Yun Yang

Design Engineer - Lincoln Electric

Berwyn, PA - Email me on Indeed: indeed.com/r/Yun-Yang/94ec763c11a5ce91

Willing to relocate: Anywhere

WORK EXPERIENCE

Design Engineer

Lincoln Electric - 2015 to Present

• Provided plasma cutting torch design and support;
• 2D/3D CAD design, CFD/FEM and plasma torch simulations;

Chief Scientist (contract)

MagneGas.com - Tampa, FL - 2012 to 2014

• Provided plasma reactor design and support, chemical analysis instruments service and supports;
• 2D/3D CAD design, CFD/FEM and plasma discharges simulations;
• Overview Hydrogen and SynGas productions by plasma discharges.
• Chemical lab supervise of (inductively coupled plasma) ICP/MS, GC/MS, HPGC/MS, QMS and FT-IR, Optical Emission Spectroscopy

SENIOR RESEARCH ENGINEER

Atlantic Hydrogen Inc - Fredericton, NB - 2005 to 2012

Designing and conducting plasma reactor CFD simulation, utilizing innovative and cutting-edge technology with high-confidence and accuracy. Rich experience on: Plasma Chemistry; Plasma Physics; Fluid Dynamic; Carbon Particulate; CO2 reduction; Natural gas conversion; Process Chemical Simulation; CFD simulations etc.

• Thermodynamic and Heat Transfer design and optimization process: gas flow, mechanical control components, cooling, thermal dynamic, and related chemical reactions;
• Plasma reactor design: RF, AC and microwave sources;
• Demonstrate engineering and analytical skills in evaluating thermal and structural analysis with CFD and FEM tools
• Experience troubleshooting, maintaining, and performing routine repairs on measurement instrumentation.
• Experience with several analytical techniques such as GC, GC/MS, FT-IR, Optical Emission Spectroscopy;
• Experience with high-vacuum technology.

Post Doc. and Research Associate

Wolfson School of Mechanicl and Manufacture Engineering, Loughborough University, UK - 2002 to 2004

Diesel Engine Combustion Simulation and Particulate Filter Plasma Regeneration System
• Diesel engine combustion simulations
• Diesel engine particulate filter regeneration system (microwave and atmospheric pressure plasma)

RESEARCH FELLOW

Institute of Mechanics, Chinese Academy of Sciences - 北京市 - 1993 to 1998

• inductively coupled plasma (ICP) source, and sub-micrometer wafer etching processing using ICP
• kinetics and fluid model (CFD) simulations of the etching and the chemical reactions in the plasma
• experiment of SiO2 and polysilicon etching using ICP

EDUCATION

Ph.D in Experimental Plasma Physics
Ernst-Moritz-Arndt University - Greifswald
March 2004

Ph.D. in Engineering of Material Physics
Beijing Science & Technology University - 北京市
August 1998

Bachelor in Physics
Beijing Science & Technology University - 北京市
February 1993

English, German, Chinese
Yunnan University
July 1989

ADDITIONAL INFORMATION

COMPUTER SKILLS
• Computer language for coding: Fortran, C/C++, and Matlab;
• Chemical Process Engineering software: Chemkin, AspenPlus;
• CAD design software: Solidworks, and Pro-Engineer;
• Multi-physics Software: Comsol, Ansys;
• CAE software: HyperWorks;
• Computational Fluid Dynamics (CFD) software: Fluent, Star-CCM+, Star-CD (cd-adapco), Autodesk Simulation CFD;
• FEA analysis: Ansys;
• Plasma simulations: Comsol, ESI-CFD, PIC (particle-in-cell)

Experiment abilities
• Metallograghic Microscopy; Scanning and Transmission Electron Microscopy; Auger Spectra Record; AIMS profiles and XPS analysis;
• Gas Chromatography (GC); Gas Chromatography/Mass Spectrometry (GC/MS); Quadrupole Mass Spectrometry (QMS); ICP-MS; FT-IR;
• Optical Emission Spectroscopy;
• high-vacuum technology, wafer plasma etching;
• Process Engineering: pressure, gas flow and temperature control.