CHENZHUO LI

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EDUCATION

Beihang University — Beijing, China
Ph.D. candidate in Solid Mechanics. GPA: 3.8/4.0 — Expected Jun 2023

Beihang University — Beijing, China
B.S. in Flying Vehicle Propulsion Engineering. GPA: 3.7/4.0 — Jun 2018

Polytechnic University of Milan — Milan, Italy
Undergraduate International Exchange Program — Sep 2017 – Feb 2018

AWARDS AND HONORS

- First-Class Academic Scholarship 2020
- Freshman Merit Scholarship 2019
- First-Class Academic Scholarship 2019
- First-Class Academic Scholarship 2018
- Full Scholarship for Undergraduate Exchange Program (China Scholarship Council) 2018
- Third Prize for the 26th "Feng Ru Cup" Competition 2016
- Student Research Training Grant (RMB3500) 2015-2016

PUBLICATIONS

(# *donates equal contribution*)

- **C Li** and B Pan (in preparation). "Rapid and repeatable fluorescent speckle pattern fabrication using a handheld inkjet printer."
- **C Li** and B Pan (to be submitted). "A correction method for heatwave distortions based on fluorescent color digital image correlation."
- B Fu#, **C Li**#, P Ou, and B Dong (under revision). "Enhanced digital gradient sensing using backlight digital speckle target."
- B Dong, **C Li**, and B Pan (under revision). "Fluorescent 2D digital image correlation with built-in coaxial illumination for deformation measurement in space-constrained scenarios."
- **C Li**, H Luo, and B Pan (2020). "High-throughput measurement of coefficient of thermal expansion using a high-resolution DSLR camera and digital image correlation." *Rev Sci Instrum* 91(10): 105106
- B Dong#, **C Li**#, and B Pan (2020). "Fluorescent digital image correlation applied for macroscale deformation measurement." *Appl Phys Lett* 117(4): 044101
- B Dong#, **C Li**#, and B Pan (2019). "Ultrasensitive video extensometer using single-camera dual field-of-view telecentric imaging system." *Opt Lett* 44(18): 4499-4502
- **C Li**#, B Dong#, and B Pan (2019). "A flexible and easy-to-implement single-camera microscopic 3D digital image correlation technique." *Meas Sci Technol* 30(8): 085002

PRESENTATIONS

- "New exploration and application of fluorescent digital image correlation." *International Digital Image Correlation Society Conference,* Virtual, Oct 2020
- "New exploration and application of fluorescent digital image correlation." *The 1st International Forum on 3D Optical Sensing and Application,* Virtual, Oct 2020 (**Invited**)
- "High-throughput CTE determination of bulk materials based on DSLR and DIC." (in Chinese) *The 26th Annual Conference of Beijing Society of Theoretical and Applied Mechanics*, Beijing, Jan 2020

RESEARCH EXPERIENCE

Institute of Solid Mechanics, Beihang University Beijing, China
Graduate Researcher Oct 2018 – Present

- Discovered the advantages of fluorescent speckle in macroscale digital image correlation, explored its repeatable fabrication, and applications in coaxial illumination, heatwave distortion correction, etc.
- Simplified the speckle target in the digital gradient sensing using backlight technique and improved the measurement accuracy
- Designed and executed high-throughput measurement of coefficients of thermal expansion of bulk materials using a digital single lens reflex and digital image correlation
- Developed an ultrasensitive video extensometer based on the idea of field-of-view separation and telecentric imaging
- Developed a single-camera three-dimensional microscopic digital image correlation technique
- Assessed the drift error and distortion between slices obtained by laser scanning confocal microscope (LSCM) using microscale digital image correlation
- Performed digital image correlation on scanning electron microscope images and analyzed the factors affecting the quality of the microscale speckle pattern

Center of Space Exploration (Chongqing University), Ministry of Education Beijing, China
Experiment Assistant Jun – Sep 2018

- Assisted in the experiment preparation of the Chang'e-4 Lunar Biosphere Mini-Ecosystem
- Operated the equipment, collected experimental data and monitored the health of the mini-ecosystem
- Performed analysis on the acquired data, deduced the internal status of the mini-ecosystem and conducted troubleshooting when necessary

Institute of Solid Mechanics, Beihang University Beijing, China
Undergraduate Researcher Sep 2017 – Jun 2018

- Generated finite element model of 3D closed-cell porous materials with spherical/polyhedral pores using MATLAB, AutoCAD, Rhinoceros and Hypermesh
- Performed finite element analysis using ABAQUS and investigated the effective bulk modulus of porous materials with porosity from 0 to 99%

Student Research Training Program, Beihang University Beijing, China
Team Leader and APP developer May 2015 – Oct 2016

- Planned the project schedule and managed the research grant
- Developed a remote-control toy car based on Raspberry Pi and a home-made IOS app, realizing motion control and real-time video streaming

ADDITIONAL EXPERIENCE

Wrocław University of Science and Technology Wrocław, Poland
Summer School in MEMS and Microsystems Jul 2019

University of Cambridge Cambridge, UK
Summer School in Nanotechnology and Quantum Technologies Jul 2017

Peter the Great St. Petersburg Polytechnic University St. Petersburg, Russia
Summer School in Turbomachinery Aug 2016

AIESEC International Inc. Hyderabad, India
International Volunteer in Women Empowerment Jul – Aug 2015

SKILLS

Computer: MATLAB, Python, 2D/3D Modelling, Finite Element Analysis

Laboratory: Scanning Electron Microscope, Raspberry Pi, Arduino

Languages: Chinese(native), English(proficient), Italian(beginner)

REFERENCES

Duoqi Shi, Ph.D.
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