

## DR. KOTIAH NAIK DHANAVATH

PhD (Chemical Engineering),  
Associate Professor  
CCST, IST, JNTUH Hyderabad

Contact; No: +91-9581339511  
Email: dhanavath\_koti@yahoo.co.in,  
kotaiah.naik17@gmail.com

---

### RESEARCH EXPERIENCES/INTERESTS

- ❖ Thermochemical conversion of biomass to value added products
  - ❖ Biofuel production (bio-char, bio-oil and syngas)
  - ❖ Gasification, Pyrolysis, Torrefaction and Liquefaction
  - ❖ Alkylation and oxidation processes
  - ❖ Design of reactors and heat exchangers
  - ❖ Reactive distillation
  - ❖ Process handling, Equipments handled, and Utilities monitoring
  - ❖ ASPEN PLUS Simulation
- 

### ACADEMIC QUALIFICATION

- ❖ **PhD** in Chemical Engineering, RMIT University Melbourne City Campus, Australia (July 2018)  
Research project: Thermochemical Conversion of Press Seed Cake Produced from Non-Edible Biomass
  - ❖ **M.Tech** in Chemical Engineering, Andhra University, Visakhapatnam, India (September 2008)
  - ❖ **B.Tech** in Chemical Engineering, Jawaharlal Nehru Technological University Hyderabad, India (March 2004)
- 

### EMPLOYMENT HISTORY (RESEARCH/INDUSTRY/TEACHING)

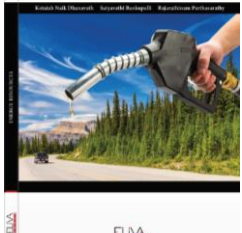
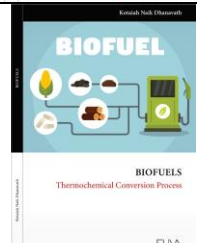
- ❖ **Associate Professor (C):** IST, Jawaharlal Nehru Technological University Hyderabad, India  
Period: August 2019 – Till date
  - ❖ **Post doc:** CSIR-Indian Institute of Chemical Technology, Hyderabad, India  
Period: July 2018 – July 2019
  - ❖ **Project Assistant:** CSIR-Indian Institute of Chemical Technology, Hyderabad, India  
Period: June 2012 – Aug 2013
  - ❖ **Officer Project's:** Malladi Drugs and Pharmaceuticals Limited, Tirupathi, India  
Period: June 2010 – June 2012
  - ❖ **Teaching Assistant (100% teaching):** Sri Venkateshwara University, Tirupati, India  
Period: June 2009 – May 2010
- 


### INTERNATIONAL PUBLICATIONS (11)

### PROFESSIONAL ACHIEVEMENTS/AWARDS

- ❖ Global Teaching Excellence Award-2021 presented by Kiteskraft Productions LLP
- ❖ Institute of Scholars Young Researcher Award-2021 (Award for quality and high quality of SCOPUS-indexed publications)
- ❖ Institute of Scholars Research Excellence Award-2021 (Award for quality and high quality of SCOPUS-indexed publications)
- ❖ Best Poster Award (2<sup>nd</sup> prize) at CSIR-IICT Platinum Jubilee Celebrations on Translational Research Trend in Process Engineering-2019, Hyderabad, India
- ❖ Best Poster Prize at CSIR-Indian Institute of Chemical Technology, Samyukth-2019, Hyderabad, India
- ❖ Best Poster Prize at 9th World Petro-Coal Congress-2019, International conference, New Delhi, India
- ❖ PhD Thesis was rated as “outstanding” by examiners (with in top 5%)
- ❖ HDR Ford Publication Commendation Prize - 2018 (Award to a HDR student for quality and high quality of SCOPUS-indexed publications in 2017)
- ❖ RMIT University Higher Degree by Research Publication Grant (HDRPG)- \$7200 (2017)
- ❖ Recipient of HDR Publication Incentive Award - \$5000 (2017)
- ❖ Recipient of Telangana state Overseas PhD program Scholarship - \$40, 000 (2013-2018)

