Monday

9:00–9:15 Conference opening (Auditorium)

9:15–10:00 Invited lecture by S. Elghobashi 'On turbulence modulation by dispersed inertial particles' (Auditorium), Chair: D. Lohse

Mo1A, room A, Chair: W. van de Water		**Mo1B**, room B, Chair: A. Pumir	**Mo1C**, room C, Chair: R. Kunnen		**Mo1D**, room D, Chair: F. Nicoleau
The axisymmetric jet in a rotating reference frame by Lawrie, A., Duran-Matute, M., Scott, J., Godeferd, F.S., Flor, J.-B., Cambon, C. and Danaila, L.	10:00	Making droplets glow in turbulence: a new diagnostic for preferential concentration by Bocanegra Evans, H., Lamberts, T., Dam, N. and van de Water, W.	Subgrid-scale modeling of velocity and passive scalar for large-eddy simulation of non-homogeneus turbulent flows by Favre, Y., Touil, H., Balarac, G. and Lévêque, E.	10:00	Analysis of dissipation-scale fluctuations in highly resolved DNS of turbulent channel flows by Hamlington, P., Krasnov, D., Boeck, T. and Schumacher, J.
Experimental investigations on secondary structures features in a fully developed turbulent jet by Capone, A. and Romano, G.	10:15	Inertial particles in homogeneous shear turbulence by Nicolai, C., Jacob, B., Gualtieri, P. and Piva, R.	Flow coherent structures and frequential signature:application of the dynamic modes decomposition to open cavity flow by Lusseyran, F., Guéniat, F., Basley, J., Douay, C., Pastur, L., Faure, T. and Schmid, P.	10:15	Pair reversal in homogeneous isotropic turbulence by Devenish, B. and Thomson, D.
Experimental investigation of small scale geometries in a turbulent round jet by Gampert, M., Schaefer, P. and Peters, N.	10:30	Dispersion of bubbles in fully developed channel flow by Harleman, M., Delfos, R., van Terwisga, T.J.C. and Westerweel, J.	Similarity reduction of a three-dimensional model of the far turbulent wake behind a towed body by Schmidt, A.	10:30	Multidimensional Turbulence Spectra by Ghasempour, F., Andersson, R., Kevlahan, N. and Andersson, B.
Generation of self-sustained coherent vortices in isothermal round free jet by Bogusławski, A., Tyliszczak, A., Drobniak, S. and Asendrych, D.	10:45	The dynamics of finite size neutrally-buoyant particles in isotropic turbulence by Elhimer, M., Praud, O., Bazile, R., Marshal, M. and Couteau, G.	Investigation of wall-bounded turbulent flow using dynamic mode decomposition by Mizuno, Y., Duke, D., Atkinson, C. and Soria, J.	10:45	A method to correct statistical moments in turbulent flows by Talamelli, A., Segalini, A., Örlü, R., Schlatter, P. and Alfredsson, H.
Interaction of a Confined Jet with an Obstacle Creating Vortex Separation by Nowakowski, A. and Nicolleau, F.	11:00	POD-based study of particle deposition from turbulent channel flow by Pozorski, J., Béghein, C. and Allery, C.	Under-resolved simulations of Rayleigh-Benard convection: effects of anisotropic viscosity and Prandtl number by Piotrowski, Z. and Smolarkiewicz, P.	11:00	Applications of the new symmetries of the multi-point correlation equations by Avsarkisov, V., Oberlack, M. and Rosteck, A.

11:15–11:40 Coffee & MT Poster Session

Mo2A, room A, Chair: P. Schlatter		**Mo2B**, room B, Chair: W. Elsner	**Mo2C**, room C, Chair: P. Frick		**Mo2D**, room D, Chair: G. Khujadze
Effect of a k-type Roughness on the Behavior of Turbulence in an Unsteady Channel Flow by Seddighi, M., He, S., Vardy, A. and Orlandi, P.	11:40	Turbulence induced lift experienced by large particles in a turbulent flow by Zimmermann, R., Gasteuil, Y., Volk, R., Bourgoin, M., Pumir, A. and Pinton, J.-F.	Forced magnetohydrodynamic turbulence in large eddy simulation of compressible fluid by Chernyshov, A., Karelsky, K. and Petrosyan, A.	11:40	Extension of scaling ranges in burgers equation by Chakraborty, S., Frisch, U. and Ray, S.S.
Aspects of a turbulent-nonturbulent interface by Narasimhamurthy, V.D., Andersson, H.I. and Pettersen, B.	11:55	Transport of inertial particles in turbulent boundary layers by Sardina, G., Brandt, L., Schlatter, P., Casciola, C.M. and Henningson, D.S.	Quasi-static magnetohydrodynamic turbulence at high Reynolds number by Delache, A., Favier, B., Godeferd, F.S., Cambon, C. and Bos, W.	11:55	Anisotropic energy transfers in rotating turbulence by Lamriben, C., Cortet, P.-P. and Moisy, F.
Assessment of the turbulent energy paths from the origin to dissipation in wall-turbulence by Cimarelli, A., De Angelis, E. and Casciola, C.M.	12:10	Inertial-particle dispersion and diffusion by Afonso, M.M., Mazzino, A. and Muratore-Ginanneschi, P.	On the decay of Saffman turbulence subject to rotation, stratification or a magnetic field. by Davidson, P.A.	12:10	Small-scale tutbulent fluctuations beyond Taylorś frozen-flow hypothesis by He, X., He, G. and Tong, P.
Structures and turbulent statistics in rotating plane Couette flow by Tsukahara, T.	12:25	Statistical properties of particle segregation in homogeneous isotropic turbulence by Meneguz, E. and Reeks, M.	Turbulence Anisotropy and Coherent Structures in Electromagnetically Generated Vortex Patterns by Kenjereš, S.	12:25	Application of Arbitrary-Order Hilbert Spectral Analysis to Passive Scalar Turbulence by Huang, Y.X., Schmitt, F.G., Gagne, Y., Lu, Z. and Liu, Y.L.
High-Schmidt number mass transfer in turbulent boundary layers by Håkansson, L. and Andersson, B.	12:40	Preferential concentration and clustering of heavy particles in turbulent flows by Obligado, M., Missaoui, M., Monchaux, R., Cartellier, A. and Bourgoin, M.	A turbulent ring and dynamo in a precessing sphere by Kida, S. and Shimizu, M.	12:40	Towards a stochastic multi-point description of turbulence by Stresing, R., Waechter, M. and Peinke, J.
A new formulation for the streamwise turbulence intensity distribution by Alfredsson, H., Örlü, R. and Segalini, A.	12:55		Local structures o homogeneous Hall MHD turbulence by Miura, H. and Araki, K.	12:55	Random vectorial fields representing the local structure of turbulence by Chevillard, L., Robert, R. and Vargas, V.

