Arora R**, *Catalysts for Biodiesel Production Processes: A Review*, proc. 2nd National Conference on 'Frontiers in Materials Research and Applications (ISBN 978-93-85777-23-3), SBSSTC - Ferozepur , pp. 59-65, Dec 2015
9. Goyal C, Kumar A, Agnihotri S and **Arora R**, *Adsorption of Congo Red Dye on Activated Carbon Prepared from Syzygium cumini (Jamun)*, proc. 2nd National Conference on 'Frontiers in Materials Research and Applications, SBSSTC - Ferozepur (ISBN 978-93-85777-23-3), pp. 162- 66, Dec 2015
10. Supriya and **Arora R**, *Biodiesel an Alternative Fuel for IC Engines: A Review*, proc. 2nd National Conference on Advances in Manufacturing Systems-2015, SBSSTC - Ferozepur (978-93-85777-20-2), pp. 109 – 13, Dec 2015
11. Agnihotri S, Manisha, Kumar V, **Arora R**, *Parametric study of esterification of butyric acid with methanol* Proc. "National Conference on Emerging Trends in Engineering and Technology", Shri USB College of Engineering and Management, Abu Road, Rajasthan, India, 2014
12. **Arora R**, *Esterification of Butyric Acid with methanol using Ion-exchange catalyst*, 8th Chandigarh Science Congress, Panjab University, Chandigarh, 2014.
13. **Arora R**, Toor A P, Wanchoo R K , *Acid-catalyzed esterification high free fatty acid oil for biodiesel production*, National Seminar on Innovative and Sustainable Engineering, Panjab University, Chandigarh, 2013
14. Pooja, Arora R, Toor A P, *In-situ biodiesel production from mixed algae using homogeneous catalyst*, 7th Chandigarh Science Congress, Panjab University, Chandigarh, 2013
15. **Arora R**, Toor A P, Wanchoo R K, *Biodiesel production using waste cooking oil*, 6th Chandigarh Science Congress, Panjab University, Chandigarh, 2012
16. **Arora R**, Toor A P, Wanchoo R K, *Algal Biofuel: the next generation biofuel for India*, National seminar on Green Technologies, Energy Security and Sustainable Development, Panjab University, Chandigarh, 2012
17. **Arora R**, Toor A P, Wanchoo R K, *Solid Oxide derived from waste shells as catalyst for biodiesel production*, National Conference on Waste Management & Recycling, SLIET-Longowal, 2011