

## Curriculum Vitae – Tarek A. Yousef

Contact Bjørn Stallars gt. 1, 7042 Trondheim, Norway  
Tel. +47 99 44 18 89. Email: tarek@pvv.org.

Personal Data Born in Göteborg, April 8<sup>th</sup>, 1973.  
Nationality: Norwegian & Egyptian.

### Main Expertise

- Consequence and Risk Analysis of offshore and onshore oil and gas installations.
- Mathematical modelling of complex fluids and flows, combustion, explosion and hydro- and magneto-hydrodynamic turbulence
- Computational Fluid Dynamics, High-Performance Computing

### Work Experience

2009- Senior Consultant, Scandpower Risk Management, Trondheim.

2009 Post Doctoral Research Associate (STFC), Department of Physics, University of Oxford.

2008 Post Doctoral Research Associate (STFC), Department of Physics, Imperial College London.

2006-2008 UKAFF fellow, Department of Applied Mathematics and Theoretical Physics (DAMPT), University of Cambridge.

2005 David Crighton Fellow, DAMTP, University of Cambridge. Norwegian Teacher, Granskogen videregående skole, Trondheim.

2003-2004 Assistant lecturer, Department of Construction Mechanics, Norwegian University of Science and Technology (NTNU).

1999-2003 Doctoral Fellow, Faculty of Engineering Science and Technology, NTNU.

Summer 2002 SINTEF Energy Research.

1998-1999 Assistant Lecturer, Department of Applied Mechanics, NTNU.

Spring 1998 SINTEF Petroleum Research

### Education

1999 - 2004 Dr. Ing. (PhD) in Mechanics. Department of Energy and Process Engineering, NTNU, Trondheim.

1992 - 1998 Sivilingeniør (MSc) in Technical Physics. Faculty of Physics, Informatics and Mathematics, NTNU.

1990 - 1992 International Baccalaureate. Berg videregående skole, Oslo.

1989 - 1990 High School Diploma, Redlands High School, Redlands, California.

### Selected Activities

- Representative, Trondheim City Council (Committee for Finance and Industry).
- Member of the Board, Institute of Mechanics, Thermo and Fluid dynamics, NTNU.
- Chairman of the Board and Member of the Board, Mediastud AS.
- Member of the Board of Palestine Committee in Trondheim and SOS Racism Student Group

- Active in Trondheim Student Society (as journalist & technician in the Student Radio, member of the Board (Styre), and member of the Council (Rådet) and various non-governmental organisations.
- Organising committee for “Freedom of Expression 2005 - Expressions from Chechnya and Cacasus”

## Publications and Peer Review

Referee for Journal of Fluid Mechanics, New Journal of Physics, Physics Letters A, and the Astrophysical Journal.

I. Brevik & T. A. Yousef, The finite-temperature Casimir effect for a dilute ball satisfying  $\epsilon\mu = 1$ , *J. Phys.* **A33**, 5819 (2000). (e-print hep-th/0002049.)

T. A. Yousef, Preconditioning: theory review and implementation into the SPIDER code. Technical report, Sintef Energy Research (2002).

W. Dobler, N. E. L. Haugen, T. A. Yousef & A. Brandenburg, The bottleneck effect in three-dimensional turbulence simulations, *Phys. Rev.* **E68** 026304 (2003). (e-print astro-ph/0303324.)

T. A. Yousef & A. Brandenburg, Relaxation of writhe and twist of a bi-helical magnetic field, *A. & A.* **407**, 7 12 (2003). (e-print astro-ph/0303148.)

T. A. Yousef, A. Brandenburg & G. Rüdiger, Turbulent magnetic Prandtl number and magnetic diffusivity quenching from simulations, *Astron. Astrophys.* **411**, 321-327 (2003) (e-print astro-ph/0302425.)

T. A. Yousef, N. E. L. Haugen & A. Brandenburg, Self-similar scaling in decaying numerical turbulence, *Phys. Rev.* **E69** 056303 (2004) (e-print astro-ph/0312505.)

B. R. Pearson, T. A. Yousef, N. E. L. Haugen, A. Brandenburg, P.-Å. Krogstad, Delayed correlation between turbulent energy injection and dissipation, *Phys. Rev.* **E70** 056301 (e-print physics/0404114)

B. R. Pearson, T. A. Yousef, N. E. L. Haugen, A. Brandenburg & P. -Å. Krogstad, The “zeroth law” of turbulence in steady isotropic turbulence, in Proc. of the 15th Australasian Fluid Mechanics Conference, The University of Sydney, 2004.

T. A. Yousef, F. Rincon & A. A. Schekochihin, Exact scaling laws and the local structure of isotropic magnetohydrodynamic turbulence, *J. Fluid Mech.* 575, 111 (2007). (e-print astro-ph/0611692)

A. A. Schekochihin, S. C. Cowley & T. A. Yousef, MHD turbulence: nonlocal, anisotropic, nonuniversal? in *Computational Physics and New Perspectives in Turbulence*, Proc. IUTAM Symposium, Nagoya 11-14 Sept. 2006 (Berlin: Springer, 2007).

T. A. Yousef, F. Rincon & A. A. Schekochihin, Exact scaling laws, nonlocality and structure in isotropic MHD turbulence, in *Advances in Turbulence XI*, Proc. 11th European Turbulence Conf., Porto 25-28 June 2007 (Berlin: Springer, 2007), 76.

A. A. Schekochihin, A. B. Iskakov, S. C. Cowley, J. C. McWilliams, M. R. E. Proctor & T. A. Yousef, Fluctuation dynamo and turbulent induction at low magnetic Prandtl numbers, *New J. Phys.* **9**, 300 (2007) (invited article for the Focus Issue on Magnetohydrodynamics and the Dynamo Problem, e-print 0704.2002 )

T. A. Yousef, T. Heinemann, A. A. Schekochihin, N. Kleeorin, I. Rogachevskii, A. B. Iskakov, S. C. Cowley, and J. C. McWilliams, Generation of magnetic field by combined action of turbulence and shear, *Phys. Rev. Lett.* **100**, 184501 (2008) (eprint 0710.3359)

T. A. Yousef, T. Heinemann, F. Rincon, A. A. Schekochihin, N. Kleeorin, I. Rogachevskii, S. C. Cowley, and J. C. McWilliams, Numerical experiments on dynamo action in sheared and rotating turbulence, *Astron. Nachr.*, *Astron. Nachr.* **329**, 737. (2008) (Selected as “editors choice”, eprint 0807.1122).

A. A. Schekochihin, T. Heinemann, N. Kleeorin, G. Lesur, A. Mallet, J. C. McWilliams, I. Rogachevskii, and T. A. Yousef, Magnetic-field generation by randomly forced shearing waves, *Phys. Rev. Lett.*, submitted (2008) (eprint 0810.2225).

N. F. Loureiro, D. A. Uzdensky, A. A. Schekochihin, S. C. Cowley, and T. A. Yousef, Turbulent magnetic reconnection in two dimensions, *Mon Not R Astron. Soc.* **399**, L146 (2009). (eprint 0904.0823).

C. H. K. Chen, A. Mallet, T. A. Yousef, A. A. Schekochihin, and T. S. Horbury, Anisotropy of Alfvénic turbulence in the solar wind and numerical simulations. Accepted Mon Not. R. Astron. Soc. (2011). (eprint 1009.0662).

A. A. Schekochihin, S. V. Nazarenko, and T. A. Yousef, Weak Alfvén-wave turbulence revisited, Phys. Rev. E 85, 036406 (2012). (eprint 1110.6682).

## References

References available upon request.