13:10–14:40 Lunch & MT Poster Session

14:40–15:25 Invited lecture by R.Shaw 'Turbulence in atmospheric clouds' (Auditorium), Chair: E. Bodenschatz

Mo3A, room A, Chair: S. Elghobashi		**Mo3B**, room B, Chair: Y. Kaneda	**Mo3C**, room C, Chair: G. Bewley		**Mo3D**, room D, Chair: N. Peters
Investigation of Turbulent Separation in a Forward-Facing Step Flow by *Pearson, D., Goulart, P.* and *Ganapathisubramani, B.*	15:25	Bubble-Turbulence Interaction in Binary Fluids by *Battista, F., Froio, M., Picano, F., Gualtieri, P.* and *Casciola, C.M.*	The role of jets as transport barriers in the Earth's stratosphere by *Beron-Vera, F.J.*	15:25	Analysis and modelling of the effective reaction rate in a developing mixing layer by *Wędołowski, K., Kwiatkowski, K.* and *Bajer, K.*
Formation of low-speed ribbons in turbulent channel flow by *Huang, L.-P., Choi, K.-S.* and *Fan, B.-C.*	15:40	Two-dimensional homogeneous, isotropic fluid turbulence with polymer additives by *Gupta, A., Perlekar, P.* and *Pandit, R.*	Modeling of subgrid-scale cloud-clear air turbulent mixing in large eddy simulation of cloud fields by *Jarecka, D., Grabowski, W.W., Pawlowska, H.* and *Wyszogrodzki, A.A.*	15:40	Pulsatile turbulent flow through pipe bends at high Dean and Womersley numbers by *Kalpakli, A., Örlü, R., Tillmark, N.* and *Alfredsson, H.*
Drag Reduction by Streamwise Traveling Wave-like Lorenz Force in Channel Flow by *Mamori, H.* and *Fukagata, K.*	15:55	Turbulence of dilute polymer solution: the Weissenberg Number effect by *Xi, H., Bodenschatz, E.* and *Xu, H.*	Turbulence and wind turbines by *Brand, A., Peinke, J.* and *Mann, J.*	15:55	Reactive Rayleigh-Taylor systems: flame propagation and non-stationarity by *Scagliarini, A., Biferale, L., Mantovani, F., Pivanti, M., Pozzati, F., Sbragaglia, M., Schifano, S.F., Toschi, F.* and *Tripiccione, R.*
Modelling vortex generator jets for turbulent flow separation control by *von Stillfried, F., Kékesi, T., Wallin, S.* and *Johansson, A.V.*	16:10	Control of the flow past a cylinder with dilute polymer in solutions by *Xiong, Y., Bruneau, C.H.* and *Kellay, H.*	The nature of zonal jets in geostrophic turbulence by *Dritschel, D.* and *Scott, R.*	16:10	Life at high Reynolds number by *Perlekar, P., Benzi, R., Nelson, D.R.* and *Toschi, F.*
Turbulent Boundary-Layer Control with Spanwise Travelling Waves by *Whalley, R.* and *Choi, K.-S.*	16:25	Simulating the full-scale experiments with marine vehicles in the towing tanks using polymer drag reduction by *Elyukhina, I.* and *Khomyakov, A.*	Small-scale turbulent mixing at the stratocumulus top observed by means of high resolution airborne temperature measurements by *Malinowski, S.P., Haman, K., Kopec, M., Kumala, W.* and *Gerber, H.*	16:25	A turbulent eulerian multi-fluid reactive flow model and its application in modelling sorption enhanced steam methane reforming by *Chao, Z., Wang, Y., Jakobsen, J.P., Fernandino, M.* and *Jakobsen, H.A.*

16:40–17:00 Coffee & MT Poster Session

Mo4A, room A, Chair: Ö. Ertunç		**Mo4B**, room B, Chair: L.-P. Wang	**Mo4C**, room C, Chair: S. Malinowski		**Mo4D**, room D, Chair: M. La Mantia
Transitional flow over a plate at Re = 10.000 and small inclination by *Baars, A.*	17:00	Water droplets condensation/evaporation modeling in DNS of turbulent channel flow by *Russo, E., Kuerten, H., van der Geld, C.W.M.* and *Geurts, B.J.*	Scaling of turbulence in the atmospheric surface-layer: which anisotropy? by *Fitton, G., Tchiguirinskaia, I., Schertzer, D.* and *Lovejoy, S.*	17:00	Vortex dynamics in the turbulent wake of a curved circular cylinder by *Gallardo, J.P., Pettersen, B.* and *Andersson, H.I.*
Turbulence, instabilities and passive scalars in rotating channel flow by *Brethouwer, G., Schlatter, P.* and *Johansson, A.V.*	17:15	Constrained dynamics of an inertial particle in a turbulent flux. by *Obligado, M., Baudet, C., Gagne, Y.* and *Bourgoin, M.*	DNS of a stably stratified turbulent Ekman layer with a capping inversion by *Flores, O.* and *Riley, J.J.*	17:15	Reconnection of a laminar vortex ring with a free surface leading to turbulence by *Balakrishnan, S.K., Thomas, G.* and *Coleman, G.*
Stochastic motion of a laminar/turbulent interface in a shear flow by *Duguet, Y.* and *Schlatter, P.*	17:30	Two-Phase Flow Predictions of the Turbulent Flow in a Combustion Chamber Including Particle-Particle Interactions by *Breuer, M.* and *Alletto, M.*	Micro-machined super miniature multi hot-film probe by *Borisenkov, Y., Kholmyansky, M., Krylov, S., Liberzon, A.* and *Tsinober, A.*	17:30	THE TURBULENT WAKE BEHIND SIDE-BY-SIDE PLATES by *Hoseini Dadmarzi, F., Narasimhamurthy, V.D., Andersson, H.I.* and *Pettersen, B.*
Low-speed streaks instability in near wall turbulence with adverse pressure gradient by *Ehrenstein, U., Marquillie, M.* and *Laval, J.-P.*	17:45	Droplet breakup in turbulence by *Biferale, L., Perlekar, P., Sbragaglia, M., Srivastava, S.* and *Toschi, F.*	On self-maintenance of clear-air turbulence by *Haman, K.*	17:45	Time-resolved evolution of the wall-bounded vorticity cascade by *Lozano-Durán, A.* and *Jiménez, J.*
On excitation of görtler vortices due to scattering of free-stream vortices on surface non-uniformities by *Ivanov, A.V., Kachanov, Y.* and *Mischenko, D.*	18:00	A priori reconstruction of ideal stochastic forcing for the motion of inertial particles in turbulent flow by *Geurts, B.J., Kuerten, J.G.M., Pozorski, J.* and *Knorps, M.*	Prediction of claear-air turbulence induced by short gravity waves by *Kopeć, J., Haman, K.* and *Bajer, K.*	18:00	The Hairpin Vortex Illusion by *Bernard, P.*
Experimental study of the subcritical transition to turbulence in a channel flow by *Lemoult, G., Aider, J.-A.* and *Wesfreid, J.-E.*	18:15		Helical scenario of tropical cyclone genesis and intensification by *Levina, G.* and *Montgomery, M.*	18:15	Turbulent cascade of Kelvin waves on a vortex filament by *Baggaley, A.* and *Barenghi, C.F.*
	18:30			18:30	Vortex ring breakdown induced by topographic forcing by *Geiser, J.* and *Kiger, K.*

19:30–22:30 Drinks (Copernicus Science Centre)

Tuesday

9:00–9:45 Invited lecture by G. Falkovich 'Interaction of turbulence and mean flow in fluid layers' (Auditorium), Chair: Y. Kachanov

