

## Euromech 567 Turbulent mixing in stratified flows

Monday March 23

Time	Speaker	Title
08:00	Registration	
08:50	Paul Linden - Welcome	
09:00	Caulfield	A century of turbulent motion in fluids
09:40	<u>Eaves</u> & Caulfield	Minimal seeds for turbulence in stratified plane Couette flow
10:00	<u>Kaminski</u> , Caulfield & Taylor	Transient stability of stratified shear layers
10:20	<u>Hunt</u> , Moustou, Mahalov, Ishihara, Westerweel & Braza	Scalar and momentum transfer processes across stratified sheared turbulent interfaces
10:40	<u>Sozza</u> , Boffetta, Muratore-Ginanneschi & Musacchio	Dimensional transition of energy cascades in stably stratified thin fluid layers
Coffee break		
11:30	<u>Maffioli</u> & Davidson	Overtuning scales in stratified turbulence
11:50	<u>Verso</u> , van Reeuwijk, Gurka, Diamessis, Taylor & Liberzon	Experimental study of the initial growth of a localized turbulent patch in a stably stratified fluid
12:10	<u>Ecke</u> & Odier	Local Thorpe length analysis of stratified turbulent shear flow
12:30	<u>Gostiaux</u> & van Haren	Characterization of turbulent overturns in stratified turbulence
Lunch break		
14:00	<u>Craske</u> & van Reeuwijk	Mixing and dispersion in unsteady plumes
14:20	Camassa, McLaughlin & <u>Tzou</u>	Optimal mixing of buoyant jets and plumes in stratified fluids: theory and experiments
14:40	<u>Woods</u> , Lin & Caulfield	Buoyancy-driven mixing by turbulent shear dispersion
15:00	<u>Caudwell</u> , Flor & Negretti	On a wall plume in a closed cavity
15:20	<u>Mingotti</u> & Woods	Particle-laden plumes in confined spaces
15:40	Segalini	A spectral model of stratified surface-layer turbulence
Tea break		
16:30	<u>Monismith</u> , Squibb, Walter, Woodson, Dunkley, Pawlak & Koseff	Direct measurements of turbulent buoyancy fluxes in the nearshore coastal ocean
16:50	<u>Merrifield</u> , Laurent & Owens	Surface boundary layer turbulence in the Drake Passage region of the Southern Ocean
17:10	<u>Geyer</u> , Lavery & Holleman	Measurements of the structure of shear instabilities at high Re
17:30	<u>Cyr</u> & van Haren	On the efficiency of turbulent mixing in the ocean: observations above a deep sloping topography

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Tuesday March 24

Time	Speaker	Title
09:00	<u>Alfredsson</u> , Kawata & Suryadi	Rotating plane Couette flow: some aspects of its stability and structures
09:40	<u>Augier</u> , Partridge, Caulfield, Dalziel & Linden	Experimental study of mixing mechanisms in stably stratified Taylor-Couette flow
10:00	<u>Harlander</u> , Seelig, Gellert, Viazzo, Randriamampianina, Egbers & Rüdiger	Stratorotational instability: nonlinear aspects at higher Reynolds numbers
10:20	<u>Asselin</u> & Bartello	Rotating stratified turbulence at the tropopause
10:40	<u>LeBars</u> , Aubert & Le Gal	Vortices in a rotating stratified environment: shape, lifetime and layering
Coffee break		
11:30	<u>Yim</u> , Billant & Mènesguen	Stability of pancake vortices in stratified rotating fluids
11:50	<u>Jacobitz</u> , Schneider & Farge	On acceleration statistics in turbulent stably stratified shear flows
12:10	<u>Delache</u> , Godeferd & Cambon	Scale-by-scale anisotropy in freely decaying stably stratified turbulence
12:30	<u>Arthur</u> & Fringer	Turbulent mixing and transport by breaking internal solitary waves on slopes
Lunch break		
14:00	<u>Rehmann</u> , Li, Wang, Waldman & Hu	Two-dimensional measurements of turbulence and mixing driven by internal waves impinging on a slope
14:20	<u>Odier</u> , Maurer, Bourget, Scolan, Le Bars, Dauxois & Joubaud	Mixing by internal waves: the role of parametric subharmonic instability
14:40	Sutherland	Parametric subharmonic instability and energy cascades from internal modes in non-uniformly stratified fluid
15:00	<u>Lerisson</u> & Chomaz	Global instability of an internal wave beam
15:20	Ferron, Bouruet-Aubertot, <u>Cuypers</u> , Schroeder, Borghini, Leizour & Bryden	Observations of diapycnal mixing in the western Mediterranean Sea
15:40	<u>Cimatoribus</u> & van Haren	Temperature statistics above a deep-ocean sloping boundary: turbulence, intermittency and signs of convection
Tea break		
16:30	Andreotti, Fourrière, Ould-Kaddour, Murray & <u>Claudin</u>	Average thickness of the atmospheric convective boundary layer
16:50	<u>Burlot</u> , Gréa, Godeferd, Cambon & Griffond	Spectral modelling for unstably stratified homogeneous turbulence
17:10	<u>Kaye</u> & Baratian-Ghorghi	Flushing of a stably stratified urban canyon

