

**Name:** Sheng-Yi Chuang  
**Title:** Senior Staff Technologist  
**Education:** Ph.D., Chemical Engineering, Rice University  
B.S., Chemical Engineering, National Taiwan University  
**Experience:** More than thirty years experience in process design and engineering for EPC contractors relative to ethylene, LNG, gas processing, and coal gasification industries. Work has involved technology evaluation, process design and studies, detailed engineering, and start-up.

### **Technip USA, Inc., Houston, TX, From 2001-**

#### ***Process Lead***

#### **Chevron, Escravos Gas Plant, Nigeria**

Study to evaluate the sales gas compression system to meet the sales gas target. The gas plant processes gas from off-shore production platforms.

#### **OxyChem, KOH Conversion Project, Taft, LA**

Front End Engineering Design (FEED) for KOH Conversion.

#### ***Process Lead***

#### **Shell, Confidential Study, Confidential Location**

Confidential study for Shell to evaluate different processing options to monetize the wellhead gas containing impurities for pipeline quality natural gas.

#### ***Process Lead***

#### **PDVSA, NGL Recovery, Venezuela**

Proposal to process 600 MMSCFD of natural gas for NGL recovery for a PDVSA plant in Venezuela. The project has been awarded to a subsidy of Technip.

#### ***Process Lead***

#### **Provident Energy Limited, Fractionator FEED Package, Canada**

FEED package for COS hydrolysis of propane at Provident Energy Limited's Redwater Fractionation Plant in Canada. The revamp work has been implemented.

#### ***Process Lead***

#### **India Petrochemicals Corporation / Reliance Industries, Cryogenic Gas Plant, India**

Performed expansion studies for IPCL / RIL Cryogenic Gas Plant in India for ethane-propane recovery and follow up for project execution. The study has become an awarded project for Technip India Limited.

**Process Lead****Texaco**

- Provided process support for cost estimating by Technip for Texaco Hydrocarbons to Liquids Study based on gasification of petroleum coke.

**Others:****Q-Chem II, Ethylene Plant Feasibility Study, Qatar**

- Worked on a petrochemical complex feasibility study involving an ethylene and a HDPE plants in Qatar (Q-Chem II).

**Dow Chemical Ethylene Plant Proposal, Oman**

- Process design for a proposal for a new ethylene plant.

**Promix**

- Performed a debottlenecking study for a fractionation train at Promix K/D/S Gas Plant in Louisiana.

**Air Products and Chemicals Inc.**

- Conducted study for recovery of off-gas from refinery.

**BP LNG Liquefaction Study, Trinidad**

- Conducted assessment of IFP's Liquefin Process for BP Sunrise LNG Liquefaction Project from Paris, France.

**Freeport LNG and Gulf LNG Plants, USA**

- Supported process design for two LNG import terminal projects for Freeport LNG and Gulf LNG.

**More LNG Plants**

- Performed study for El Paso Needle Mountain Gas Plant for increased peak-shaving capacity.
- Provided process support for cost estimating of a LNG peak shaving plant in Brazil for Repsol-YPF.
- Conducted in-house study and prepared design manual for LNG Import Regasification Facility

**Consultant to Texaco, 2000**

Provided consulting for pre-commissioning and startup of Farmland Coke to Ammonia Gasification Plant at Coffeyville, Kansas for Farmland Industries. Provided Texaco startup support for Huainan Chemical Works Coal Gasification Plant in China for production of ammonia from coal.

**Bechtel Corporation, 1980 to 1999*****Chief Process Engineer / Engineering Supervisor*****Petrochemicals / Ethylene / Polyolefins**

- Process Manager for Detailed Feasibility Study on Additional World-Scale Ethylene/Propylene Projects for Petronas of Malaysia. Performed feedstock selection and licensor evaluation. The plant was built at Kerteh, Malaysia.
- Technical Manager for Feasibility Studies for Thailand's Second and Third Petrochemical Complex Upstream Units in 1988 and 1994 respectively. Performed feedstock and capacity selection, unit configuration and licensor evaluation.
- Process Manager for the Texaco PO/MTBE Project in charge of process design and commercialization of the Texaco process from pilot plant work. The Texaco process converts isobutane to propylene oxide and TBA through peroxidation and epoxidation.
- Lead Engineers for process design of three gas phase HDPE pilot plants for Quantum Chemical Corp./USI Division at Morris, IL. Work involved gas phase polymerization, catalyst preparation, and catalyst injection
- Engineering Supervisor for Cities Service gas phase high density polyethylene (HDPE) commercial plant process design based on scale-up of pilot plant data. Work included cost studies, conceptual design, process flow diagrams, equipment sizing, P&I D and development of reactor program.

**LNG /Oil and Gas**

- Conducted the Pre-Conceptual Study for Phillips Gujarat LNG Regasification Project to produce fuel gas from liquefied natural gas at the import terminal in India.
- Provided technical support to the Atlantic LNG Project for Trinidad and a number of LNG studies based on Phillips' cascaded refrigeration process.
- Performed conceptual studies for expansion of the four train LNG plant and terminals at P. T. Badak in Indonesia.
- Conducted process design and safety analysis for oil and gas production from Gullfaks A offshore platform in the Norwegian Section of the North Sea for Statoil. Resided in Oslo, Norway.
- Assignments in London for a pre-feasibility LNG study for a confidential client (including economic studies) and proposals for oil production from onshore and offshore wellheads in the Zeit Bay in Egypt for Suez Oil Company, and a gas treatment plant extension in Oman.

- Performed process design for the recovery of natural gas liquids and nitrogen reinjection for Amoco's Anschutz Ranch East NGL/NRU Project. Surveyed field installation and developed P&IDs for reengineering of Chevron's Mt. Belvieu Terminal in Texas for salt dome storage of hydrocarbons.

### Coal Gasification and IGCC

- Conducted the Pre-feasibility Study for Integrated Utilities Facilities for BASF/YPC Ethylene Complex in Nanjing, China for Enron based on IGCC and assisted Enron in making presentations to BASF and Yangzi Petrochemical Company.
- Process Manager for Tampa Electric Company Polk Power Station - Unit 1 Project. Texaco Coal Gasification Process is utilized to make synthetic gas from coal for generation of power through integrated combined cycle (IGCC). It also includes a DOE-supported hot gas clean-up demonstration unit.
- Consultant to Texaco Development Company for two Chinese gasification projects during the process design package phases for Shanghai Coking and Chemical Company and Weihe Chemical Fertilizer Plant.
- Consultant to the First Design Institute of the Ministry of Chemical Industry, PRC (Tianjin, China) for design and startup of the Lu Nan Coal Gasification Plant in Shandong Province to produce synthetic gas from coal for ammonia plant.
- One and a half years assignment at Cool Water Coal Gasification Program in California to conduct test and demonstration for the technology. The program was a joint venture of Bechtel, Texaco, General Electric, Southern California Edison with support from the U.S. Department of Energy.

### ABB Lummus Global Inc., 1973 to 1980

#### *Senior Process Engineer*

#### Ethylene / Polyolefins

- Lead Engineer for design of ARCO Olefins I and II Plants to produce ethylene and co-products from naphtha and gas oil feedstocks. Complete process design experience from conceptual design, process simulation, detailed engineering through startup including two years at job site on startup and monitoring of plant operation.
- Performed studies for de-bottlenecking of plant operation for DuPont's Sabine River Works ethylene plant.
- Performed process design for a HDPE and a polyolefins pulp plant based on Solvay's technologies.