# CHENZHUO LI

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### EDUCATION

Apr 2021 - Present	Doctoral Student in Mechanics <i>École Polytechnique Fédérale de Lausanne</i> • Thesis title: Stability of low-velocity cracks near an en • Advisor: Prof. John Kolinski [website]	Lausanne, Switzerland ngineered inclusion
Sep 2014 - Jun 2018	<ul><li>B.S. in Flying Vehicle Power Engineering Beihang University</li><li>GPA: 3.7/4.0</li></ul>	Beijing, China
Sep 2017 – Feb 2018	Undergraduate International Exchange Program Polytechnic University of Milan	Milan, Italy
RESEARCH EXPER	IENCE	
Apr 2021 - Present	<ul> <li>Ph.D. candidate in Mechanics</li> <li>École Polytechnique Fédérale de Lausanne</li> <li>Fracture mechanics, soft materials, 3D microscopy, pa</li> <li>Advisor: Prof. John Kolinski [website]</li> </ul>	Lausanne, Switzerland rticle tracking
Oct 2018 – Jan 2021	<ul> <li>Research Assistant</li> <li>Beihang University</li> <li>2D &amp; 3D digital image correlation</li> <li>Principle Investigator: Prof. Bing Pan [website]</li> </ul>	Beijing, China
Jun 2018 – Sep 2018	Experiment Assistant Center of Space Exploration (Chongging University)	Beijing, China

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Sep 2017 – Jun 2018	Undergraduate researcher	
	Beihang University	Beijing, China
	• Finite element analysis on porous materials	
	• Principle Investigator: Prof. Zaoyang Guo [website]	
May 2015 – Oct 2016	Team Leader and APP developer	
	Beihang University	Beijing, China

### **PUBLICATIONS** [Google scholar link]

\* Equal contribution, † Corresponding author

- 13. T. Yuan, <u>C. Li</u>, J. Kolinski, E. Amstad<sup>†</sup>, "Electrostatically reinforced double network granular hydrogels", under review
- <u>C. Li</u>, D. Zubko, D. Delespaul, J. Kolinski<sup>†</sup>, "3D characterization of kinematic fields and poroelastic swelling near the tip of a propagating crack in a hydrogel", *International Journal of Fracture*, online, 1–15 (2024) [link]
- X. Wei, <u>C. Li</u>, C. McCarthy, J. Kolinski<sup>†</sup>, "Complexity of crack front geometry enhances toughness of brittle solids", *Nature Physics*, 20, 1–6 (2024) [link]
- T. Benkley<sup>\*</sup>, <u>C. Li</u><sup>\*</sup>, J. Kolinski<sup>†</sup>, "Estimation of the Deformation Gradient Tensor by Particle Tracking Near a Free Boundary with Quantified Error", *Experimental Mechanics*, 63(7), 1255–1270 (2023) [link]
- 9. <u>C. Li</u><sup>\*</sup>, X. Wei<sup>\*</sup>, M. Wang, M. Adda-Bedia, J. Kolinski<sup>†</sup>, "Crack tip kinematics reveal the process zone structure in brittle hydrogel fracture", *Journal of the Mechanics and Physics of Solids*, 178,

105330 (2023) [link]

