

# 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](https://comphy-lab.org/teaching).

## Peer-Reviewed Publications

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**Selected publications** (20 total, 500+ citations):

- A. Bashkatov et al., **V. Sanjay**, et al., Electrolyte droplet spraying in H<sub>2</sub> 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](#).

## Selected Talks

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**Invited:** 19 talks: WUR, Durham, DAMTP Cambridge, Univ. Warwick, IIT Bombay, others.

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