CURRICULUM VITAE

HARISH PUPPALA
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EDUCATION

Doctor of Philosophy (Geothermal Energy), BITS Pilani Rajasthan
Master of Engineering in Civil Engineering (Infrastructure Systems), BITS Pilani, Rajasthan
Bachelor of Technology in Civil Engineering, GEC, Andhra Pradesh

RESEARCH EXPERIENCE

PhD Thesis: Field Conceptualization, Characterization and Pre-Drilling Power Estimate of Geothermal Field in India

Emphasis on: Characterization of subsurface, Geostatistical Interpolation, Geographical Information Systems, Image processing, Fluid flow and heat transfer in porous medium, Singe phase flow, Multi-criteria decision-making techniques, 3D visualization of a geothermal field

Major findings:

1. Developed a new index introduced as Energy index to understand the advantages and pitfalls of each renewable source by considering the environmental and techno-economic aspects
2. Identified that Puga geothermal field is the most significant geothermal field among the explored promising fields.
3. An algorithm is developed to estimate thermo-hydro-geological parameters using available resistivity data
4. Developed 2D and 3D conceptual model of Puga geothermal field
5. Dynamic response of reservoir under various extraction schemes is studied and the power that can be generated is estimated. Further the suitable extraction scheme to harness energy from Puga geothermal field is proposed.

Recognitions: Published 6 articles including SCI and Scopus journals; 1- Book Chapter; 5-Conferences, Research work is featured in Global geothermal news and Indian Science Wire

M.E Thesis: Quantification and Enhancement of Spatial Accessibility to Health Care Units

Emphasis on: Pradhan Mantri Gram Sadak Yojana, Spatial Accessibility to Health Care units, Geographical Information Systems, Multi-criteria decision-making techniques

Major findings:

1. Quantified accessibility to community health care units
2. Developed a methodology for the allocation of resources to health care units
3. Proposed a new indicator introduced as RIS to evaluate the existing level of road connectivity

Recognitions: 2 Journal articles in review, 2 conference presentations at Transportation Research Board, Washington, 2 National conferences, Best student paper at TPMDC, IIT Bombay

RESEARCH INTERESTS

Renewable Energy: Conceptualization and Characterization of Geothermal Reservoir, Simulation of geothermal reservoir, Shallow geothermal systems
Infrastructure planning and management: GISHealth, Spatial accessibility, Facility Management, MCDM Techniques, Remote Sensing, Photogrammetry

SOFTWARE SKILLS

COMSOL Multiphysics, ArcGIS, QGIS, Basics of MATLAB

AWARDS AND SCHOLARSHIPS

1. Best student paper for the research entitled “Three-Step Floating Catchment Area to Quantify the Spatial Accessibility to Health Care Units” presented at 12th International Conference Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC), 19-21 December, IIT Bombay
2. Selected for **International Travel Grant by Science and Engineering Research Board, Government of India**, to present research work at Stanford University
3. Research work featured in Indian Science Wire and Global Geothermal News

LIST OF PUBLICATIONS

Articles published (Total articles are 6 as of 2019)

1. Jha, S. K., Puppala, H., & Kumar, M. M. (2020). 3D characterization of thermo-hydro-geological fields and estimation of power potential from Puga geothermal reservoir, Ladakh, India. ***Renewable Energy***, *146*, 1510-1523 (**I.F- 5.43, SCI-Expanded, Scopus**)

2. Puppala, H., & Jha, S. K. (2019). Extraction schemes to harness geothermal energy from Puga geothermal field, India. **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects**, 1-21. (**I.F- 0.8, SCI indexed**)

3. Puppala. H, and Jha, S. K. (2018). “Identification of Prospective Significance Levels for Potential Geothermal Fields of India.” ***Renewable Energy***, 127, 960-973 (**I.F- 5.43, SCI-Expanded, Scopus**)

4. Jha, S. K., & Puppala, H. (2018). Conceptual modeling and characterization of Puga geothermal reservoir, Ladakh, India. ***Geothermics***, 72, 326-337 (**I.F- 3.47, SCI, Scopus**)

5. Jha, S.K., Puppala, H., (2017). Prospects of renewable energy sources in India: Prioritization of alternative sources in terms of Energy Index. ***Energy*** 127, 116–127. (**I.F- 5.53, SCI, Scopus**)

