

# Mazyar Jalaal

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## Summary

I am a physicist. My research background is in flow of complex fluids and biophysics. Currently, my research involves plastocapillarity and biophysics of eukaryotic cells. This CV includes my research and teaching experience, a link to my google scholar page.

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## Work

### Assistant Professor

[Institute of Physics, University of Amsterdam](#)

**Van der Waals-Zeeman Institute, Soft Matter Group**  
 Complex Fluids, Biophysics of Cells

THE NETHERLANDS  
*Jan '21 – present*

### Wellcome Trust Interdisciplinary Fellow & Leverhulme EC Fellow

[Department of Applied Mathematics & Theoretical Physics, University of Cambridge](#)

**Advisor: Raymond Goldstein**  
 Bioluminescence & Mechanic of Cells

THE U.K.  
*Apr '19 – Jan '21*

### Postdoc

[University of Twente & Max-Planck Centre for Complex Flows](#)

**Advisor: Detlef Lohse**  
 Soft Matter & Additive Manufacturing

THE NETHERLANDS  
*Jan '17 – Apr '19*

## Education

**Ph.D., [University of British Columbia](#)**

**Advisors: Neil Balmforth, Boris Stoeber**  
 Department of Mechanical Engineering,  
 Thesis title: Controlled Spreading of Complex Fluids  
 Committee: Bud Homsey, Gareth Mckinley, Sheldon Green, Gwynn Elfring, Jimmy Feng

CANADA  
*Sep '12 – Dec '16*

**M.A.Sc., [University of British Columbia](#)**

**Advisor: Kian Mehravaran**  
 Department of Mechanical Engineering,  
 Thesis title: Chaotic Fragmentation of Droplets

CANADA  
*Sep '10 – Jun '12*

**B.Sc.in Heat and Fluid Mechanics, [University of Tabriz](#)**

**Advisor: Esmaeil Esmaeilzadeh**  
 Department of Mechanical Engineering,  
 Thesis title: Gas/Liquid and Liquid/Liquid Interfaces in the Presence of EHD Actuator

IRAN  
*Sep '05 – Aug '09*

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## Other Work Experiences

Research Associate

**Experimental study of soil mechanics and respiration**

UBC, GEOLOGY RESEARCH LAB  
*June '12 – Sep '12*

Research Associate

**Numerical and asymptotic methods for heat transfer and fluid flow**

BABOL UNI.TECH., HEAT TRANSFER RESEARCH LAB  
*Aug '09 – Sep '10*

Undergraduate Research Assistant

**Experimental studies on electrohydrodynamics in multiphase systems**

UNI.TABRIZ, FLUID MECHANICS RESEARCH LAB  
*Apr '07 – Aug '09*

## Teaching Experience

**University of Amsterdam:** Hydrodynamics (from Feb '21)

**University of Cambridge:** Differential Equations (at King's College)

**U Twente:** Experimental Fluid mechanics

**UBC:** Dynamics,  
Fundamental Engineering,  
Numerical Methods in Engineering,  
Mechanical Vibration,  
Elementary Fluid Mechanics,  
Fluid Mechanics II,  
Heat Transfer,  
Alternative Energy Systems.

**U Tabriz:** Elementary Fluid Mechanics I,  
Elementary Fluid Mechanics II.

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## Selected Awards, Grants, Scholarships, and Fellowship

Leverhulme Early Career Fellowship (£ 55,000 for 2 years)	SEP '20
Isaac Newton Trust Fellowship (£ 50,000 for 2 years)	JUNE '20
Wellcome Trust Interdisciplinary Fellowship (£ 167,000 for 3 years)	MARCH '20
The University of Cambridge Public Engagement Starter Award (£ 1000)	NOV '19
The UK's Women's Engineering Society Public Engagement Award (£ 2000)	AUG '19
Cambridge BioMaker Grant (£ 4000)	MAY '19
Best Presentation Award, Annual European Rheology Conference	MARCH '19
Young Scientist Award, J.M. Burgerscentrum	JUNE '18
Vanier Canada Graduate Scholarship - (\$150,000 for 3 years)	SEP '13 - SEP '16
UBC's premier Ph.D. Four Year Fellowship (4YF) - (\$158,500 for 4 years)	SEP '12-SEP '16
UBC Mechanical Engineering Leadership Achievement Award	MARCH '15
Several travel grants including ICTAM16 and UBC travel grant	FEB '15 - AUG '16
NSERC Canada Engage Grant (co-writer) with B. Stoeber (\$ 25,000)	JUNE '14
Vancouver Startup Weekend Choice Award	MARCH '14
UBC Mechanical Engineering Leadership Achievement Award	MARCH '14
UBC Mechanical Engineering Academic and Leadership Achievement Awards	FEB '14
UBC Mechanical Engineering Academic Achievement Award	JAN '13
UBC Entrance Scholarship	SEP '12
NSERC Canada Engage Grant (co-writer) with K. Mehravaran (\$ 25,000)	JUNE '12
Annual Award of Computational Fluid Dynamic Society of Canada	MAY '12
UBC Especial Award for the Best Research Poster	MARCH '12
UBC University Graduate Fellowship	JULY '11
International Partial Tuition Scholarship	SEP '10 - SEP '13