Tu1A, room A, Chair: P. Manneville		**Tu1B**, room B, Chair: H. Andersson	**Tu1C**, room C, Chair: D. Dritschel		**Tu1D**, room D, Chair: B. Andersson
Modeling the transition to turbulence in pipe flow by *Barkley, D.*	09:45	tumbling and orientation of elongated particles in a turbulent flow by *Wilkinson, M.* and *Pumir, A.*	An experimental analysis of canopy flows by *Segalini, A.*, *Fransson, J.* and *Alfredsson, H.*	09:45	Closure proposals for the tracking of turbulence-agitated gas-liquid interfaces by *Wacławczyk, M.* and *Oberlack, M.*
Instabilities in the wake of circular disk by *Bobiński, T.*, *Goujon-Durand, S.* and *Wesfreid, J.E.*	10:00	Estimating the collision rate of inertial particles in a turbulent flow: limitations of the Ghost Collision Approximation by *Voßkuhle, M.*, *Pumir, A.* and *Lévèque, E.*	Towards an integrated multiscale simulation of turbulent clouds on petascale computers by *Wang, L.-P.*, *Ayala, O.*, *Parishani, H.*, *Grabowski, W.W.*, *Wyszogrodzki, A.A.*, *Piotrowski, Z.*, *Gao, G.R.*, *Kambhamettu, C.*, *Li, X.*, *Rossi, L.*, *Orozco, D.* and *Torres, C.*	10:00	A statistical theory for inhomogeneous turbulent flow formulated in the mean-Lagrangian coordinates by *Ariki, T.* and *Hamba, F.*
Experiments on the wave train development in 3D boundary layer at Mach 2 by *Kosinov, A.*, *Semionov, N.V.* and *Yermolaev, Y.G.*	10:15	Resuspension of particles in turbulent flows with and without mean-shear using PIV and 3D-PTV by *Traugott, H.*, *Hayse, T.* and *Liberzon, A.*	Second- and third-order moment budgets in a turbulent patch resulting from internal gravity wave breaking by *Yakovenko, S.*	10:15	Cross-Independence Closure for Statistical Theory of Turbulence by *Tatsumi, T.*
A Phase Transition in a Closed Turbulent Flow by *Herbert, E.*, *Chiffaudel, A.*, *Cortet, P.-P.*, *Daviaud, F.* and *Dubrulle, B.*	10:30	Orientation of non-spherical particles in an axisymmetric random flow by *Vincenzi, D.*		10:30	Rigorous results for stochastic shell models of turbulence by *Jaroszewska, J.Z.*
Chaos control applied to coherent states in transitional flows by *Pausch, M.* and *Eckhardt, B.*	10:45	Intermittency reduction of finite-sized particles acceleration in turbulence by *Volk, R.*, *Calzavarini, E.*, *Lévèque, E.* and *Pinton, J.-F.*		10:45	non equilibrium statistical mechanics of large scale structures of turbulent flows by *Bouchet, F.*, *Laurie, J.* and *Zaboronski, O.*

11:00–11:25 Coffee & MT Poster Session

Tu2A, room A, Chair: G. Brethouwer		**Tu2B**, room B, Chair: J. Kalda	**Tu2C**, room C, Chair: V. Uruba		**Tu2D**, room D, Chair: C. Tenaud
On turbulence in hydrodynamic lubrication by *Scheichl, B.* and *Kluwick, A.*	11:25	short time evolution of lagrangian tetrads: comparison between experiments and model by *Pumir, A.*, *Xu, H.*, *Bodenschatz, E.* and *Alain, P.*	Length scales in anisotropic turbulence by *Chang, K.*, *Bewley, G.P.* and *Bodenschatz, E.*	11:25	Drag reduction by surface treatment in turbulent Taylor-Couette flow by *Greidanus, A.*, *Delfos, R.* and *Westerweel, J.*
Turbulent spots in stokes boundary layer by *Mazzuoli, M.*, *Vittori, G.* and *Blondeaux, P.*	11:40	Turbulence visualization using reflective flakes by *Goto, S.* and *Kida, S.*	Are oceanic rings and jets statistical equilibrium states? by *Venaille, A.* and *Bouchet, F.*	11:40	Experimental investigation of torque scaling and coherent structures in turbulent Taylor-Couette flow by *Tokgoz, S.*, *Elsinga, G.E.*, *Delfos, R.* and *Westerweel, J.*
From travelling waves to mild chaos in pipe flow by *Mellibovsky, F.* and *Eckhardt, B.*	11:55	A Lagrangian approach to turbulent puffs in pipe flow by *Holzner, M.*, *Avila, M.*, *de Lozar, A.* and *Hof, B.*	Continuous and discontinuous transitions in geophysical turbulence by *Corvellec, M.* and *Bouchet, F.*	11:55	Velocity profile in turbulent Taylor-Couette flow by *Huisman, S.*, *van Gils, D.P.M.*, *Sun, C.* and *Lohse, D.*
Turbulence budget in transitional plane couette flow with turbulent stripe by *Ohnishi, K.*, *Tsukahara, T.* and *Kawaguchi, Y.*	12:10	Influence of flow topology on Lagrangian statistics in two-dimensional turbulence by *Kadoch, B.*, *del-Castillo-Negrete, D.*, *Bos, W.* and *Schneider, K.*	Marked drag reduction in non-affine viscoelastic turbulence in homogeneous isotropic and pipe flows by *Horiuti, K.*, *Matsumoto, K.* and *Adati, M.*	12:10	Drag reduction, bubble distribution and momentum profiles in bubbly turbulent Taylor-Couette flow by *van Gils, D.P.M.*, *Guzman, D.N.*, *Sun, C.* and *Lohse, D.*
Turbulent pattern formation in plane couette flow: modeling and investigations of mechanisms by *Rolland, J.* and *Manneville, P.*	12:25	Long time memory of Lagrangian Acceleration Statistics in 2D and 3D Turbulence by *Kamps, O.* and *Wilczek, M.*	Statistical Investigation on Coherent Vortex Structure in Turbulent Drag Reducing Channel Flow with Blown Polymer Solution by *Ishitsuka, S.*, *Motozawa, M.*, *Iwamoto, K.*, *Ando, H.*, *Senda, T.* and *Kawaguchi, Y.*	12:25	Torque scaling in Taylor-Couette-Flow - An experimental investigation by *Merbold, S.*, *Fischer, S.* and *Egbers, C.*
By-pass transition of flat plate boundary layers on the surfaces near the limit of admissible roughness by *Jonáš, P.*, *Hladík, O.*, *Mazur, O.* and *Uruba, V.*	12:40	Acceleration measurement with a laser Doppler system by *Nobach, H.*, *Bodenschatz, E.* and *Tatsumi, T.*	Experimental investigation of particle deagglomeration using turbulence by *Köksoy, C.*, *Ertunç, Ö.*, *Huttner, S.*, *Wachtel, H.* and *Delgado, A.*	12:40	Numerical benchmarking of turbulent Taylor-Couette flows by *Guillerm, R.*, *Da Soghe, R.*, *Poncet, S.* and *Viazzo, S.*
	12:55	Encounter rates and transit time distributions for surfaces moving in turbulent flows by *Pécseli, H.* and *Trulsen, J.*	Time-resolved combined DPIV/PTV measurements of two-phase turbulent pipe flow by *Kolaas, J.* and *Jensen, A.*	12:55	Torque scaling in turbulent Taylor-Couette flow with co- and counter-rotating cylinders by *van Gils, D.P.M.*, *Huisman, S.*, *Bruggert, G.*, *Sun, C.* and *Lohse, D.*

13:10–14:40 Lunch & MT Poster Session

14:40–15:25 Invited lecture by B. Geurts 'Regularization of turbulence - a comprehensive modeling approach' (Auditorium), Chair: B. Eckhardt