### BOOKS AUTHORED

1		ENERGY RESOURCES by Kotaiah Naik Dhanavath, Eliva Press S.R.L. Publishing Group, Europe. ISBN: 978-99949-8-262-2
2		BIOFUELS by Kotaiah Naik Dhanavath, Eliva Press S.R.L. Publishing Group Europe. ISBN: 978-99949-8-320-9

3		<p>SHOT PEENING by Kotaiah Naik Dhanavath, Venumurali J, Eliva Press S.R.L. Publishing Group Europe. ISBN: ISBN: 978-99949-8-729-0</p>
---	---	--

---

### MEMBERSHIP IN SCIENTIFIC/ PROFESSIONAL SOCIETIES/ BODIES

- ❖ Indian Science Congress Association, Life Time Membership No: L-39727
- ❖ Indian Institute of Chemical Engineers, Life Time Membership No: LM-69273
- ❖ Institute of Scholars (InSc), Life Time Membership No: InSc20211207

---

### CERTIFICATES

- ❖ NPTEL Online certification for successfully completing the course Waste to Energy Conversion – 2020
- ❖ NPTEL Online certification for successfully completing the course Chemical Reaction Engineering-I – 2021
- ❖ NPTEL Online certification for successfully completing the course Biomass Conversion and Biorefinery – 2022

---

### RESEARCH STUDENT SUPERVISED

- ❖ **Completion** (25 M.Tech projects)

---

### REFEREES

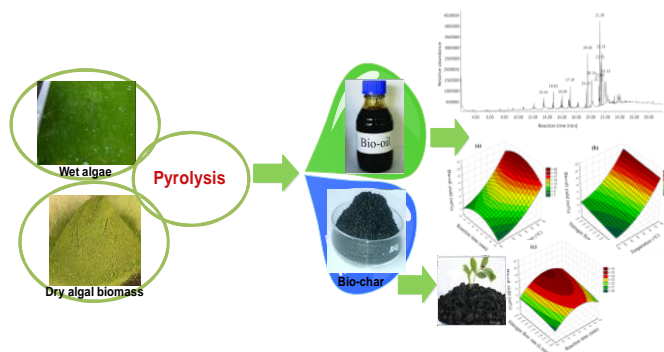
1. Prof Rajarathinam Parthasarathy  
Professor, Department of Chemical and Environmental Engineering  
Faculty of Engineering, RMIT University, Australia  
Tel: +61 3 9925 2941  
Email: rajarathinam.parthasarathy@rmit.edu.au
2. Dr. Satyavathi Bankupalli  
Senior Principal Scientist  
Process Engineering & Technology Transfer Division  
CSIR-Indian Institute of Chemical Technology

Telangana state, India  
 Tel: +91 9666226355  
 Email: satya@iict.res.in

3. Dr. A. Jaya Shree  
 Professor of Chemistry  
 Centre for Chemical Sciences and Technology, IST  
 Jawaharlal Nehru Technological University, Hyderabad  
 Telangana state, India  
 Tel: +91 9491442444  
 Email: jayashee@jntuh.ac.in
4. Dr. S. Sai Prasad Potharaju  
 Emeritus Professor  
 Centre for Chemical Sciences and Technology, IST  
 Jawaharlal Nehru Technological University, Hyderabad  
 Telangana state, India  
 Tel: +91 9177230595  
 Email: pssaiprasad@gmail.com

