

## SHORT ABOUT OJ

### EDUCATION

- 1991 Dr.Scient, Fluid Mechanics, Department of Mathematics, University of Oslo, Norway  
1982 Siving (MSc) Physics, Norwegian Institute of Technology (now NTNU), Norway

### POSITIONS

- 1998-current Professor, Department of Energy and Process Engineering, NTNU, Norway  
1998-2004 Scientific Advisor, SINTEF  
1996-1998 Professor II – Multiphase Flow, University of Oslo  
1983-1998 Research Scientist, Section Head Multiphase Flow, IFE, Norway

### MOBILITY

- Childhood Ethiopia  
1981-82 Walk-about in Africa (one year down the east side)  
1987-88 Faculty of Engineering, University of Pisa, Italy (one year PhD research)  
1993-94 College of Engineering, University of California, Santa Barbara (one year researcher)  
2007-08 School of Engineering, University of Western Australia (one year visiting professor)  
2016-17 UDSM, ATC Tanzania (one year)  
2022-23 Tanzania (ATC), Uganda (Makerere), Namibia (ENI/UNAM) (2 x half year)

### SUPERVISION

- 1998-current supervision: 12 Postdocs/Researchers 28 PhDs/ about 130 Student projects  
1998-current Co-supervision: 1 Postdocs/ 21 PhDs/  
1998-current Hosted 10 visiting professor/researchers in Multiphase Flow Laboratory

### RESEARCH

Small scale off-grid renewable energy technology. Solar heat storage for cooking.  
Adsorption refrigeration.  
Multiphase transport in pipes, experiments and dynamic modelling.  
Experiments: Established and managed Multiphase Flow Laboratory at NTNU.  
Numerical modelling: Dynamic 1D oil-water-gas pipe flows (C++, Qt, Matlab). Ray tracing (C++, Qt, OpenGL)

### PROJECTS

- before 1998 IFE Projects on multiphase flow models and experiments  
1999-2002 Flow in S-shaped riser (Hydro, Statoil, RCN), Project leader  
2000-2003 Petronics (NTNU 5 departments, 2 companies, RCN), Activity leader  
2000-2003 Pressure Loss Reduction in Gas Pipelines (NTNU 3 departments, IFP France, 5 gas companies) Activity leader  
2001-2016 Multiphase Transport PhD projects (Shell, Statoil, Chevron, ENI, Total, BP, SaudiAramco) Project Leader  
1997-2012 Small scale solar energy (NUFU program, NTNU and 5 universities in 4 African countries)  
1999-2012 Small scale concentrating solar energy (Statoil, RCN Renergi) Project Leader  
2009-2013 Adaption to solar energy (NRC Norglobal, Univ. KwaZuluNatal, UEM Mozambique) Project Leader  
2007-2010 Flow dynamics of particle plug (BP, RCN) Project Leader  
2007-2014 SFI FACE (RCN, IFE, Sintef, companies) Activity leader  
2011-2012 Flow assurance (Hyundai), Hosting researcher  
1999-2014 EnPe NORAD Project Energy and petroleum (EThiopia, Uganda, Tanzania, Mozambique) Activity Leader  
2009-2012 Flow assurance (Siemens) Activity Leader  
2016-2019 Wax deposition experiments (SubseaOne) Project leader  
2015-2020 EnPell NORAD project renewable energy (EThiopia, Uganda, Tanzania, Mozambique) NTNU coordinator  
2015-2020 EnPell NORAD project on new Oil-Gas technology master program (Tanzania) NTNU coordinator

2019-2020	NTNU Discovery project on Institutional Solar Cooker (Tanzania). Project Leader
2018-2020	REWISE: Rock bed heat storage for power generation (Mekelle University project, Ethiopia)
2019-2023	NORPART UDSM-NTNU mobility program (Tanzania) Project Leader
2021-2026	NorhedII: Energy Technology Network (ETHiopia, Uganda, Tanzania,Mozambique, Malawi, South Sudan), Project Leader
2021-2023	Erasmus+ Project: University Network on PhD Programs in Energy Technology (ETHiopia,

### **INTERESTS**

I support the NTNU vision: Knowledge for a better world. Open universities and external partnerships are important.

Other: Sailing, boating, 4x4, safari, injera, grand children