

JESSICA CLAIRE

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Profile

Results driven and team oriented reservoir engineer with extensive experience in reservoir management, enhanced oil recovery, reserve evaluation, integrated reservoir modeling, compositional simulation, economic analysis, geomechanics, and project management, looking to utilize his diverse analytical and research skills in a challenging role. Fluent in English and French. Has experience working with professionals of different technical and cultural backgrounds.

Skills

- Pressure and rate transient analyses
- Decline curve analysis (Fekete Harmony)
- Volumetrics and material balance
- Economic analysis (ARIES)
- Knowledge in SEC reserves estimation concepts
- Project management
- Reservoir management
- History-matching and production forecast
- Compositional and black oil simulation
- Enhance oil recovery (Waterflooding, CO₂ injection, WAG, and polymer flood).
- Knowledgeable in unconventional resource evaluation and modeling of fractured systems.
- Good understanding of reservoir geology and depositional system fundamentals
- Geochemical modeling
- Reservoir geomechanics
- Good understanding of log and core analyses

Accomplishments

Strategic development

- Contributed in negotiations between operators and CO₂ suppliers to evaluate the technical and economic viability of CO₂ enhanced recovery in three Illinois Basin oil fields. This will result to potential increase in profit oil by about half a million barrels.

Project Management

- By being the Principal investigator for a US Department of Energy project my employer gained an award of \$1,000,900.
- Demonstrated technical and managerial leadership by putting together a team of geoscientists and engineers to complete projects on time and within budget thus saving client about \$2 million in capital and operational cost.
- Directed and mentored interns who later landed permanent positions as a result of my efforts.
- Trained engineering staff on how to use and troubleshoot Landmark Nexus and Eclipse commercial simulators and so doing increased efficiency of the group by 15%.

Project coordination and outreach

- Led a team of three researchers to three universities in Cameroon to donate computers and provide training in ArcGIS, MS Excel and MS Access to geoscience graduate students and staff, in March 2014.

Appointments and awards

- Appointed by dean of Graduate School to serve as student representative of the graduate council at the University of South Florida from 2007 to 2009, to advise the dean on general policies and procedures on matters related to graduate education and research.
- Received the European Union- Greenhouse-gas Removal Apprenticeship and Student Program (EU- GRASP) post-doctoral research scholarship from 2009 to 2010.

Professional Experience

Consultant, 2009

Synopsys, Inc. – Florida, PR

Feasibility study of CO₂ storage and wastewater disposal into the Lawson Formation in Polk County, Florida

- Develop a semi-analytical equations to estimate CO₂ storage efficiency and pressure changes at the wellbore.
- Conduct fluid flow and geochemical simulations of CO₂ and municipal wastewater injection.
- Evaluate geomechanical effects of fluid injection into the Lawson formation.

Reservoir Engineer , 2011 to 10/2014

Air Products And Chemicals – Milwaukee, WI

02/2011 – 09/2012 Investigator

Miscible and immiscible CO₂ EOR pilots Fields: Mumford Hills (Clore sandstone) and Sugar Creek (Jackson sandstone). Operator: Gallagher Drilling Inc, Evansville Indiana

- Work diligently with geoscience and engineering staff to develop models that reflect geology and reservoir features.
- Collect and synthesize input data for compositional simulations.
- Calibrate reservoir models to field observations and data.
- Estimate reserves and forecast production using both analytical techniques and compositional simulation.
- Evaluate the viability of different field development scenarios and new drilling locations.

04/2012 – 12/2013 Key personnel

Development of dimensionless performance curves for three of the most prolific oil producing formations in the Illinois Basin (Aux Vases (sandstone), Cypress (sandstone), and Ste. Genevieve (carbonate))

Fields: Clay City, Dale, Johnsonville, Iola, Lawrence, Mill Shoals, Olney, and Zeigler.

Operators: Elysium Energy LLC, Sherman Oil, Farrar Oil Co. Inc., Rex Energy, Gallagher Drilling Inc., etc.