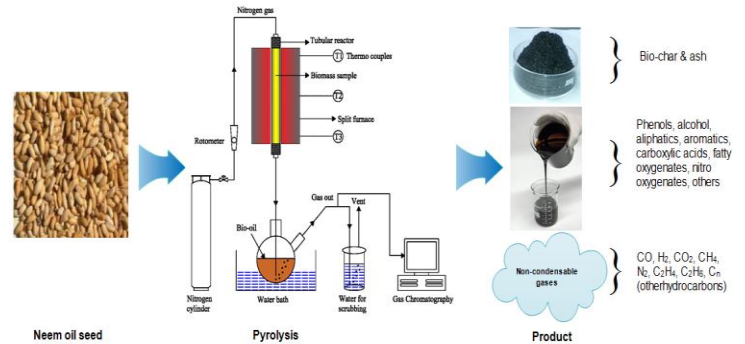
### RESEARCH OUTCOMES (LAST 5 YEARS)

1. Lakshmana Rao Jeeru, Abdul Faiz Khan, Jayashree Anireddy, Ch. Vara Prasad, **Kotaiah Naik Dhanavath\***, Optimization of process parameters for Conventional pyrolysis of Algal biomass into Bio-oil and Bio-char production, *Chemical Engineering and Processing – Process Intensification*, 2023, 109311. <https://doi.org/10.1016/j.cep.2023.109311>.

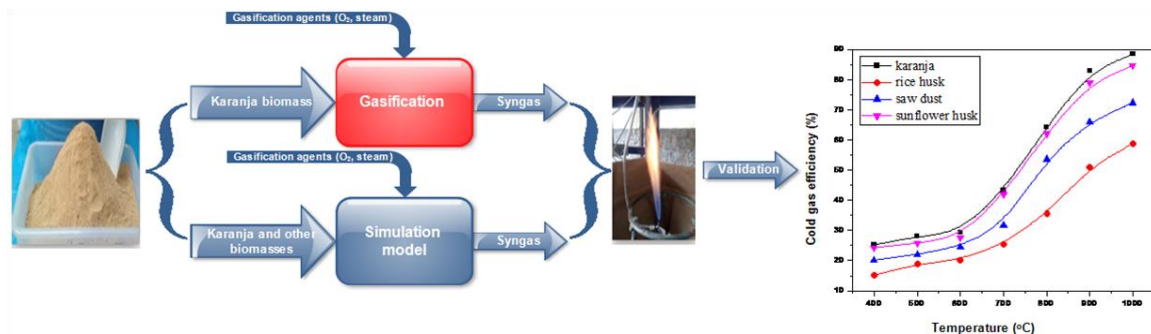


2. **Kotaiah Naik Dhanavath**, Satyavathi Bankupalli, Jayashree Anireddy, A Novel Development for Vapor Phase Alkylation of Aniline Processed with Clay, Oxides and Zeolite, *Journal of Thin Films, Coating Science Technology and Application*, 9 (2022) 1-8. <https://doi.org/10.37591/JoTCSTA>
3. Rajesh Kumar Polagani, Mallappa Annarao Devani, Gara Uday, Bhaskar Babu, Mahendra Chinthala, **Kotaiah Naik Dhanavath**, Shirish H Sonawane, Ultrasound Assisted Impregnation of Platinum on Carbon for orr Activity in Pem Fuel Cell, *International Journal of Ambient Energy*, (2022) 8239–8247. <https://doi.org/10.1080/01430750.2022.2092776>.

4. **Kotaiah Naik Dhanavath\***, Satyavathi Bankupalli, Chandra Sekhar Sugali, Vijayanad Perupogu, Satyanarayana N.V., Suresh K. Bhargava, Rajarathinam Parthasarathy, Optimization of process parameters for slow pyrolysis of neem press seed cake for liquid and char production. *Journal of Environmental Chemical Engineering* 7 (2019) 102–905.

