

VAIBHAV H. RAJPUT

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EDUCATION:

Ph.D., Petroleum & Natural Gas Engineering (*expected May 2016*) **GPA: 3.52/4.0**
The Pennsylvania State University, University Park, PA, USA

M.S., Petroleum & Natural Gas Engineering (*August 2012*) **GPA: 3.44/4.0**
The Pennsylvania State University, University Park, PA, USA

B.S., Chemical Engineering (*June 2010*) **Grades: 64.3/100**
Institute of Chemical Technology (*formerly UDCT*), Mumbai, MH, India

Expertise: Reservoir Engineering, Reservoir Simulation (Compositional, Black-Oil), Unconventional Reservoirs (Shale Oil, CBM), Data Mining Techniques, Artificial Intelligence Applications, Monte-Carlo Simulations

WORK EXPERIENCE:

Reservoir Engineering Intern, Shell International E&P, Houston, TX, USA **06/2014 – 08/2014**

- Performed research on phase behavior and reservoir simulation of shale reservoirs. Applied the findings to field data, leading to better understanding of production performance
- Developed simulation model in CMG software for wireline formation testing (WFT) tool for analyzing the phase behavior changes in shale reservoirs

Reservoir Engineering Intern, Baker Hughes RDS Geosciences, Houston, TX, USA **06/2013 – 08/2013**

- Developed an artificial expert tool for assisting in carrying out fluid sampling simulations for different probe types. The base code was written in MATLAB
- Implementation of the project led to savings to the order of \$100,000 due to reduction/optimization in rig operational time

Teaching Assistant, The Pennsylvania State University, University Park, PA, USA **01/2011 - present**

- Responsibilities included holding office hours, preparing and grading homeworks and exams, conducting lectures in instructor's absence, helping instructor with day-to-day course material preparation

RESEARCH EXPERIENCE:

Development and Application of a Compositional Reservoir Simulator for Liquid-rich Shale Reservoirs **06/2012 – present**

Ph.D. Research, Supervised by Dr. Turgay Ertekin, Penn State University

- Developed a three-phase, 3D compositional reservoir simulator that can handle formation of condensates in shale gas reservoirs. The code is written in C++ and MATLAB
- Benchmarked the in-house code with available industry-standard simulator (CMG)
- Proposed and published application of adsorption model to liquid-rich shale systems (SPE paper 169589)

A Production Performance Prediction and Field Development Design Tool for CBM Reservoirs **04/2011 – 05/2012**

M.S. Research, Supervised by Dr. Turgay Ertekin, Penn State University

- Formulated an artificial neural network model for CBM reservoirs (SPE paper 169588). Code was written in MATLAB
- Applications of the model included predicting field performance and suggesting optimum design specifications for field development. Optimization was performed based on maximization of net present value (NPV)

ACADEMIC/ RESEARCH PROJECTS:

Pairing of Integrated Gasification (IGCC) and Enhanced Geothermal System (EGS) to reduce water consumption in New Mexico Region – Penn State U. **01/2011 – 05/2011**

- Spearheaded the reservoir engineering aspect of the project in a team of 8 other students
- Evaluated design scenarios through an extensive reservoir simulation study using CMG STARS

TECHNICAL SKILLS & INTERESTS:

- **Softwares:** CMG suite, ECLIPSE, PVTsim, RCISim, FracPro, ARIES, Microsoft Office, SAS
- **Languages:** C/C++, MATLAB, Python (Numpy, Pandas, Scikit-learn), R (dataframes, glm, ggplot), SQL
- **Interests:** Cricket, Chess, Formula 1

AWARDS/ CERTIFICATES:

- **Teaching and Research Assistantship**, EME Department, Penn State U., Spring 2012 - present
- **PNGE Graduate Scholarship**, EME Department, Penn State U., Spring 2012
- **DataCamp Certificates** (www.datacamp.com):
 - R (Introduction to R, Intermediate R, Importing data into R, ggplot)
 - Statistics with R (Student's t-test, ANOVA, Repeated Measures ANOVA, Linear and Multiple Regression)
 - Python (Introduction to Python, Intermediate Python)