

# ZHANG Xu

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## Language

- Chinese (Native proficiency)
- English (Professional working proficiency)

## Skills

- Digital Light Printing (DLP) technology
- Mechanical and thermal properties testing (Tensile, Impact, HDT, DSC tester)
- Accelerated Weathering Tester
- Innovation Yellow Belt certificate (six sigma)
- Respond to Fire Incident in Workplace certificate
- Transient Plant Source Method

## Software

- ChemDraw
- OriginLab
- MS Office

## Education

### Master of Science in Industrial Chemistry (Distinction)

Jul 2019 - Apr 2021

German Institute of Science and Technology, TUM-Asia, NUS, Singapore

- NUS CAP 4.38/5
- TUM CAP 1.3/5 (1 for full CAP)

### Bachelor of Engineering in Polymer Science and Materials

Sep 2015 - Jul 2019

Northwestern Polytechnical University, NWPU, China

- GPA 87/100 (top 10%)

## Research Experience

### National College Students' Innovation and Entrepreneurship Training Program, China

May 2016 - Apr 2017 (Bachelor)

Program Code: 201610699271

- Research on the fabrication of modified cyanate ester resins/ high modulus poly (p-phenylene-2,6-benzobisoxazole) (HMPBO) fibers wave-transparent composite;
- Soluble epoxy-terminated PBO precursor (epoxy-prePBO) was fabricated;
- Wave-transparent composite with 7wt% epoxy-prePBO showed satisfactory dielectric constant ( $\epsilon$ , 2.68) and dielectric loss tangent ( $\tan\delta$ , 0.0061) values.

### Study on Preparation of Dopamine-coated Boron Nitride/Polyimide (h-BN/PI) High Thermal Conductivity Composites, China

Dec 2018 - Jun 2019 (Bachelor)

- h-BN nanoparticles modified by dopamine were fabricated;
- Thermal properties of composites with the loading of 20vol% h-BN were improved (in-plane thermal conductivity as 3.009 W/mK). Research on the fabrication of modified cyanate ester resins/ high modulus poly (p-phenylene-2,6-benzobisoxazole) (HMPBO) fibers wave-transparent composite.

## Work Experience

### Chemist (Full time)

Aug 2021 - Present

Evonik (SEA) Pte Ltd., Singapore

- Daily lab work (formulation making, resin printing, testing, and housekeeping activities);
- Analyze lab data, independently summarize and make proposals for the further steps;
- Ability to operate DLP printers and troubleshoot or adjust printing parameters independently;
- Work on ESTER system (EHSQ) to fulfill the safety of operating equipment in lab;
- Assist in onboarding training of new joiners (Interns, contractors or trainees).

Phoenix Project

- Participate in and conduct the formulation, printing and testing jobs for project Phoenix (INFINAM ST6100L, a photopolymer material exhibits excellent mechanical and high temperature resistance);
- Conduct resin iteration, postcuring study, daily sample printing, characterization and aging study.

Phlame Project

- Participate in and work as a lead chemist in project Phlame (INFINAM FR 4100L, a photopolymer material exhibits flame retardant and mechanically durable after cured);
- Optimize printing settings, postcuring study, aging and chemical resistance study, supporting data generation for IP work;
- Continuously work with customers to address the technical problems encountered.

### Internship for Research & Development Work

July 2020 - Apr 2021

Evonik (SEA) Pte Ltd., Singapore

- Formulate photopolymer resin and conduct 3D printing work
- Conduct mechanical and thermal properties testing for plastic materials
- Participate in housekeeping and research discussion
- Analyze data and responsible for development of projects and QC of the materials

## Awards

- DAAD Scholarship
- Outstanding Volunteer Award in IICC-X&NPUMUN Conference
- Honorable Mention Award in Mathematical Contest in Modeling/Interdisciplinary Contest in Modeling (MCM/ICM)
- NWPU First-class Scholarship
- Distinguished Delegation Award in National MUN (NMUN-New York)
- NWPU First-class Scholarship
- NWPU First-class Scholarship

CY 2020-2021  
May 2018  
Apr 2018

CY 2017 - 2018  
Apr 2017

CY 2016 - 2017  
CY 2015 - 2016

## Publications

- Dongliang Ding, Zhihui Shang, Xu Zhang, Xingfeng Lei, Zhenguo Liu, Qiuyu Zhang, and Yanhui Chen. *Ceramics International*, 2020 (Bachelor thesis work);
- Tough Flame-Retardant Radiation Curable Composition for Additive Manufacturing (Halogen-free), 2023E00236 SG, Inventor, 2023 (Project Phlame).