Tu3A, room A, Chair: J. Wesfreid		**Tu3B**, room B, Chair: A. Vallgren	**Tu3C**, room C, Chair: C. Nore		**Tu3D**, room D, Chair: A. Bogusławski
Evolution of transitional structures from puff to slug through multiple splitting in a pipe flow at low Reynolds number by *Krauss, J.*, *Ertunç, Ö.*, *Ostwald, C.*, *Lienhart, H.* and *Delgado, A.*	15:25	Dissipation scales of kinetic helicities in turbulence by *Plunian, F.*, *Lessines, T.*, *Carati, D.* and *Stepanov, R.*	The short-wavelength instability of magnetically buoyant layer by *Mizerski, K.*, *Davies, C.* and *Hughes, D.*	15:25	A Hybrid Numerical Scheme For New Formulations Of Delayed Detached-Eddy Simulation (DDES) by *Ashton, N.*, *Prosser, R.* and *Revell, A.*
Tracking the transitional flow structures in low Reynolds number pipe flow by *Ertunç, Ö.*, *Krauss, J.*, *Lienhart, H.*, *Miranda, P.R.* and *Delgado, A.*	15:40	Experimental spectra of quantum turbulence for various flows by *Salort, J.*, *Chabaud, B.*, *Lévêque, E.* and *Roche, P.-E.*	Effective Magnetic Diffusivity and Turbulent Viscosity in a Spin-down Flow of Liquid by *Frick, P.*, *Noskov, V.*, *Denisov, S.* and *Stepanov, R.*	15:40	Large-eddy simulations of confined turbulent wake flows by *Biancofiore, L.*, *Gallaire, F.* and *Pasquetti, R.*
Base flow modulations for skin-friction drag reduction by *Fransson, J.* and *Talamelli, A.*	15:55	Rotating helical turbulence: three-dimensionalization or self-similarity in the small scales? by *Pouquet, A.*, *Baerenzung, J.*, *Mininni, P.D.*, *Rosenberg, D.* and *Thalabard, S.*	Direct Numerical Simulations of Three-dimensional Magnetohydrodynamic Turbulence with Random, Power-law Forcing by *Sahoo, G.* and *Pandit, R.*	15:55	LES of dropet-laden non-isothermal channel flow by *Michałek, W.*, *Liew, R.*, *Kuerten, H.* and *Zeegers, J.*
Planar Richtmyer-Meshkov Instabilities and Transition to Turbulence by *Gowardhan, A.*, *Grinstein, F.* and *Ristorcelli, R.*	16:10	Universality of Local Dissipation Scales in Buoyancy-Driven Turbulence by *Xia, K.-Q.* and *Zhou, Q.*	Dynamos in rotating compressible convection by *Favier, B.* and *Bushby, P.*	16:10	Large-eddy simulation of the flat-plate turbulent boundary layer by *Inoue, M.* and *Pullin, D.*
The critical Reynolds number of pipe flow by *Avila, K.*, *De Lozar, A.*, *Avila, M.* and *Hof, B.*	16:25	Universal aspects of small-scale motions in turbulence by *Elsinga, G.E.* and *Marusic, I.*	Transients and Turbulence Pockets in Natural Convection of Paramagnetic Fluid Subjected to Strong Magnetic Field Gradients by *Kenjereš, S.*, *Wrobel, W.*, *Pyrda, L.*, *Fornalik-Wajs, E.* and *Szmyd, J.*	16:25	LES of fluid and heat flow over a wall-bounded short cylinder at different inflow conditions by *Borello, D.* and *Hanjalić, K.*

16:40–17:00 Coffee & MT Poster Session

Tu4A, room A, Chair: E. Tuliszka-Sznitko		**Tu4B**, room B, Chair: P. Bernard	**Tu4C**, room C, Chair: A. Nowakowski		**Tu4D**, room D, Chair: D. Pullin
Optimal perturbations in dusty-gas plane-channel flow by *Boronin, S.*	17:00	A Numerical Investigation of a Flow around Two Circular cylinders with Either One Subjected to a Transverse harmonic Oscillation by *Kim, J.*	On the control of global modes in swirling jet experiments by *Oberleithner, K.*, *Sieber, M.*, *Nayeri, C.N.* and *Paschereit, C.O.*	17:00	Dynamic Kalman filtering to separate low-frequency instabilities from turbulent fluctuations: Application to the Large-Eddy Simulation of unsteady turbulent flows by *Cahuzac, A.*, *Boudet, J.*, *Borgnat, P.* and *Lévêque, E.*
Travelling waves in low and intermediate rotating spherical shell convection by *Futterer, B.*, *Koch, S.* and *Egbers, C.*	17:15	Numerical simulations of swirling pipe flows- decay of swirl and occurrence of vortex structures by *Vaidya, H.*, *Ertunç, Ö.*, *Genç, B.*, *Beyer, F.*, *Köksoy, C.* and *Delgado, A.*	Lagrangian measurements of turbulent entrainment in an axisymmetric jet. by *Wolf, M.*, *Lüthi, B.*, *Holzner, M.*, *Liberzon, A.*, *Krug, D.* and *Tsinober, A.*	17:15	Turbulent natural convection in a differentially heated cavity of aspect ratio 5 filledwith non-participating and participating grey media by *Capdevila, R.*, *Lehmkuhl, O.*, *Trias, F.X.*, *Pérez-Segarra, C.-D.* and *Colomer, G.*
Negative Magnus Effect on a Rotating Sphere at around the Critical Reynolds Number by *Muto, M.*, *Watanabe, H.*, *Tsubokura, M.* and *Oshima, N.*	17:30	Structure of vorticitytube segments in fluid turbulence by *Wang, L.*	Direct Numerical Simulation of Vector-Controlled Free Jets by *Tsujimoto, K.*, *Ao, K.*, *Shakouchi, T.* and *Ando, T.*	17:30	Quantification of the effects of uncertainties in turbulent flows through generalized Polynomial Chaos by *Meldi, M.*, *Lucor, D.* and *Sagaut, P.*
Effect of free-stream turbulence characteristics on boundary layer transition by *Shahinfar, S.* and *Fransson, J.*	17:45	Transformation of Vortex Structures in the wake of a sphere moving in the stratified fluid with decreasing of internal Froude Number by *Matyushin, P.* and *Gushchin, V.*	Large-Eddy Simulation of Mixing in a Subsonic Jet With Density and Pressure Based Solution Approaches by *Vuorinen, V.*, *Wehrfritz, A.*, *Yu, J.*, *Kaario, O.*, *Larmi, M.* and *Boersma, B.*	17:45	Filtered density function approach for large eddy simulation of turbulent two-phase flows. by *Chibbaro, S.* and *Minier, J.-P.*
On the generation of three-dimensional disturbances from twodimensional nonlinear instabilities in shear flows by *Liu, J.T.C.*	18:00	Topology and dynamics of flow structures in wall-bounded turbulent flows by *Mizuno, Y.*, *Atkinson, C.* and *Soria, J.*		18:00	Direct numerical simulation of turbulent pipe flow up to a Reynold s number of 61,000 by *Boersma, B.*

18:30–20:30 Guided walk in Warsaw

20:30–22:30 ETC Committee meeting

Wednesday

9:00–9:45 Invited lecture by I. Marusic 'High Reynolds number wall turbulence' (Auditorium), Chair: N. Sandham

