Yiyang Chen

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EDUCATION

Nankai University, NKU Tianjin, China
B.S. (Hons) in Physics, GPA: 86.00/100 09/2017- 07/2021
Boling Class of Physics, supported by The Pilot Scheme of Talent Training in Basic Sciences

- **SELECTED COURSES:** Molecular Biophysics (94), Nanophysics(90), Biomedical Physics (97), Thermodynamics and Statistical Physics (90), Medical Cell Biology (87), Biochemistry (85)
- **HONORS**: First Prize, Nankai Physics Tournament, NKPT (05/2018)
  Boling Scholarship, NKU (10/2017)
- **SKILLS**: Matlab, C++, Mathematica, LaTeX

ACADEMIC ACTIVITIES

Medical Physics Summer School, Duke Kunshan University, DKU Kunshan, China

- **COURSES:** Modern Diagnostic Imaging Physics, Radiation Physics 08/09/2020-08/14/2020
  Radiation Therapy Physics, Radiation Protection Physics, Special Program of IGRT / SRS / SBRT

The Physics of Life Online Summer School, Princeton University 06/15/2020- 08/03/2020

- Topics including *Bacterial Motility and Pattern Formation*, *Multicellular Structure Formation in 3D*, *Cellular Motility in Complex Environments*, *Intracellular Phase Separation*, *Statistical Mechanics Approaches to Biological Physics*, *Brains and Behavior in Simple Organisms*, *How the Brain Interprets Complex Signals*, *Statistical Mechanics of Machine Learning* (Link: https://biophysics.princeton.edu/cpbfsummerschool2020)

MEMBERSHIP

Student Member, **the Optical Society of America(OSA)** 04/2018-03/2020

- Held seminars or talks given by the distinguished professors and graduate students
- Connected with student chapters at Tsinghua University, Peking University and other institutions

RESEARCH EXPERIENCES

Immunofluorescent Biomarker for Zebrafish Somitogenesis and Single-cell Oscillation Ann Arbor, MI
Research Assistant 07/2019-09/2019
Department of Biophysics, **University of Michigan, Ann Arbor** *Supervisor: Qiong Yang*

- Developed two-color immunofluorescent protocols for *Ntla* and *Tbx16* in both zebrafish embryos and cell dispersals to identify the types of oscillating cells and non-oscillatory cells removed from the tailbud
- Determined different experimental conditions for embryo and cell dispersion systems after continuous trails
- Distinguished oscillating cells in different phenotypes: PSM, Progenitor, and Somite by the common images and Z-stack images taken by confocal microscope
- Left the images with good experiment results for lab use

Sorting Human Erythrocytes in Different Life Stages based on Microfluidic Technology Tianjin, China
Project Leader, *National College Students Innovation and Entrepreneurship Training Program* 04/2019-present
School of Physics, **NKU** *Supervisor: Leiting Pan*

- Investigated the influence of erythrocyte aging process on the deformability decrease
- Conducted human erythrocyte deformability measuring and hydrodynamic cell sorting based on microfluidic channels
- Artificially controlled the life stages by storing *in vitro* and processed the erythrocyte by H_2O_2 treatment to change the erythrocyte deformability and prepare for the chip test of cell sorting
- Revised and designed the microfluidic ratchet chip to complete the cell sorting
- Won the first prize in the program assessment conducted by the School of Physics

Property Research of Human Erythrocyte Skeleton and Membrane Protein CD47 Based on Stochastic Optics Reconstruction Microscopy (STORM) Tianjin, China

Research Assistant 07/2018-09/2018

School of Physics, **NKU** *Supervisor: Leiting Pan*

- Accepted the basic training on STORM imaging, immunofluorescent experiments and Matlab algorithms
- Assisted Ph.D. students in analyzing the raw data of CD47 protein diffusion, and optimizing algorithms and parameters to reduce the difference between the processed image and the original experimental data

COURSE PROJECT

Light Transmission in Sub-wavelength Dielectric Waveguide 03/2018-06/2018

Study and Discussion of Physics 4-2, **NKU**

Professor: Qiang Wu *Supervisor: Qian Sun*

- Investigated plasmon transmission on the surface of the metallic waveguide and light transmission mode and light field distribution in the anisotropic sub-wavelength waveguide
- Researched theories and simulated anisotropic cladding's effect on decreasing the loss brought by evanescent wave

SELECTED POSTER

Immunofluorescent Biomarkers for Distinguishing Cell Phenotypes in Zebrafish Somitogenesis and Autonomous Cellular Oscillators Conference Poster of APS March Meeting 2020

TEACHING EXPERIENCES

Basic Physics III and **IV, NKU** Tianjin, China

Teaching Assistant, *Professor: Jianghong Yao* 09/2019-01/2020

- Helped to mark homework and exams, explained homework exercises, answered students' questions during tutorials and the review classes