6. Jha, S.K., Puppala, H., (2017). Assessment of subsurface temperature distribution from the gauged wells of Puga Valley, Ladakh. ***Geotherm. Energy*** 5. doi:10.1186/s40517-017-0061-4 **(I.F- 1.7, SCI-Expanded, Scopus)**

Book Chapters (Total Book chapters is 1 as of 2019)

1. Jha S.K., Puppala H. (2018) Study of Geothermal Energy Potential with Geothermal Doublet: A Case Study for Puga Valley Ladakh. In: Singh V., Yadav S., Yadava R. (eds) ***Energy and Environment. Water Science and Technology Library, vol 80. Springer***, Singapore

Conferences (Total conferences are 9 as of 2019)

1. Jha S.K., Puppala H. 2019, “Transients of Thermal Plume in Shallow Geothermal Energy Reservoir of Puga, Ladakh, India”, **HEFAT**, July 22-24, 2019, Wicklow, Ireland,

2. Puppala. H, and Jha, S. K. (2019) “Assessment of Transient Extractable Power from Puga Geothermal Field using Neural Network Model, ***44th Annual Stanford Geothermal Workshop***, Stanford, CA, 11-13 Feb, 2019

3. A.K Sarkar and Puppala H, (2019) Rural Inaccessibility Score (RIS): A New Approach to Quantify and Prioritize Rural Areas **98th** ***Annual meeting of Transportation Research Board***, 14-17 January 2019, Washington, D.C.

4. Puppala H, Shalini Kanuganti, AK Sarkar, Ajit Pratap Singh (2017) Quantification of Ideal Spatial Accessibility Using Three Step Floating Catchment Area Method ***96th Annual meeting of Transportation Research Board***, 08-12 January 2017, Washington, D.C.

5. Shibani K Jha and Puppala H (2016), Study of Geothermal Energy Potential with Geothermal Doublet: A Case Study for Puga Valley, Ladakh, ***International Conference on Water Environment, Energy & Society-2016***, ICWEES-2016, 15-18 March, 2016, Texas A & M University, USA &AISECT University, Bhopal, India

6. Shibani K Jha and Puppala H (2016), Three-Dimensional Kriging Analysis of Temperature Distribution: A Case Study for Puga Valley, Ladakh, ***International Conference on Recent Trends in Engineering and Material Sciences, ICEMS-2016***, March 17-19, 2016, Jaipur National University, Jaipur, India.

7. Puppala H, Ajinkya Ingale, AK Sarkar, Ajit Pratap Singh (2016). Three-Step Floating Catchment Area to Quantify the Spatial Accessibility to Health Care Units, ***12th International Conference Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC)***, 19-21 December, IIT Bombay (Best Student Paper Award)

8. Puppala H, S Kanuganti, A.K. Sarkar, Ajit Pratap Singh (2016) "Part to Whole Methodology in Planning to Enhance the Spatial Accessibility to Health Care Facilities Using GIS; at ***Geo smart India-2016***, 1-3 March, India expo center, Greater Noida, India

9. Rajiv Gupta, Puppala H, S Kanuganti (2015) Integrating Fuzzy AHP and GIS to Prioritize Sites for the Solar Plant Installation, ***12th International Conference on Fuzzy Systems and Knowledge Discover (FSKD'2015)***, held by Hunan University on August 15-17, 2015, in Zhangjiajie, China., P1550

PROFESSIONAL AFFLIATION

Reviewer for Journal of Applied Energy, Elsevier, I.F- 7.9
Reviewer for International Journal of Clean Energy, Taylor & Francis, I.F-1.17
Reviewer for IEEE Access, I.F- 4.09

CONFERENCE SESSION ORGANIZAITON

Student coordinator for National Workshop on Impact of Pradhan Mantri Gramin Sadak Yojna on Accessibility of roads in Rural Areas held at BITS Pilani, Pilani Campus.

Student coordinator for International Conference on Advances in Concrete, Structural & Geotechnical Engineering, held at BITS Pilani, Pilani Campus during 26-28 Feb, 2018

TEACHING EXPERIENCE

Applications of GIS in Civil Engineering, Open channel flow, Fluid Mechanics, Multi-criteria Decision Making, Principles of Geo-informatics, Fundamentals of System Engineering

REFERENCES

Dr. Shibani K Jha
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I do hereby declare that above particulars of information and facts stated are true, correct and complete to the best of my knowledge and belief

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