## Euromech 567 Turbulent mixing in stratified flows

Wednesday March 25

Time	Speaker	Title
09:00	Riley	Effects of strong stable stratification on motions at large horizontal scales
09:40	Lindborg	Equipartition and rotational energy in stratified turbulence
10:00	<u>Deusebio</u> , Caulfield & Taylor	The intermittent dynamics in stratified plane Couette flow
10:20	<u>Taylor</u> & Deusebio	An exploration of the laminar/turbulent transition boundary in stratified plane-Couette flow
10:40	<u>Khani</u> & Waite	Large eddy simulations of stratified turbulence at the buoyancy scale
Coffee break		
11:30	Ottolenghi, <u>Adduce</u> , Inghilesi, Roman & Armenio	Mixing in density currents flowing up a slope
11:50	<u>Negretti</u> , Hopfinger & Flor	Gravity currents over concave slopes
12:10	<u>van Reeuwijk</u> , Holzner & Jonker	Direct simulation of turbulent entrainment in gravity currents
12:30	<u>Basley</u> & Billant	Nonlinear evolution of the zigzag instability in stratified rotating fluids
Lunch break		
14:00	<u>Salehipour</u> & Peltier	On characterising irreversible mixing and diffusivity in shear-induced stratified turbulent flows
14:20	<u>Olsthoorn</u> & Dalziel	Mixing efficiency of eddies in a confined volume
14:40	<u>Hughes</u> , Copeland, Dossmann, Griffiths, Kamitakahara, Kerr, Rosevear-Gamble & Qin	Mixing efficiency in turbulent plumes and fountains
15:00	<u>White</u> & Scotti	On the mixing efficiency of turbulent stratified flows
15:20	Tailleux	Molecular control of turbulent diapycnal mixing in the ocean thermocline
Tea break	END OF CONFERENCE	

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### Posters

Name	Title
<u>Bonnebaigt</u> , Caulfield & Linden	How time-varying heating of a wall changes the stratification in a room
Burlot, <u>Gréa</u> , Griffond & Soulard	Self-similar regimes in unstably stratified homogeneous turbulence
<u>Burridge</u> & Hunt	Turbulent entrainment and the implications for entrainment across density interfaces
<u>Chakravarthy</u> , Lesshafft & Huerre	Buoyancy-driven instability in plumes
<u>Facchini</u> , Le Bars & Duval	Mixing of a stratified fluid by a turbulent jet
<u>Foroozani</u> , Niemela, Armenio & Sreenivasan	Confinement shape influence on scaling of turbulent Rayleigh Bénard convection
Huq	Measurements of the evolution of turbulent velocities and buoyancy flux in stably stratified flows
<u>Meunier</u> , Huck and Villermaux	Barriers of mixing in 2D flows: a new experimental tool using stratified flows
<u>Randriamampianina</u> , Harlander, Vincze, von Larcher & Viazzo	Inertia gravity waves linked to baroclinic waves in a rotating, differentially heated annulus with an upper free surface
<u>Tomas</u> , Pourquoi, Eisma & Jonker	The effect of stable stratification on boundary layer development and pollutant dispersion behind an obstacle
Vincze, Le Gal & <u>Harlander</u>	Baroclinic instability in an initially stratified differentially heated rotating flow
<u>von Larcher</u> , Harlander, Randriamampianina & Viazzo	Application of advanced methods of time-series analysis for investigating multi-scale flow phenomena in a thermally driven rotating annulus