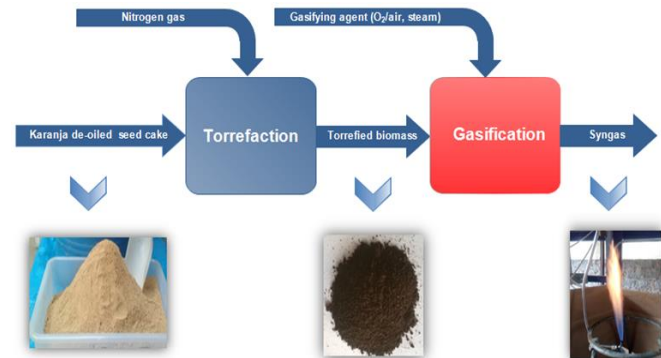


5. **Kotaiah Naik Dhanavath**, Kalpit Shah, Satyavathi Bankupalli, Suresh K. Bhargava, Rajarathinam Parthasarathy, Oxygen–steam gasification of karanja press seed cake: Fixed bed experiments, ASPEN Plus process model development and benchmarking with saw dust, rice husk and sunflower husk. *Journal of Environmental Chemical Engineering* 6 (2018) 3061–3069.

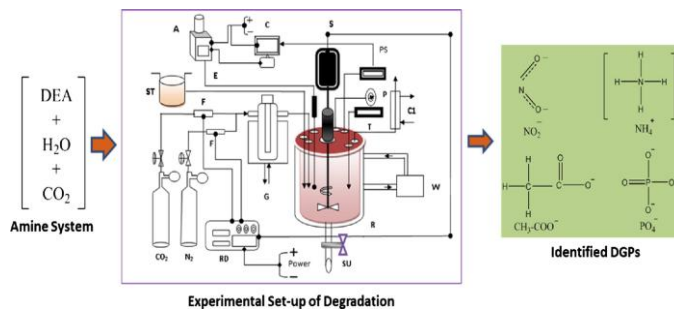


6. **Kotaiah Naik Dhanavath**, Satyavathi Bankupalli, Suresh K. Bhargav, Rajarathinam Parthasarathy, An experimental study to investigate the effect of torrefaction temperature on the kinetics of gas generation. *Journal of Environmental Chemical Engineering* 6 (2018) 3332–3341.

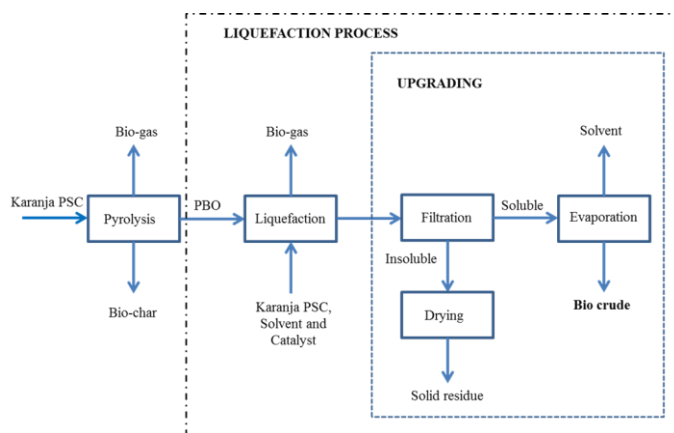
7. **Kotaiah Naik Dhanavath**, Kalpit Shah, Md. Sakinul Islam, Anil Ronte, Rajarathinam Parthasarathy, Suresh K. Bhargava, Satyavathi Bankupalli, Experimental investigation on entrained flow gasification of torrefied karanja biomass as feedstock. *Journal of Environmental Chemical Engineering* 6 (2018) 1242–1249.



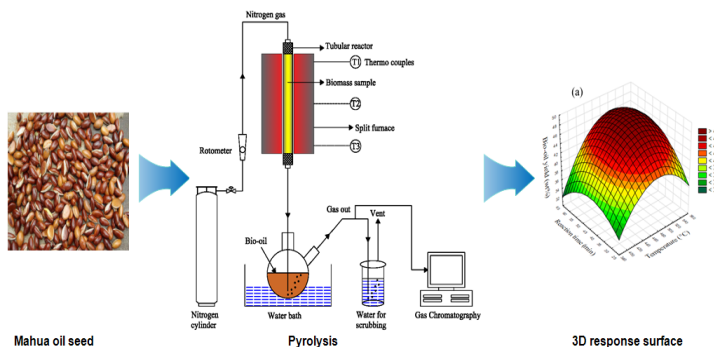
8. Md. Sakinul Islam, **Kotaiah Naik Dhanavath**, Nhol Kao, Pradipto K. Bhattacharjee, Brahim Si Ali, RozitaYusoff, Carbon dioxide induced degradation of diethanolamine during absorption and desorption processes, *Chinese Journal of Chemical Engineering* 26 (2018) 293–302.