- History-match reservoir models to field observations and data.
- Design 5-spot patterns of different sizes (20, 40, and 80 acres) for the eight oil fields.
- Conduct miscible and immiscible compositional simulations of continuous CO₂ and water-alternate-CO₂ injection
- Generate dimensionless curves from simulation results to evaluate EOR performance for each oil field.

10/2012 – 09/2014 Principal Investigator

Depositional environment and storage efficiency Project

Depositional environments: shelf clastic, shelf carbonates, reef, deltaic, fluvial deltaic, fluvial & alluvial, turbidite, and strandplain.

- Define, plan, monitor, and modify project. Evaluate progress using MS Project. (www.CO2sinkefficiency.org)
- Work with a team of sedimentary geologists, geostatisticians, engineers, and field operators to develop rigorous geologic and geocellular models of formations having different depositional environments.
- Mentor and train reservoir modeling staffs develop skills to conduct compositional simulations.
- Develop simulation workflow and manage reservoir modeling tasks.
- Design and manage the development of an access database tool used to analyze and interpret simulation results.

Other responsibilities

- Provide general reservoir engineering and characterization expertise to other projects
- Respond to request from field operators, agencies, and staff.
- Lead research tasks in other projects.
- Write reports, journal manuscripts and communicate results to management and clients.

Post-Doctoral Research Engineer, 10/2009 to 09/2010

Schlumberger – City

Coupled CO₂ EOR-geomechanics simulation study (Aneth Field, Paradox Basin, Utah, Operator: Resolute Natural Resources)

- Calculate equation of state using measured crude oil properties.
- Upscale reservoir static model using Petrel.
- Collect and generate input data for compositional simulations
- History-match reservoir model to field data and estimate hydrocarbon reserves.
- Conduct coupled flow-geomechanical reservoir simulation of CO₂-EOR and storage using Visage.
- Analyze simulation results and evaluate changes in reservoir stress and strain
- Correlate predicted geomechanical stress changes with observed microseismicity
- Conduct simulation studies to evaluate impact of inflow-control-devices on well injectivity.

Geophysical survey assistant, 10/2004 to 06/2005

COWI A/S – City, STATE

- Line-up cables and place geophones for geophysical surveys
- Assist in equipment and personnel transportation to field sites.

Education and Training

Training: 2014

- Landmark Aries training course, June 05, 2014, Houston, Texas.
- Practical aspects of CO₂ flooding, April 13, 2014, SPE 19th Symposium on Improved Oil Recovery, Tulsa, OK.
- Reservoir characterization from laboratory to field, April 12, 2014, SPE 19th Symposium on Improved Oil Recovery, Tulsa, OK.

Training: 2013

- Landmark Nexus Basic Reservoir Simulation Course, May 20-22, 2013, Houston Texas.
- Landmark Nexus Intermediate Reservoir Simulation Course

Training: 2012

- Kepner-Tregoe Project Management Workshop, July 11-13, 2012, Champaign, Illinois.

Training: 2011

Evaluating Reservoir Quality, Seal Potential, and Net Pay Course, July 14-15, 2011, Champaign, Illinois.

Ph.D: Civil Engineering, 2009

University of South Florida - Tampa, FL

M.S: Petroleum Engineering, 2004

Technical University of Denmark - Lyngby, FL

B.S: Chemistry, 1997

University of Buea - Buea, FL

Minor in Chemical Process Technology

Training

Schlumberger Eclipse, Petrel, VISAGE, and PVTi, on-the-job training, 2010

Affiliations

- Society of Petroleum Engineers

- American Geophysical Union

- University of South Florida Alumni

Computer Skills

Aries, Nexus/VIP, Petrel, Eclipse, VISAGE, Petra, CO₂ Prophet, Fekete Harmony, Kinder Morgan CO₂ scoping model, Desktop-PVT, TOUGH2 and TOUGHREACT, ArcGis, Envi, C++, Fortran, and UNIX.