We1A, room A, Chair: B. Protas		**We1B**, room B, Chair: J. Palma	**We1C**, room C, Chair: E. Lévêque		**We1D**, room D, Chair: D. Livescu
Stirring turbulence with turbulence by *Cekli, H.E.*, *Joosten, R.* and *van de Water, W.*	09:45	Flow around finite-size neutrally buoyant Lagrangian particles in fully developed turbulence by *Gibert, M.*, *Klein, S.* and *Bodenschatz, E.*	Novel experimental set-up to analyse cryogenic flows by visualisation by *La Mantia, M.*, *Rotter, M.* and *Skrbek, L.*	09:45	Parabolic flight experiment 'Convection in a Cylinder' - Convection patterns in different buoyancy forces by *Dahley, N.*, *Futterer, B.*, *Egbers, C.*, *Crumeyrolle, O.* and *Mutabazi, I.*
Further progress in a re-examination of the dissipation anomaly by *McComb, W.D.*, *Berera, A.*, *Salewski, M.* and *Yoffe, S.*	10:00	Particle Entrainment in Spherical-Cap Wakes by *Warncke, N.*, *Delfos, R.*, *Ooms, G.* and *Westerweel, J.*	Energy Spectra of Quantum Turbulence: Theory and Simulations by *Machida, M.*, *Sasa, N.*, *Kano, T.*, *Lvov, V.*, *Rudenko, O.* and *Tsubota, M.*	10:00	Dynamics of reversals in rayleigh-benard convection by *Chandra, M.* and *Verma, M.*
On the maximum enstrophy growth in a hydrodynamic system by *Ayala, D.* and *Protas, B.*	10:15	Experimental study of relative velocity statistics and collision of inertial particles in turbulence. by *Saw, E.-W.*, *Bewley, G.P.* and *Bodenschatz, E.*	Shell Models of Superfluid Turbulence by *Wacks, D.* and *Barenghi, C.F.*	10:15	Disappearance of aspect-ratio dependence of heat transport with increasing rotation rate in turbulent rayleigh-bénard convection by *Overkamp, J.*, *Stevens, R.*, *Lohse, D.* and *Clercx, H.J.H.*
Analysis of multi-plane PIV data using two and three-dimensional POD by *Liberzon, A.*, *Gurka, R.* and *Hetsroni, G.*	10:30	Interpolation error in DNS simulations of turbulence: consequences for particle tracking by *van Hinsberg, M. A. T.*, *ten Thije Boonkkamp, J.H.M.*, *van de Wiel, B.J.H.*, *Toschi, F.* and *Clercx, H.J.H.*	Quantum turbulence in Helium-4 pure superflow by *Babuin, S.*, *Stammeier, M.*, *Rotter, M.* and *Skrbek, L.*	10:30	Bolgiano vs. Kolmogorov scaling in Rayleigh-Taylor turbulence by *Boffetta, G.*, *De Lillo, F.*, *Mazzino, A.* and *Musacchio, S.*
Slug Flow in Horizontal Pipes with Transpiration at the Wall by *Loureiro, J.* and *Silva Freire, A.P.*	10:45	Scaling properties of the velocity statistics of heavy particles in turbulence by *Lanotte, A.S.*, *Bec, J.*, *Biferale, L.*, *Cencini, M.* and *Toschi, F.*	Kolmogorov cascade and equipartition of kinetic energy in numerical simulation of Superfluid turbulence by *Salort, J.*, *Lévêque, E.* and *Roche, P.-E.*	10:45	Viscous boundary layers in turbulent Rayleigh-Bénard convection by *Li, L.*, *Resagk, C.* and *du Puits, R.*

11:00–11:25 Coffee & WT Poster Session

We2A, room A, Chair: D. Barkley		**We2B**, room B, Chair: R. Du Puits	**We2C**, room C, Chair: A. Liberzon		**We2D**, room D, Chair: R. Kerr
Experimental study on homogenization in grid turbulence: by *Cardesa-Dueñas, J.I.*, *Nickels, T.* and *Dawson, J.*	11:25	PIV investigation of a buoyant plume above heated horizontal cylinder by *Grafsrønningen, S.*, *Jensen, A.* and *Pettersson-Reif, B.A.*	Spiral instability and screech effect in supersonic jet flows by *Menshov, I.* and *Nenashev, A.*	11:25	Damping inertial modes excitation in a closed grid turbulence experiment under rotation by *Cortet, P.-P.*, *Lamriben, C.*, *Moisy, F.* and *Maas, L.R.M.*
DNS on a spatially developing grid turbulence by *Suzuki, H.*, *Nagata, K.*, *Sakai, Y.* and *Hayase, T.*	11:40	Multi Scale PIV Measurements of Shear Flow Turbulence by *Buxton, O.* and *Ganapathisubramani, B.*	Response to rotating forcing of the von-Kármán disk boundary layer by *Vasudevan, M.*, *Siddiqui, E.*, *Pier, B.*, *Scott, J.*, *Azouzi, A.*, *Michelet, R.* and *Nicot, C.*	11:40	Laboratory study of forced rotating shallow water turbulence by *Espa, S.*, *Di Nitto, G.* and *Cenedese, A.*
Higher-order moments of velocity fluctuations in the wake of a short stack by *Adaramola, M.S.*, *Bergstrom, D.J.* and *Sumner, D.*	11:55	Spectrum of a passive scalar in turbulent mixing by *Lee, S.-K.*, *Djenidi, L.*, *Antonia, R.* and *Rajagopalan, S.*	Instability mechanisms in turbulent axisymmetric supersonic wakes by *Sandberg, R.*	11:55	Statistics of Confined Turbulent Flows with Rotation Effects by *Jause-Labert, C.* and *Godeferd, F.S.*
Freely-Decaying, Homogeneous Turbulence Generated by Multi-scale Grids by *Davidson, P.A.* and *Krogstad, P.-Å.*	12:10	Passive scalar transport in a localized synthetic wall turbulence in a contraction channel by *Lefeuvre, N.*, *Djenidi, L.* and *Tardu, S.*	Experimental study of turbulence beginning of supersonic boundary layer on swept wing at Mach numbers 2-4 by *Semionov, N.*, *Kosinov, A.* and *Yermolaev, Y.*	12:10	Laboratory experiment and numerical simulations of inertial wave-interactions in a rotating spherical shell by *Koch, S.*, *Harlander, U.*, *Hollerbach, R.* and *Egbers, C.*
Negative streamwise velocities and other rare events near the wall in turbulent channel flow by *Lenaers, P.*, *Li, Q.*, *Brethouwer, G.*, *Schlatter, P.* and *Örlü, R.*	12:25	Scale-by-scale turbulent energy budgets which account for the coherent motion by *Thiesset, F.*, *Danaila, L.*, *Antonia, R.* and *Zhou, T.*	On the decay of turbulence in plane Couette flow by *Manneville, P.*	12:25	Numerical study of homogeneous turbulence within baroclinic context by *Pieri, A.*, *Cambon, C.* and *Godeferd, F.S.*
Inflow length and tripping effects in turbulent boundary layers by *Örlü, R.* and *Schlatter, P.*	12:40	Influence of vorticity alignment upon scalar gradient production in three-dimensional, isotropic turbulence by *Gonzalez, M.* and *Paranthoën, P.*	DNS and the Theory of Receptivity of a Supersonic Boundary Layer to Free-Stream Disturbances by *Soudakov, V.*, *Fedorov, A.* and *Ryzhov, A.*	12:40	Helical properties of sheared and rotating turbulence by *Jacobitz, F.*, *Schneider, K.*, *Bos, W.* and *Farge, M.*
Turbulent asymptotic suction boundary layers studied by simulation by *Schlatter, P.* and *Örlü, R.*	12:55	Depletion of advection in turbulent scalar mixing by *Bos, W.*, *Rubinstein, R.* and *Fang, L.*	Heat transfer in rotor/rotor cavity by *Tuliszka-Sznitko, E.*, *Majchrowski, W.* and *Kiełczewski, K.*	12:55	