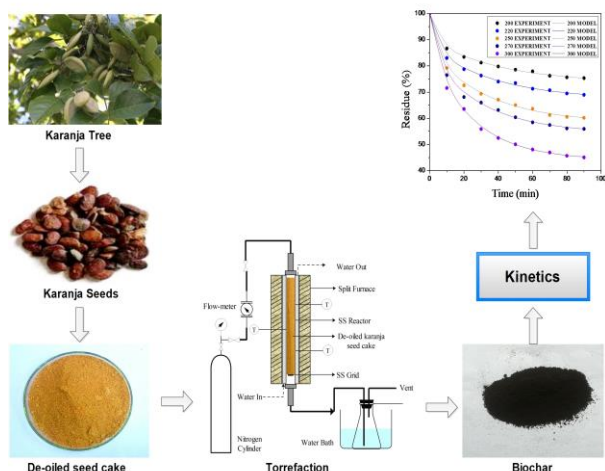
9. **Kotaiah Naik Dhanavath**, Md. Sakinul Islam, Satyavathi Bankupalli, Suresh K. Bhargava, Kalpit Shah, Rajarathinam Parthasarathy, Experimental Investigations into Liquefaction of Karanja Press Seed Cake in the presence of pyrolytic bio-oil derived from the same feedstock. *Journal of Environmental Chemical Engineering* 5 (2017) 4986–4993.



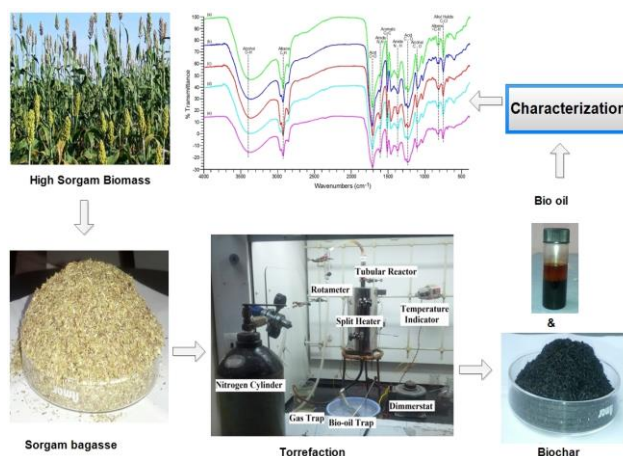
10. **Kotaiah Naik Dhanavath**, Kalpit Shah, Satyavathi Bankupalli, Suresh K. Bhargava, Rajarathinam Parthasarathy, Derivation of optimum operating conditions for the slow pyrolysis of Mahua press seed cake in a fixed bed reactor for bio-oil production. *Journal of Environmental Chemical Engineering* 5 (2017) 4051–4063.



11. **D. Kotaiah Naik**, M. Shuaib Ahmed, Vineet Aniya, R. Parthasarathy, B.Satyavathi, Torrefaction Assessment and Kinetics of De-oiled Karanja Seed Cake, *Environmental progress & sustainable energy (AICHE)* 36 (2017) 758–765.



12. **D. Kotaiah Naik**, K. Monika, S. Prabhakar, R.Parthasarathy, B.Satyavathi, Pyrolysis of sorghum bagasse biomass into bio-char and bio-oil products: a thorough physicochemical characterization. *Journal of Thermal Analysis and Calorimetry* 127 (2017) 1277–1289.