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## Peer Review – I frequently review articles for the following academic journals:

Journal of Fluid Mechanics, Physics of Fluids, I.J. Multiphase Flows, J. Rheology,  
Fluid Dyn. Res., Fuel, Food Functions, J.Comp. Math. Appl., Eng. Comp., Soft Matter  
Journal of Advanced Engineering Software, IET Science, Measurement & Technology,  
Int. J. of Numerical Methods for Heat and Fluid Flow, Powder Technology,  
Math. and Computer Modelling of Dynamical Systems, Chemical Eng. Communication,  
Int. J. of Nonlinear Sciences and Numerical Simulation, Advanced Powder Technology,  
Zeitschrift fur Naturforschung A, Mathematical and Computer Modelling,  
Asia-Pacific Journal of Chemical Engineering, Journal of Magnetism and Magnetic Materials.

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## Publication Metrics

based on [Google Scholar](#) ← click to see the list  
citation = 1035, h-index= 19, i10-index = 27

[https://scholar.google.co.uk/citations?hl=en&user=FE8TQeUAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.co.uk/citations?hl=en&user=FE8TQeUAAAAJ&view_op=list_works&sortby=pubdate)

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## Invited Talks

Spreading of Elasto-viscoplastic materials	Axi-Marseilles - coming '21
Plastocapillarity	JNNFM talk series- JAN '21
Spreading Drops with a yield stress	Exeter University- DEC '20
Elastic Deformation of Marine Cells	Durham University FEB '20
Mechanics of Bioluminescence	Scripps Institution of Oceanography at UCSD, USA Nov '19
Spreading of Elasto-viscoplastic materials	Chemical Engineering at Stanford, USA Nov '19
From plastic droplets to elastic cells	Mechanical Engineering at UCLA, USA Nov '19
Viscoplastic Droplets	Cambridge Geophysical and Environmental Processes, OCT '19
Viscoplastic Droplets	Durham University, UK OCT '19
LIFT of Viscoplastic materials	Institute of non-Newtonian Fluid Mechanics, Lake Vyrnwy, Wales APRIL '19
How soft particles enter water	Department of Mathematics, UBC, Canada MARCH '19
Laser interaction with soft matter	Otto von Guericke University, Magdeburg, Germany Nov '18
Ripples in thin films	Department of Physics, University of Gothenburg, Sweden SEP '18
Theories for droplets of complex fluids	Inst. Theoretische Physik at U. Munster, Munster JUNE '18
New solutions of an old capillary problem	JMBC meeting, Lunteren, Netherlands JUNE '18
Undulating moving contact lines	MPI Dynamics and Self Organization, Gottingen, Germany MAY '18
A new optical technique for solidification detection	From active matter to complex fluids, Nice, France JAN '18
Pattern formation in solidifying droplets	COST Complex Fluid and Flows, Barcelona, Spain DEC '17
Viscoplastic spreading	Self - Organization and Complexity Workshop, Zaferna Hut, Austria SEP '17
Thermo-responsive smart spreading	JMBC workshop, Enschede, Holland MARCH '17
Complex droplets	UBC Fluid Mechancis Series, Vancouver, Canada OCT '16
Thermo-responsive polymers: from rheology to applications	VPF 2015, Banff, Canada OCT '15

## Selected Conference Proceedings – *More than 40*

Viscoplastic Spreading	ICR 2020, Virtual, Brazil DECEMBER '20
Liquid jet interaction with an elastic cell wall	APS DFD 2020, Virtual, USA NOVEMBER '20
Fluid-Solid Interaction of bioluminescence	APS DFD 2019, Seattle, USA NOVEMBER '19
LIFT of viscoplastic fluids	AERC 2019, Portoroz, Slovenia APRIL '19
Bubbles in thin films	FOAM2019, Veldhoven, the Netherlands JAN '19
Viscoplastic water entry	AERC 2018, Sorrento, Italy JUNE '18
Deformation of thin sheets in turbulence	APS-DFD 2017, Denver, USA NOV '17
Viscoplasticity (with a P)	Dutch Soft Matter 2017, Enschede, Holland OCT '17
Impact of Oil Droplets on Water	FLOW 2017, Paris, France JULY '17
LIFT of complex fluids	COLA 2017, Marseilles, France SEP '17
Thermo-responsive droplet deposition and solidification	APS 2016, Portland, USA NOV '16
Spreading of visoplastic droplets: Experiments	MicroMAST 2016, Brussels, Belgium SEP '16
Slip and no-slip of Carbopol droplets	ICTAM 2016, Montreal, Canada AUG '16
The spreading of a viscoplastic droplet by capillary action	APS 2015, Boston, USA NOV '15
Thermal arrest of droplets	Droplets 2015, Enschede, Holland OCT '15
Interfacial Instabilities on a droplet	APS 2013, Pittsburgh, USA NOV '13
Non-Boussinesq exchange flow over topography	APS 2013, Pittsburgh, USA NOV '13
A Model for the controlled release of TPA	CRS 2013, Honolulu, USA JULY '13
Breakup of a falling liquid drop: A DNS Study	APS 2011, Baltimore, USA NOV '11
An Electrohydrodynamics mixer	23rd CSSC, Kelowna, Canada JUNE '11