Yizhi Hong

4050 Pendleton Dr. Apt. 432, Bryan, TX 77802 | Phone: (979) 255-1631 | Email: hongcome@tamu.edu

OBJECTIVE Seeking an internship or co-op in process safety for Spring/Summer 2016

EDUCATION

Texas A&M University, College Station, TX — Dec 2016
Ph.D. in Chemical Engineering — Overall GPA: 3.4 / 4.0
Specialization: **Process Safety** — Advisor: Dr. M. Sam Mannan

Zhejiang University, Hangzhou, China — May 2011
B.S. in Chemical and Biological Engineering — Overall GPA: 3.7 / 4.0

PROFESSIONAL EXPERIENCE

Work Experience

DNV GL, Dublin, OH — May 2015 – Jul 2015
Intern in Pipeline Risk Assessment Section

Pipeline Equipment Degradation Document

- Established a model to assess the frequency of intentional pipeline incidents caused by Vandalism and Cyber Attack
- Identified potential protection and mitigation strategies and evaluated their efficiencies
- Generated a final report and verified the model by historical data of 11 different locations provided by clients

Natural Gas Transition Line Consequence Modeling

- Took initiative to improve original model by analyzing the thermal and overpressure effect zone of more than 10000 natural gas pipeline leak and rupture scenarios
- Constructed a comprehensive table to automatically generate quantitative results upon inputs of pipeline dimensions and operating conditions
- Collaborated with another section of the company to sell the model and received project funding for further development

Facility Siting for a Pipeline Operation Company

- Modeled rupture and leak consequences of 18 tanks and pipeline corridors
- Evaluated the domino-effect of tank accidents and impact to surrounding environment

Pipeline Incident and Accident Data (1970 – 2015) Collection and Update

- Compared historical PHMSA database formats and designed a new spreadsheet
- Collected 42909 gas and liquid pipeline incidents

Academic Research Experience

Mary Kay O'Connor Process Safety Center (MKOPSC), Texas A&M University — Aug 2013 – Present
Graduate Research Assistant — Research topic: **Risk assessment**

Thesis topic: A Fuzzy Logic and Probabilistic Hybrid Approach to Quantify the Uncertainty in Layer of Protection Analysis (LOPA)

- Developed a novel approach to determine failure rate and probability considering both data and expert experience
- Quantified the uncertainty of parameter through statistical and fuzzy logic approaches
- Performed Hazard and Operability Study (HAZOP) and applied new LOPA method to a distillation unit process

Selected Industrial and Academic Projects Participation at MKOPSC

DOT-Radio Frequency Identification (RFID) Smart Corrosion Coupon — Sep 2013 – May 2015

- Managed and coordinated 13 undergraduate students in 5 sub-teams
- Constructed an environment chamber under ASTM B-117 standards and designed a continuous monitoring interface by Labview
- Designed and modified smart corrosion coupons to monitor external corrosion and conducted experiments to verify the effectiveness
- Competed a final report and proposed next steps of the work

Pressure Relief Valve (PRV) Failures in US DOT Tank Cars — Aug 2014 – Present

- Conducted a thorough literature review on corrosion and proposed the potential causes for PRV failures
- Drafted a proposal for PRV failures caused by Stress Cracking Corrosion

Executive Order 13650: Additional Stationary Source Siting Requirements — Jan 2014 – Oct 2014

- Participated in a team of 20 and led a sub-team
- Developed a report on potential revisions to EPA Risk Management Plan (RMP)

Term Contract for Petroleum Systems Integrity Office Technical Service — Oct 2013 – Jan 2014

- Analyzed regulatory gaps/overlaps of Offshore Facilities
- Researched offshore related government regulations and industry standards

Guidelines for Decommissioning and Mothballing in Petroleum Industries — Nov 2013 – Aug 2014

Short Course Material Development and Book Chapter Development — Sep 2013 – Oct 2013

SKILLS

Risk Assessment Tools: HAZOP (Proficient); LOPA (Proficient); Fault Tree/Event Tree Analysis (Proficient); Logic diagram analysis; Bow-tie analysis
Computational Software: PHAST (Proficient); MATLAB (Proficient); FLACS; LabVIEW; C++; VBA; CFD
Laboratory Skills: Corrosion Tests (Proficient); Biology-related Experiments (Proficient); SEM; TEM
Regulation Knowledge: EPA Risk Management Plan (RMP)
Language Skill: English (Full professional proficiency); Chinese (Native)

PROFESSIONAL TRAININGS

- Layer of Protection Analysis by SIS-TECH Solution
- PHAST Training by DNV
- "What went wrong" Training by MKOPSC
- Gas Explosion Hazards by GexCon
- FLACS Training by GexCon
- Molecular Modeling Training
- Process Safety Engineering
- Advanced Engineering Mathematics
- Quantitative Risk Analysis
- Bayesian Network Course
- Statistics
- Fire Protection

TEACHING EXPERIENCE

Teaching Assistant for Undergraduate CHEN Thermodynamics I — Jan 2013 – May 2013

- Developed and lectured lessons to assist the professor in teaching
- Provided guidance through one-on-one mentoring to improve students' performance

Inspection of 6 laboratories — Jan 2015 – Present

- Inspect labs bi-weekly and mentored students in conducting lab inspection

LEADERSHIP

Founder of a Philosophy Reading Club, Zhejiang University — May 2008 – Jul 2011

AWARDS AND ACTIVITIES

Member of National Association of Corrosion Engineers (NACE) — Apr 2014 – Present
Excellent All-round student — 2009
First Class Academic Scholarship — 2009
Second Class Academic Scholarship — 2008