13. M. Shuaib Ahmed, **D. Kotaiah Naik**, B. Satyavathi, R. Parthasarathy, Thermodynamic Equilibrium Modeling of Sunflower Husk Gasifier to Produce Synthesis Gas, *International Journal of Renewable Energy & Commercialization* 2 (2016) 1–11.
14. **D. Kotaiah Naik**, Dr.B.Satyavathi, Dr.R.Parthasarathy, Pre-treatment of Karanja Biomass via Torrefaction: Effect on Syngas Yield and Char Composition, *APCChE Congress*. Melbourne, Victoria (2015) (Peer reviewed).

## SEMINARS/CONFERENCES/FACULTY DEVELOPMENT PROGRAMS (LAST 5 YEARS)

1. Kotaiah Naik Dhanavath, Jayashree Anireddy, Satyavathi Bankupalli, Process development for vapor phase alkylation of aniline with clay, oxides and zeolite: A comparison, International Conference on Innovations in Engineering and Technology (ICIET), JNTUH, Hyderabad, September 15 – 17, 2022.



2. Kotaiah Naik Dhanavath, Jayashree Anireddy, N-Butyl Acetate Production in a Batch Reactive Distillation and Esterification: Kinetic and Simulation Studies, International Conference on Innovations in Engineering and Technology (ICIET), JNTUH, Hyderabad, September 15 – 17, 2022.
3. Kotaiah Naik Dhanavath, Biomass Conversion and Biorefinery, NPTEL-AICTE Faculty Development Program, conducted by IIT Madras, 24<sup>th</sup> January to 23<sup>rd</sup> April 2022.
4. Kotaiah Naik Dhanavath, Mathematics with MATLAB and Mathematica, TEQIP-III Faculty Development Program, IIT Indore, 23<sup>rd</sup> to 28<sup>th</sup> November 2020.
5. Kotaiah Naik Dhanavath, Emerging Tools and Techniques for Scholarly Communication, TEQIP-III Faculty Development Program, ICT Bombay e-Shodhyatra, 23<sup>rd</sup> to 04<sup>th</sup> December 2020.
6. Kotaiah Naik Dhanavath, Introduction to Additive Manufacturing, TEQIP-III Faculty Development Program, IIT Kanpur, 01<sup>st</sup> to 05<sup>th</sup> December 2020.
7. Kotaiah Naik Dhanavath, Finite Element Methods and Introduction to Materials Modeling, TEQIP-III Faculty Development Program, IIT Indore, 07<sup>th</sup> to 12<sup>th</sup> December 2020.
8. Kotaiah Naik Dhanavath, What to do with residual biomass?, TEQIP-III Faculty Development Program, IIT Roorkee, 14<sup>th</sup> to 18<sup>th</sup> December 2020.
9. Kotaiah Naik Dhanavath, Advances Manufacturing and Materials, TEQIP-III Faculty Development Program, IIT Indore, 18<sup>th</sup> to 20<sup>th</sup> December 2020.
10. Kotaiah Naik Dhanavath, Advanced Rechargeable Batteries: From Powder to Power, TEQIP-III Faculty Development Program, IIT Roorkee, 25<sup>th</sup> to 30<sup>th</sup> December 2020.
11. Kotaiah Naik Dhanavath, Introduction to Computational Fluid Dynamics, TEQIP-III Faculty Development Program, IIT Indore, 28<sup>th</sup> to 30<sup>th</sup> December 2020.
12. Kotaiah Naik Dhanavath, Advanced Technology For Integrated Computational Materials Engineering Education, TEQIP-III Faculty Development Program, IIT Indore, 28<sup>th</sup> to 30<sup>th</sup> December 2020.
13. Kotaiah Naik Dhanavath, Priyanka K, Bhagya Sri, Jayashree Anireddy, S Sai Prasad Potharaju, Production and characterization of bio-oil and bio-char from the pyrolysis of Karanja press seed cake, International Conference on Recent Advances in Chemical Engineering, OUCT, Osmania University, Hyderabad, 8<sup>th</sup> to 9<sup>th</sup> January 2020.
14. Kotaiah Naik Dhanavath, Priyanka K, Bhagya Sri, Jayashree Anireddy, S Sai Prasad Potharaju, Thermochemical Conversion of Agricultural Residue & Energy Crop Waste to Bio-fuels,



