

# Yongqi Yang

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CONTACT INFORMATION Phone: (848) 391-0939  
Email: yy592@chem.rutgers.edu

EDUCATION **Rutgers University**, New Brunswick, NJ, USA  
*Ph.D candidate, Chemistry, advisor: Dr. Deirdre O'Carroll (GPA: 3.9/4.0) Sep. 2020 – present*

**Nanjing University**, Nanjing, Jiangsu, China  
*B.Sc., Chemistry (GPA: 4.46/5.00) Sep. 2016 – Jun. 2020*

RESEARCH EXPERIENCE **Nanophotonics Materials Group**, Rutgers University, New Brunswick, NJ  
*Graduate research assistant (supervised by Dr. Deirdre O'Carroll) Sept. 2022 – present*

- Synthesizing carbon dots from both recycled plastic polymers and organic molecule precursors, studying the effect of size and crystallinity on electronic and optical properties, exploring applications in nanoscale optical devices.

**Quantum Materials Group**, Rutgers University, New Brunswick, NJ  
*Graduate research assistant (supervised by Dr. Weiwei Xie) Aug. 2021 – Aug. 2022*

- Explored novel quantum materials focusing on rare-earth elements via several synthesis methods, determined the structure and phase information by X-ray diffractometer, investigated physical properties including magnetization, electronic resistivity, and heat capacity, etc.

**Advanced Photon Source**, Argonne National Lab, Lemont, IL  
*Outside facility user (supervised by Dr. Wenli Bi) Apr. 2022*

- Studied the structure and magnetic properties of Eu-based materials under high-pressure conditions, and performed experiments at two different beamlines (3ID-B and 13BM-C), including the Mössbauer spectroscopy and single-crystal diffraction.

**Photoacoustic Chemical Imaging**, University of Michigan, Ann Arbor, MI  
*Visiting undergraduate student (supervised by Dr. Raoul Kopelman) Jul. 2019 – Nov. 2019*

- Gained broad competency in nanoparticle synthesis, implemented common characterizations of nanoparticles, including UV-Vis absorption, fluorescence spectroscopy, DLS diameter test, and Zeta potential test, mastered fundamental mammalian cell culture, and cell experiments of nanoparticles learned the principles of photoacoustic imaging, including in vivo photoacoustic experiments on mouse models.

**Cryo-TEM Study of Nano-drug Delivery System**, Nanjing University, Nanjing, Jiangsu  
*College Students' Innovative Entrepreneurial Training Plan Program (Provincial Level), Project Leader (supervised by Dr. Deju Ye) Jul. 2018 – Jun. 2019*

- Used cryo-TEM to observe the fine structure of nano-drug delivery systems, to help identify and solve technical problems and difficulties in the preparation and application of nano-drug delivery systems, designed experimental scheme and synthesized nanoparticles coated by liposomes, studied the preparation of frozen samples.

## PUBLICATIONS

1. *Tunable Topological Dirac Surface States and Van Hove Singularities in Kagome Metal  $GdV_6Sn_6$*   
Yong Hu, Xianxin Wu, Yongqi Yang, Nicholas Plumb, Andreas Schnyder, Weiwei Xie, Junzhang Ma, Ming Shi, **Science Advances**, **38**, **8(2022)**. [[link](#)]
2. *Crystal Structure and Magnetic Properties in Semiconducting  $Eu_{3-\delta}Zn_xSn_yAs_3$  with Eu-Eu Dimers*  
Yongqi Yang<sup>†</sup>, Guangming Cheng<sup>†</sup>, Joanna Blawat, Duncan H. Moseley, Kasey P. Devlin, Yu Yu, Raphaël P. Hermann, Nan Yao, Rongying Jin, Weiwei Xie, **Journal of Applied Physics** **132**, **043902 (2022)**. [[link](#)]
3. *Synthesis, chiral crystal structure and magnetic properties of  $Ba_3Ga_2O_5Cl_2$*   
Jeremy Rine, Yongqi Yang, Zhixue Shu, Jianda Zhao, Weiwei Xie, and Tai Kong, **Acta Cryst.** **B78**, **589-592(2022)** [[link](#)]

## AWARDS

- 2020 Outstanding Graduates of Class 2020
- 2019 Second Prize, Scholarship for Top Student Project, NJU
- 2019 Scholarship by Dalian Institute of Chemical Physics, Chinese Academy of Sciences
- 2018 Joint Scholarship by Amphastar China & School of Chem & Chemical Engineering, NJU
- 2018 Third Prize, Scholarship for Top Student Project by School of Chem & Chemical Engineering, NJU
- 2017 Encouragement Scholarship, Top Student Project by School of Chem & Chemical Engineering, NJU
- 2017 National Encouragement Scholarship

## MISCELLANEOUS

**Programming:** C, Python

**Software:** Origin, LaTeX

**Skills:** UV-Vis Spectroscopy, Photo-luminescence Spectroscopy, TEM, IR Spectroscopy, Single Crystal Synthesis, PPMS (Resistivity, Heat capacity, Magnetization) Measurement, X-Ray Diffractometer, SEM-EDS Analysis, Mass Spectroscopy

TEACHING  
EXPERIENCE

**Organic Chem Lab (160.311)**  
Graduate teaching assistant

*Rutgers University*  
**Sept. 2022 – Dec. 2022**