

Vatsal Sanjay — PhD

Department of Physics, Durham University

PI, Computational Multiphase Physics Lab

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Date of birth: Feb. 5, 1996 Updated: June 1, 2025

Education

Physics of Fluids Dept.

Ph.D. (Appl. Phys.), Graduated cum laude (with distinction)

Supervisor: Prof. Detlef Lohse.

Thesis: *Viscous free-surface flows* (OA) [10.3990/1.9789036554077](https://doi.org/10.3990/1.9789036554077).

Univ. Twente

2018–2022

Two-Phase Flow & Instability Lab

B.Tech (Mech.) & M.Tech (Thermal Eng.), Graduated with distinction (CGPA: 9.1/10)

Supervisor: Prof. Arup Kumar Das,

Thesis: *Understanding of mutual interactions between liquid jets* (OA) [10.13140/RG.2.2.22294.04166](https://doi.org/10.13140/RG.2.2.22294.04166).

IIT Roorkee

2013–2018

Professional Experience

Department of Physics

Assistant Professor, PI of Computational Multiphase Physics (CoMPhy) Lab

Leading research on multiphase flows and soft matter dynamics.

Durham University

2025–present

Physics of Fluids Dept.

Postdoctoral Researcher, Led Computational Multiphase Physics (CoMPhy) Lab

Worked on non-Newtonian free-surface flows and soft matter singularities.

Univ. Twente

2022–2025

Major Awards & Achievements

2025: Ammodo Science Fellowship for mycofluidic transport.

2024: J. Fluid Mech. Outstanding Reviewer (top 1%), **KIVI Hoogendoorn Award** (best PhD thesis in NL), **Young Scientist** (73rd Lindau Nobel Laureate Meeting).

2022: Doctor cum laude (with distinction), top 5% of PhD graduates.

2018: Department Gold Medal, IIT Roorkee.

Service to the Community

Organized: Physics of Fluids weekly seminar (2022–2025), 2 workshops/symposia.

Referee: J. Fluid Mech. (80+), Phys. Rev. (20+), PNAS (3), among others.

Funding & Outreach

Funding: Ammodo Fellowship (€170000), 10M CPU hours on Snellius HPC.

Outreach: Social media (@poftwente), APS-DFD mentor, Skype a Scientist.

Supervision & Teaching

PhD: 4 students: J. Talukdar (2025-now), S. Jana (2025-now), A. Bhargava (2024-now), A. Dixit (2023-now).

Master/BSc: 16 theses supervised (2019–2025).

Teaching: For teaching activities, see comphy-lab.org/teaching.

Peer-Reviewed Publications

Selected publications (20 total, 500+ citations):

- A. Bashkatov et al., **V. Sanjay**, et al., Electrolyte droplet spraying in H₂ bubbles, *Nat. Commun.* 16, 4580 (2025).
- A.K. Dixit et al., **V. Sanjay**, Viscoelastic Worthington jets, *J. Fluid Mech.* 1010, A2 (2025).
- **V. Sanjay** & D. Lohse, Unirfying theory of scaling in drop impact, *Phys. Rev. Lett.* 134, 104003 (2025).
- **V. Sanjay**, B. Zhang, et al., Viscosity role on drop impact forces, *J. Fluid Mech.* 1004, A6 (2025); **Cover**.
- B. Zhang, **V. Sanjay**, et al., Impact forces of water drops, *Phys. Rev. Lett.* 129, 104501 (2022); **Editor's Suggestion, Highly Cited**.

Full list: [Google Scholar](https://scholar.google.com/citations?user=V. Sanjay).

Selected Talks

Invited: 18 talks: WUR, Durham, DAMTP Cambridge, Univ. Warwick, IIT Bombay, others.

Contributed: 32 talks: APS-DFD (5x), EFMC, EFDC, Liquid Matter Conf.