Conference: 107<sup>th</sup> Indian Science Congress, Agricultural University, Bangalore, 3<sup>rd</sup> to 7<sup>th</sup> January 2020.

15. Kotaiah Naik Dhanavath, Bhagya Sri, Jayashree Anireddy, S Sai Prasad Potharaju, Determination of kinetic parameters and thermal characterization of Mahua press seed cake by thermogravimetric analysis, International Conference: Energy & Environment: Challenges and Opportunities for Industries (EECOI), MNIT, Jaipur, December 28 – 29, 2019.
16. Kotaiah Naik Dhanavath, Biomass to Bioenergy and other value added products, TEQUIP-III Short Term Program, IIT Delhi, 25<sup>th</sup> to 29<sup>th</sup> November 2019.
17. Kotaiah Naik Dhanavath, Production of bio-oil and bio-char for thermal pyrolysis of kusum press seed cake, Conference of Samyukth, CSIR- IICT, Hyderabad, Telangana, India, 4<sup>th</sup> to 5<sup>th</sup> April 2019.
18. Kotaiah Naik Dhanavath, International Conference and Exhibition on Energy & Environment: Challenges & Opportunities, Vigyan Bhawan, New Delhi, India, 20<sup>th</sup> to 22<sup>nd</sup> February 2019.
19. Kotaiah Naik Dhanavath, Determination of kinetics parameters an thermal characterization of the Mahua press seed cake by thermogravimetric analysis, 9<sup>th</sup> World petro-coal congress, International conference, Parliament street, New Delhi, India, 15<sup>th</sup> to 17<sup>th</sup> February 2019.
20. Kotaiah Naik Dhanavath, Torrefaction char kinetics of microalgae in a fixed bed batch reactor, International Conference on Biotechnological Research and Innovation for Sustainable Development, XV BRSI Convention, CSIR- IICT, Hyderabad, Telangana, India, 22<sup>nd</sup> to 25<sup>th</sup> November 2018.
21. Kotaiah Naik Dhanavath, Torrefaction bio-char kinetics of kusum biomass in a fixed bed batch reactor, Conference: RACI Centenary Congress Melbourne, Australia, 23 to 28<sup>th</sup> July 2017.
22. Kotaiah Naik Dhanavath, Biofuels production from mahua biomass through novel non-catalytic thermochemical conversion technology, International conference on Water: Effective Technologies and Tools (WETT) Centre Water Research Symposium, RMIT University, Australia, 22<sup>nd</sup> to 29<sup>th</sup> September 2016.
23. Kotaiah Naik Dhanavath, Conference: Asian Pacific Confederation of Chemical Engineering (APCChE), Melbourne, Australia, 27 Sept – 01 Oct 2015.
24. Kotaiah Naik Dhanavath, Conference: International conference on new frontiers in chemical, energy and environmental engineering (INCEE), N I T Warangal, Telangana, India, 20<sup>th</sup> to 21<sup>st</sup> March 2015.

25. Kotaiah Naik Dhanavath, Srikar Bhattar, Srujana Mekala, Shuab Ahmad, Satyavathi B, Equilibrium modelling of corn stover gasification using steam, National conference on 11th Annual Session of Students Chemical Engineering Congress. Schemcon, MIT Academy of Engineering, Pune, Maharashtra, 2015.

PLACE: Hyderabad

A handwritten signature in blue ink, appearing to read 'Kotaiah Naik', is written on a light-colored rectangular background.

SIGNATURE