13:10–14:40 Lunch & WT Poster Session

14:25–14:40 Presentation of the TSI instrument (Auditorium)

14:40–15:25 Invited lecture by M. Burgoin 'Experimental investigations of turbulent transport of inertial particles' (Auditorium), Chair: C.M. Casciola

We3A, room A, Chair: P. Jonáš		**We3B**, room B, Chair: M. Gibert	**We3C**, room C, Chair: A. Talamaelli		**We3D**, room D, Chair: A. Johansson
Bifurcation of turbulent regimes in rotating plane Couette flow by Salewski, M. and *Eckhardt, B.*	15:25	Statistics of streamline segments based on the local dynamics of turbulence by Schaefer, P., *Gampert, M.* and *Peters, N.*	Particle-laden jets: particle distribution and back-reaction on the flow by Picano, F., *Sardina, G.*, *Gualtieri, P.* and *Casciola, C.M.*	15:25	Second order closure for stratified convection: bulk region and overshooting by Biferale, L., *Mantovani, F.*, *Pivanti, M.*, *Pozzati, F.*, *Sbragaglia, M.*, *Scagliarini, A.*, *Schifano, S.F.*, *Toschi, F.* and *Tripiccione, R.*
Direct numerical simulations of stratified open channel flows by Deusebio, E., *Schlatter, P.*, *Brethouwer, G.* and *Lindborg, E.*	15:40	lagrangian velocity and acceleration autocorrelations in rotating turbulence by Del Castello, L. and *Clercx, H.J.H.*	Droplet behavior in a Ranque-Hilsch vortex tube by Liew, R., *Michałek, W.*, *Zeegers, J.* and *Kuerten, H.*	15:40	First results from the variable density turbulence tunnel by *Bewley, G.P.*, *Nobach, H.*, *Xu, H.* and Bodenschatz, E.
The collapse of turbulence in the atmospheric boundary layer by van de Wiel, B.J.H., *Moene, A.*, *Jonker, H.* and *Clercx, H.J.H.*	15:55	Micro-bubbles in turbulence: a Lagrangian investigation by Sun, C., *Martinez, J.*, *Prakash, V.*, *Tagawa, Y.* and *Lohse, D.*	Direct numerical simulation of strained turbulence and particles within by *Gylfason, A.*, *Lee, C.-M.*, *Perlekar, P.*, *Toschi, F.* and Ivanov, D.	15:55	Structure function scaling in a $Re_lambda = 250$ turbulent mixing layer by Attili, A. and *Bisetti, F.*
Boundary-layer receptivity to surface non-uniformities leading to generation of görtler vortices by *Ivanov, A.V.*, Kachanov, Y. and *Mischenko, D.*	16:10	Stretching of material lines in pseudo-turbulence induced by small rising bubbles by Tanaka, M., *Tsujimura, Y.* and *Kanatani, H.*	Role of thermal plumes on particle dispersion in a turbulent Rayleigh-Bernard cell by Lavezzo, V., *Clercx, H.J.H.* and *Toschi, F.*	16:10	Conditional analysis near strong shear layers in DNS of isotropic turbulence at high Reynolds number by Ishihara, T., *Hunt, J.C.R.* and *Kaneda, Y.*
The imerspec methodology - presentation and preliminary applications by Silveira-Neto, A., *Moreira, L.* and *Mariano, F.*	16:25	Probing vorticity-strain alignment in turbulence using tetrad-based velocity gradient by Xu, H., *Pumir, A.* and *Bodenschatz, E.*	Turbulence in a microchannel by Kowalewski, T. and *Błoński, S.*	16:25	Fractal properties of a non-axisymmetric wake by Nilsen, C. and *Andersson, H.I.*

16:40–17:00 Coffee & WT Poster Session

We4A, room A, Chair: M. Buschmann		**We4B**, room B, Chair: L. Danaila	**We4C**, room C, Chair: J. Rokicki		**We4D**, room D, Chair: F. Plunian
Reynolds number dependency of near-wall statistics of zeropressure- by Buschmann, M.H., *Keirsbulck, L.*, *Fourrié, G.*, *Labraga, L.* and *Gad-el-Hak, M.*	17:00	k-spectrum of decaying, aging and growing passive scalars in Lagrangian chaotic fluid flows by Kalda, J.	On two mechanisms of dissipation by 2D fully developed turbulent flows by Nguyen van yen, R., *Farge, M.* and *Schneider, K.*	17:00	Experimental space-time analysis of wave turbulence by Mordant, N.
Simulation of rough wall turbulent channel flow using a parametric forcing approach by Busse, A. and *Sandham, N.*	17:15	Dimensionality influence on passive scalar transport. Decoupling from the underlying velocity field. by Iovieno, M., *Ducasse, L.* and *Tordella, D.*	Symmetry-preserving regularization of wall-bounded turbulent flows by Trias, F.X., *Gorobets, A.*, *Verstappen, R.* and *Oliva, A.*	17:15	Wavelet analysis of the slow non-linear dynamics of wave turbulence by Miquel, B. and *Mordant, N.*
Coherent vorticity extraction in turbulent boundary layers using orthogonal wavelets by Khujadze, G., *Nguyen van yen, R.*, *Schneider, K.*, *Oberlack, M.* and *Farge, M.*	17:30	Diffusion of a spot of passive scalar in turbulent flow by Calzavarini, E., *Eckhardt, B.*, *Toschi, F.* and *van de Water, W.*	Turbulent entrainment due to a plume inpinging on a density interface by van Reeuwijk, M., *Hunt, G.* and *Jonker, H.*	17:30	Large-scale velocity fluctuations of turbulence by Mouri, H.
Study on the analogy between velocity and temperarure fluctuations in turbulent rotating channel flows by *Yang, Z.*, Cui, G.-X., *Xu, C.-X.* and *Zhang, Z.*	17:45	Rough horizontal plates: heat transfer and hysteresis by *Tisserand, J.C.*, Creyssels, M., *Gasteuil, Y.*, *Pabiou, H.*, *Gibert, M.*, *Castaing, B.* and *Chillà, F.*	Numerical simulation of the turbulent separation reattachment flow around a thick flat plate by Tenaud, C., *Fraigneau, Y.* and *Daru, V.*	17:45	In-silico experiments on characteristic time scale at a shear-free gas-liquid interface in fully developed turbulence by Nagaosa, R. and *Handler, R.*
Small-scale statistics in direct numerical simulation of turbulent channel flow at high-Reynolds number by Morishita, K., *Ishihara, T.* and *Kaneda, Y.*	18:00	The dynamics of turbulent scalar mixing near the edge of the shear layer by Taveira, R.M.R., *da Silva, C.B.* and *Pereira, J.C.F.*	Inner-layer intensities for the flat-plate turbulent boundary layer by combining a predictive wall model with LES by *Inoue, M.*, *Mathis, R.*, *Marusic, I.* and Pullin, D.	18:00	Synthetic turbulence prediction in non-kolmogorov turbulencesynthetic turbulence prediction in non-Kolmogorov turbulence by Nicolleau, F., *Nowakowski, A.* and *Michelitsch, T.*
New anemometers for characterization of atmospheric turbulent flows on small length scales by Puczylowski, J., *Peinke, J.* and *Hölling, M.*	18:15	Quantitative studies of turbulent mass flux at interfaces by Direct numerical simulation by Toh, S. and *Okahashi, Y.*	Large-eddy simulation of turbulence-induced aero-optic effects in free shear flows by Volkov, K. and *Emelyanov, V.*	18:15	

