

## DENING (ERIC) JIA

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### KEY QUALIFICATIONS AND SKILLS

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- 4+ experience in process design, simulation and chemical reactor engineering.
- Solid background and understanding of oil and gas production and processing.
- Project management experience overseeing R&D projects and research team.
- Strong oral and written communication skills demonstrated through internal and external presentations, scientific publications, technical reports and industrial consultations.

### TECHNICAL KNOWLEDGE

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- Process design, simulation and optimization using Aspen Plus and HYSYS.
- Considerable expertise in multi-phase flow systems; ability to design, model, operate and troubleshoot gas-solid fluidized beds and other fluid-particulate systems.
- Knowledge of modern process control, both industrial operations (PLCs), pilot-scale facilities (NI LabVIEW) and laboratory-scale systems (Visual Basic).
- Data acquisition and analysis for process monitoring, diagnostics and optimization.
- Computational fluid dynamics simulation in ANSYS FLUENT and COMSOL Multiphysics.
- Teaching and research experience in transport phenomena, including heat transfer and mass transfer of multi-phase systems, authored a book chapter in this very subject.
- MS Office, OriginPro, NI LabVIEW, AutoCAD Inventor, programming in C, VB and MATLAB.

### EDUCATION

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#### Doctor of Philosophy

March 2017

*Chemical and Biological Engineering, University of British Columbia, Canada*

Concentration: Hydrodynamics, heat and mass transfer in a fluidized bed.

#### Master of Applied Science in Engineering

July 2012

*Chemical Engineering and Technology, China University of Petroleum (Qingdao)*

Concentration: CFD simulation of multi-phase flow in fluid catalytic cracker, GPA 4.0/4.0

#### Bachelor of Engineering

July 2009

*Chemical Engineering and Technology, China University of Petroleum (Qingdao)*

Concentration: Petroleum refining, GPA 4.0/4.0

### RELEVANT CHEMICAL ENGINEERING EXPERIENCE

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#### Process Engineering Consultant

Oct. 2016 – Present

*GLAB Inc./Teck Trail Operations, Trail, BC, Canada*

- Contracted by Teck for the design, commission and operation of a high-frequency data logging system intended for the fluidized bed ore upgrader;
- Integrated the highspeed signal processing module to existing DCS to detect operational abnormalities and issue early warnings;
- Documented findings into technical reports and wrote work procedures for operators.
- Coordinated with onsite engineers of other discipline and project support staff.

**Postdoctoral Research Fellow**

Apr. 2017 – Present

*University of British Columbia*

- Designed a new fluidized bed reactor system for thermal conversion of agricultural, forest and municipal wastes, as well as downstream apparatuses for product upgrading;
- Performed essential calculations and cost-effectively sourced key components from various vendors in compliance with design specifications and safety codes;
- Ensured timely development of project and clear communications between all parties, led a team of graduate students towards their research objectives.

**Student Intern**

Sep. 2013 – Apr 2016

*Highbury Energy, Vancouver, BC*

- Assisted in the operation and maintenance of a commercial-scale dual-bed biomass gasifier for syngas production, familiarized with common analytical methods for biomass thermal conversion including ultimate and proximate analysis, GC and TGA operations;
- Programmed a monitoring, online analysis and control system in LabVIEW, incorporated multiple capacitance probes, over 40 thermocouples and pressure transducers.

**ADDITIONAL PROFESSIONAL EXPERIENCE**

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**Instructor, Process Control Workshop**

Jul. 2014 – Dec. 2016

*University of British Columbia*

- Designed a new workshop as part of the Process and Environmental Engineering Laboratory course (CHBE 362, average class size: 90); drafted lab manuals, designed procedures, prelab assignments, lab report format and evaluation standard;
- Directly interacted with over 200 students during and after the lab, including presentations and demonstrations, as well as after-hour consultations; accurately marked and graded assignment work and examinations.

**Graduate Assistant**

Sept. 2016 – Jan. 2017

*UBC APSC Sustainability Pathway Initiative, Vancouver, Canada*

- Assisted in the development of the Applied Science Sustainability Pathway Engagement Initiative to develop strategies for the sustainable development in the faculty;
- Identified sustainability-oriented courses in faculty experiences and drafted strategy proposals for implementing undergraduate curriculum changes.

**Technical Translator**

Dec. 2014 – Present

*Knowtions.com, Toronto, Canada*

- Contributed to the conception of Knowtions.com, a professional translation initiative (now acquired by Google and contracted by Elsevier for textbook/journal translations).
- Translated and edited 100+ English-Chinese and Chinese-English technical literatures with very high customer satisfaction.

**MEMBERSHIPS AND AWARDS**

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**Engineer in Training (EIT), APEGBC**

Since Jun. 2017

**Member, American Institute of Chemical Engineers (AIChE)**

Since Jan. 2013

**GLS-6 Chemical and Biological Engineering Award**

Aug. 2017

**Kashmir Singh Manhas Scholarship in Applied Science**

Jul. 2015

**John R. Grace Graduate Scholarship in Chemical Engineering**

Sep. 2014