- 8. K. Zhu<sup>\*</sup>, <u>C. Li</u><sup>\*</sup>, B. Pan<sup>†</sup>, "Rapid and Repeatable Fluorescent Speckle Pattern Fabrication Using a Handheld Inkjet Printer", *Experimental Mechanics*, 62(4), 627–637 (2022) [link]
- X. Zhang<sup>\*</sup>, <u>C. Li</u><sup>\*</sup>, L. Yu, B. Pan<sup>†</sup>, "Heatwave distortion correction using an improved reference sample compensation method and multispectral digital image correlation", *Applied Optics*, 60(13), 3716–3723 (2021) [link]
- B. Dong, <u>C. Li</u>, B. Pan<sup>†</sup>, "Fluorescent 2D Digital Image Correlation With Built-in Coaxial Illumination for Deformation Measurement in Space-constrained Scenarios", *Experimental Mechanics*, 61, 653–661 (2021) [link]
- 5. B. Fu<sup>\*</sup>, <u>C. Li</u><sup>\*</sup>, B. Dong<sup>†</sup>, P. Ou<sup>†</sup>, "Enhanced Digital Gradient Sensing Using Backlight Digital Speckle Target", *Sensors*, 20(22), 6557 (2020) [link]
- C. Li, H. Luo, B. Pan<sup>†</sup>, "High-throughput measurement of coefficient of thermal expansion using a high-resolution digital single-lens reflex camera and digital image correlation", *Review of Scientific Instruments*, 91(10), 105106 (2020) [link]
- B. Dong<sup>\*</sup>, <u>C. Li</u><sup>\*</sup>, B. Pan<sup>†</sup>, "Fluorescent digital image correlation applied for macroscale deformation measurement", *Applied Physics Letters*, 117(4), 044101 (2020) [link]
- B. Dong<sup>\*</sup>, <u>C. Li</u><sup>\*</sup>, B. Pan<sup>†</sup>, "Ultrasensitive video extensometer using single-camera dual field-of-view telecentric imaging system", *Optics letters*, 44(18), 4499–4502 (2019) [Link]
- <u>C. Li</u><sup>\*</sup>, B. Dong<sup>\*</sup>, B. Pan<sup>†</sup>, "A flexible and easy-to-implement single-camera microscopic 3D digital image correlation technique", *Measurement Science and Technology*, 30(8), 085002 (2019) [Link]

## **CONFERENCE PRESENTATIONS**

Jul 2025	Characterization of local poroelastic swelling near the tip of a propagating cr The $12^{th}European$ Solid Mechanics Conference ( <b>ESMC</b> )	ack in a hydrogel Lyon, France
Sep 2024	Near crack tip deformation fields reveal the structure of the process zone in The $26^{th}$ International Congress in Theoretical and Applied Mechanics (ICT	brittle hydrogels CAM)
		aegu, South Korea
Aug 2024	Near crack tip deformation fields reveal the structure of the process zone in (invited)	h brittle hydrogels
	The <b>SES</b> (Society of Engineering) Annual Technical Meeting	Hangzhou, China
May 2024	Crack tip kinematics reveal the process zone structure in brittle hydrogel fra The $19^{th}European$ Mechanics of Materials Conferences ( <b>EMMC</b> )	acture Madrid, Spain
Mar 2024	Evolution of a planar crack perturbed by a rigid inclusion (poster) The 19 <sup>th</sup> International Conference on Deformation, Yield and Fracture of Po Kerk	olymers ( <b>DYFP</b> ) crade, Netherlands
Jul 2022	High-resolution quasistatic near-crack-tip deformation fields in brittle hydrogenergy $The \ 11^{th}European \ Solid \ Mechanics \ Conference \ (ESMC)$	gels Galway, Ireland
Oct 2020	New exploration and application of fluorescent digital image correlation The $11^{th}$ International Digital Image Correlation Society Conference ( <b>iDICs</b> )	s) Virtual
Jan 2020	High-throughput CTE determination of bulk materials based on DSLR and The $26^{th}Annual$ Conference of Beijing Society of Theoretical and Applied M	DIC Techanics Beijing, China

## Awards and Honors

2020, 2019, 2018	First-Class Academic Scholarship
2019	Freshman Merit Scholarship

	École Polytechnique Fédérale de Lausanne	Lausanne, Switzerland	
Spring 2022 - 2024	Teaching assistant in Continuum Mechanics	,	
Fall 2022 - 2024	2024 Teaching assistant in Experimental Methods in Engineering Mechanics École Polytechnique Fédérale de Lausanne Lausanne, Switzerland		
TEACHING			
2015 - 2016	Student Research Training Grant		
2016	Third Prize for the $26^{\text{th}}$ "Feng Ru Cup" Competition		
2018	CSC Scholarship for Undergraduate Exchange Program		

Programming: MATLAB, Python, imageJ macro

Technique: 3D Particle Tracking, Digital Image Correlation (DIC), Finite Element Analysis

*Laboratory*: Scanning Electron Microscope (SEM), Laser Scanning Confocal Microscope (LSCM), Laser Sheet Fluorescence Microscope (LSFM), Cleanroom, Nanoscribe

Languages: Chinese (native), English (proficient)

## SERVICE

Journal reviewer: Experimental Mechanics, Optics Letters, Optics Express, Applied Optics