19:00–23:00 Conference Dinner

Thursday

9:00–9:45 Invited lecture by J. Schumacher 'Heat transport in dry and moist Rayleigh-Benard convection' (Auditorium), Chair: J.-F. Pinton

Th1A, room A, Chair: R. Antonia		**Th1B**, room B, Chair: A. Petrosyan	**Th1C**, room C, Chair: S. Babuin		**Th1D**, room D, Chair: A. Günter
Analysis and numerical simulation of a laboratory analog of radiatively induced cloud-top entrainment by Schmidt, H., Kerstein, A.R., Nédélec, R., Wunsch, S. and Sayler, B.J.	09:50	LES of the interaction between a premixed flame and complex turbulent swirling flow by Iudiciani, P., Duwig, C., Szasz, R.Z., Fuchs, L. and Gutmark, E.J.	Turbulence in a Bose-Einstein condensate by White, A., Proukakis, N., Youd, A., Wacks, D., Baggaley, A. and Barenghi, C.F.	09:50	The influence of non-Oberbeck-Boussinesq effects on rotating turbulent Rayleigh-Benard convection by Horn, S., Shishkina, O. and Wagner, C.
A fast atmospheric turbulent parameters estimation. Application to LIDAR observations. by Suzat, F., Baehr, C. and Dabas, A.	10:05	Implementation of multi-step global reaction mechanisms in LES solvers by Irannezhad, M. and Eriksson, L.-E.	Symmetry plane conditions in numerical Euler solutions by Kerr, R. and Bustamante, M.	10:05	Long time evolution of large-scale patterns in a rectangular Rayleigh-Bénard cell by Sergent, A. and Le Qéuré, P.
Quasi-geostrophic turbulence at finite Rossby number by Vallgren, A., Deusebio, E. and Lindborg, E.	10:20	Transport of inertial particles in a turbulent premixed jet flame by Battista, F., Picano, F., Troiani, G. and Casciola, C.M.	Vorticity budget of a tornado-like vortex by Sassa, K. and Takemura, S.	10:20	Turbulence and mixing characteristics in the variable-density Rayleigh-Taylor mixing layer by Livescu, D., Wei, T. and Petersen, M.
Transient Diabatic Plumes Simulate Cumulus Cloud Forms, Evolution, Entrainment by Diwan, S.S., Narasimha, R., Bhat, G.S. and Sreenivas, K.R.	10:35	The effects of back-reaction on turbulence modulation in shear flows by Gualtieri, P., Picano, F., Sardina, G. and Casciola, C.M.	Coherent structure formation in the two-dimensional turbulent inverse cascade by Scott, R.K.	10:35	Bifurcations in turbulent rotating Rayleigh-Bénard convection: A finite-size effect by Weiss, S. and Ahlers, G.
Kinematic and dynamic pair collision statistics of sedimenting inertial particles relevant to warm rain initiation by Rosa, B., Parishani, H., Ayala, O., Wang, L.-P. and Grabowski, W.W.	10:50	Turbulence modification and particle dispersion in a gas-droplets non-isothermal turbulent flow downstream of a pipe sudden expansion by Terekhov, V. and Pakhomov, M.	Evolution mechanisms of small-scale vortices in wall vicinity of unsteady turbulent channel flow by Iida, O., Arakawa, M. and Hirabayashi, S.	10:50	Energy spectra in Rayleigh-Benard convection by Verma, M., Mishra, P., Chandra, M. and Paul, S.

11:05–11:25 Coffee & WT Poster Session

Th2A, room A, Chair: S. Drobniak		**Th2B**, room B, Chair: J. Soria	**Th2C**, room C, Chair: S. Kenjers		**Th2D**, room D, Chair: H. Clerx
Linear stability of Poiseuille flow over a generalized Stokes layer by Quadrio, M., Martinelli, F. and Schmid, P.	11:25	Steady versus Unsteady Wall Pressure Fluctuations by Baars, W., Tinney, C. and Ruf, J.	Anomalous tracer concentration along lines written in a turbulent jet flow by Dam, N. and van de Water, W.	11:25	Structure functions in rotating Rayleigh-Bénard convection by Kunnen, R., Clercx, H.J.H. and Geurts, B.J.
Flow Over Riblet Curved Surfaces by Loureiro, J. and Silva Freire, A.P.	11:40	Adjoint based noise minimization of a round supersonic jet by Schulze, J. and Sesterhenn, J.	Experimental investigation of characteristics of transient low pressure wall-impinging gas jet by Yu, J., Hillamo, H., Vuorinen, V., Sarjovaara, T., Kaario, O. and Larmi, M.	11:40	Prandtl and Rayleigh number dependence of heat transport in high Rayleigh number thermal convection by Stevens, R., Lohse, D. and Verzicco, R.
Natiral laminar-turbulent transition delay by dielectric barrier discharge by Ustinov, M., Kogan, M., Litvinov, V. and Uspensky, A.	11:55	Turbulent energy routes in viscoelastic wall turbulence by De Angelis, E., Casciola, C.M. and Piva, R.	Nonlinear dynamo action in a cylindrical container driven by precession by Nore, C., Léorat, J., Guermond, J.-L. and Luddens, F.	11:55	Horizontal rolls in convective flow above a partially heated surface by Teymurazov, A., Sukhanovsky, A., Batalov, V. and Frick, P.
Effects of spatially varying slip length on friction drag reduction in wall turbulence by Hasegawa, Y., Frohnapfel, B. and Kasagi, N.	12:10	Measurement and Simulation of a Turbulent Spray by Bordás, R., John, V., Schmeyer, E. and Thévenin, D.	Intermittency of quasi-static magnetohydrodynamic turbulence: A wavelet viewpoint by Okamoto, N., Yoshimatsu, K., Schneider, K. and Farge, M.	12:10	Heat transfer in cryogenic helium turbulent Rayleigh-Bénard convection by Urban, P., Musilová, V., Králík, T. and Skrbek, L.
Controlling the dual cascade of two-dimensional turbulence by Farazmand, M., Kevlahan, N. and Protas, B.	12:25	Turbulence Characteristics and Mixing Performances of Viscoelastic Fluid Flow in a Serpentine Microchannel by Tatsumi, K., Takeda, Y., Suga, K. and Nakabe, K.	Long-time magnetic and cross helicities evolution in the free decaying MHD turbulence by Stepanov, R. and Frick, P.	12:25	Reversals of large-scale circulation at turbulent convection in rectangular boxes by Vasiliev, A. and Frick, P.
	12:40	Capturing coherent structures and turbulent interfaces in wake flows by means of the Organised Eddy Simulation, OES and by Tomo-PIV by Deri, E., Ouvrard, H., Braza, M., Hunt, J.C.R., Hoarau, Y., Cazin, S., Cid, E. and Harran, G.	Cross-helicity effects and turbulent transport in magnetohydrodynamic flow by Yokoi, N. and Balarac, G.	12:40	Temperature statistics in turbulent Rayleigh-Bénard-convection by Lülff, J., Wilczek, M. and Friedrich, R.
	12:55			12:55	Heat transport in turbulent rayleigh-bénard convection by Ahlers, G., Funfschilling, D. and Bodenschatz, E.

13:10–14:40 Lunch & WT Poster Session

14:40–15:25 Invited lecture by L. Skrbek 'Quantum Turbulence' (Auditorium), Chair: P.A. Davidson

Th3A, room A, Chair: N. Kevlahan

15:30	Self-similar turbulent boundary layer in pressure gradient. Four flow regimes by *Vigdorovich, I.*
15:45	Direct simulation of turbulent boundary layer up to Re=6200 by *Sillero, J.A.*, *Jiménez, J.*, *Moser, R.D.* and *Malaya, N.P.*
16:00	Control and instanton trajectories for random transitions in turbulent flows by *Bouchet, F.*, *Laurie, J.* and *Zaboronski, O.*
16:15	Detection of Near-Wall Streamwise Vortices by Measurable Information on the Wall and Its Application in Turbulence Control by *Ge, M.-W.*, *Xu, C.-X.* and *Cui, G.-X.*

Th3C, room C, Chair: K. Bajer

15:30	Vorticity scattering measurements in a superfluid inertial round jet by *Duri, D.*, *Salort, J.*, *Diribarne, P.*, *Roche, P.-E.* and *Baudet, C.*
15:45	Self-reconnecting quantized vortices in superfluid turbulence by *Salman, H.*
16:00	Instabilities in superfluid plane poiseuille flow by *Sooraj, R.* and *Sameen, A.*
16:15	Vortex loops cascade as a channel of quantum turbulence decay by *Kursa, M.B.*, *Bajer, K.* and *Lipniacki, T.*

Th3D, room D, Chair: J. Jurkowska

15:30	Bayesian Uncertainty Quantification Applied to RANS Turbulence Models by *Oliver, T.* and *Moser, R.D.*
15:45	Vertex corrections and óptimalśubgrid models for homogeneous isotropic turbulence by *Rubinstein, R.*, *Bos, W.* and *Gotoh, T.*
16:00	On eddy viscosity models that restrict the dynamics to large eddies by *Verstappen, R.*
16:15	Assessment of performance of two turbulence models in predicting an axysymmetric water jet evolving into a water tank by *Zidouni Kendil, F.*, *Danciu, D.-V.*, *Boussbia Salah, A.* and *Mataoui, A.*

16:30–17:00 Closing remarks (Auditorium)

20:30–21:30 Public lecture by Prof. Julian Hunt (Auditorium)

Note to the Chairmen

If you cannot chair the allocated session, please leave the message at the Reception Desk. Please note that strict time keeping is of essence. At least one minute must be left for a comfortable change of speakers.

Poster sessions

MT 1 On the high order numerical integration of the navier-stokes equations for the simulation of the compressible fluid flowfor aeroacoustics by Cojocaru, M. and *Vadean, C.C.*
MT 2 A study for wall pressure fluctuations modeling by Parlato, M.A., *Di Marco, A., Camussi, R.* and *Jordan, P.*
MT 3 Research on Wind Structure in the Wind Tunnel of Wind Engineering Laboratory of Cracow University of Technology by Bęc, J., *Lipecki, T.* and *Błazik-Borowa, E.*
MT 4 Modeling of auto-catalytic halogen release and ozone depletion in polar regions by Cao, L. and *Gutheil, E.*
MT 5 Aeronautical diagnostics for Clear Air Turbulence forecasting at Meteofrance by Crespin, A., *Lebot, C., Bouteloup, Y.* and *Bouyssel, F.*
MT 6 Eddy mixing in atmospheric boundary layer under stronger stratification by Kurbatskiy, A. and *Kurbatskaya, L.*
MT 7 Investigation of multi-point statistics in atmospheric turbulent boundary layer flows by Risius, S., *Xu, H.* and *Bodenschatz, E.*
MT 8 RaNS canopy constants from weak turbulence regime by Viana Lopes, J., *Palma, J.M.L.M.* and *Silva Lopes, A.*
MT 9 Tropical cyclone turbulent mixing as observed by autonomous oceanic profilers with the high repetition rate by Baranowski, D., *Flatau, P.* and *Malinowski, S.P.*
MT 10 Three-dimensional transition to turbulence in the wake of an inclined flat plate by Yang, D., *Pettersen, B., Andersson, H.I.* and *Narasimhamurthy, V.D.*
MT 11 Compressive and Extensive Strain along Gradient Trajectories by Gampert, M., *Goebbert, J.H., Schaefer, P., Gauding, M., Peters, N., Aldudak, F.* and *Oberlack, M.*
MT 12 Influence of the forcing geometry to the large scale structure of a quasi two dimensional turbulent flow by Gutiérrez, P. and *Aumaître, S.*
MT 13 Towards local resolution measurements in turbulent liquid metal duct flows by Heinicke, C., *Thess, A.* and *Rahneberg, I.*
MT 14 Helicity and the turbulent magnetic Prandtl number by *Jurčišinová, E., Jurčišin, M.* and Remecký, R.

MT 15 Dealiased convolutions without padding by Roberts, M. and *Bowman, J.C.*

MT 16 We demonstrate experimentally that the positon of wave breaking point is very sensitive to the concentration of air bubbles which are criated artificially near free surface of water. by *Merkoune, D.*, Ezersky, A., *Abcha, N., Amine, F.* and *Mouazé, D.*
MT 17 Real-time Image Compression on Lagrangian Particle Tracking Data by Di Lorenzo, F., *Gibert, M.* and *Bodenschatz, E.*
MT 18 Particle deposition in circular pipes with variable bed height by *Adams, J.*, Fairweather, M. and *Yao, J.*
MT 19 Particle deposition in turbulent square duct flows by *Yao, J.* and Fairweather, M.

MT 20 Fractal patterns in turbulent flows for laden particles by Farhan, M., *Nicolleau, F., Nowakowski, A.* and *Angilella, J.-R.*
MT 21 Rotation correlation between finite-size neutrally buoyant particles and the turbulent flow around it by Klein, S., *Gibert, M.* and *Bodenschatz, E.*
MT 22 Transport of Lagrangian particles induced by the interaction between a free singular vortex and a topographic submerged obstacle by Ryzhov, E.A. and *Koshel, K.V.*
MT 23 Sedimentation velocity of heavy particles in turbulent flows by Scatamacchia, R., *Lanotte, A.S.* and *Toschi, F.*
MT 24 Turbulence modulation by particles in LES of backward-facing step flow by Volavy, J., *Forman, M.* and *Jicha, M.*
MT 25 Description of turbulence on the basis of kinetic equations by Aristov, V. and *Ilyin, O. V.*
MT 26 Numerical simulations of industrial-scale combustion chamber - LES versus RANS by *Kwiatkowski, K.*, Jasiński, D. and *Bajer, K.*
MT 27 Advance in linear theory for homogeneous turbulence subjected to baroclinic instability by Pieri, A., *Salhi, A., Cambon, C.* and *Godeferd, F.S.*
MT 28 Large eddy simulation of stably stratified turbulence by *Shen, Z.*, Zhang, Z., *Cui, G.-X.* and *Xu, C.-X.*

MT 29 Micro-cantilever anemometer for cryogenic helium by Salort, J., *Monfardini, A.* and *Roche, P.-E.*
MT 30 Large eddy simulations of particle-turbulence interaction in the turbulent flow by Jaszczur, M.

WT 1 Experimental study of vortex flow control over a Delta wing at low Reynolds numbers by Kastantin, Y., *Nayeri, C.N.* and *Paschereit, C.O.*
WT 2 Turbulent skin-friction drag on a slender body of revolution and Gray's paradox by Nesteruk, I. and *Cartwright, J.*
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