

## SPLINTER GROUPS

Friday, 13th July

A: Diffusions etc. (Scarborough)

- 2-2.30pm J.A. BATHER:  
Search models
- 2.30-3.00pm T.CHAN:  
Laws of functionals of BM
- 3.00-3.30pm J.M. McNAMARA:  
Differential games  
& math. biology
- 3.30-4.00pm G.O. ROBERTS:  
Boundary hitting times

B: Quantum Probability (CM221)

- R.L.HUDSON:  
Quantum flows
- M.LINDSAY:  
Quantum probability

Monday, 16th July

C: SDEs and Applications (Scarborough)  
(Bather)

- 2-2.30pm P.E.KOPP:  
A non-standard approach  
to option processes
- 2.30-3.00pm I.M.DAVIES:  
Stochastic Lagrangian
- 3-3.30pm B.TOTH:  
Phase transition and  
large deviations
- 3.30-4.00pm A.TRUMAN:  
On Nelson's stochastic mechanics

D: Contributed talks  
(CM221) (Bingham)

- R.E.DONEY:  
Some calculations for  
Brownian motion
- Z-M.MA: Construction of  
Markov processes associated  
with non-regular Dirichlet  
space.
- P.McGILL: Désiré-André  
equation and Wiener-Hopf  
factorisations.
- J.M.C.CLARK:  
Markov field on  $\mathbb{R}$  and  
diffusions.

Wednesday 18th July

E: Stochastic Integrals & Martingales  
(Scarborough)

- 2-2.30pm N.J.CUTLAND:  
Non-standard methods in  
stochastic analysis
- 2.30-3.00pm D.A. EDWARDS:  
Itô calculus-vector  
integral approach
- 3-3.30pm R.J.ELLIOTT:  
Martingale representation  
under equivalent measure

F: Contributed talks  
(CM221)

- G. BURSTEIN: Bellman-Hamilton-  
Jacobi principle in stochastic  
control theory
- J. HAWKES: A stochastic model  
for galaxies
- E. GOLDSHEID: Products of random  
matrices, Lyapunov exponents and  
random Schrödinger operators

DURHAM PROGRAMME

(REVISED 13th July 1990)

STOCHASTIC ANALYSIS

	THURS 12/7	FRIDAY 13/7	SAT 14/7	SUN 15/7	MON 16/7	TUES 17/7	WEDNES. 18/7	THURS 19/7	FRI 20/7
0-10 a.m.	KESTEN	KESTEN		KESTEN	SZNITMAN	SZNITMAN	✱ EMERY 9-9.40am (i) ADLER 9.40-10.10am ROECKNER 10.20-11.00am	SZNITMAN	YOR
0-11 a.m.	MEYER	MEYER		MEYER	ALDOUS	ALDOUS		ALDOUS	KUNITA
1.30 am-12.30pm	DAWSON	DAWSON		DAWSON	PERKINS	VARADHAN	VARADHAN	VARADHAN	LIGGETT
2-3.00pm		Splinter:			Splinter:	Cathedral	Splinter:		
3-4.00p.m.		A & B			C & D	Tour	E & F		
4-4.30p.m.	TEA	TEA		TEA	TEA	Garden Party	TEA	TEA	TEA
3-5.10pm	DYNKIN (4.30-5pm)	CARLEN		WALSH	MARCH		LAWLER	PINSKY	PAPANGELOU
5-5.50pm	<u>5.30pm</u>	PROTTER		W.KENDALL	OEKSENDAL		LYONS	LEANDRE (ii)	GREENWOOD
5-6.30pm		LINDSTROM		FITZSIMMONS	PARDOUX		BURDZY	ROGERS	LEWIS
NOTES	6.00pm SHERRY 6.30pm DINNER		DAY TRIP TO HADRIAN'S WALL			CATHEDRAL TOUR  GARDEN PARTY			

MAIN LECTURES IN SCARBROUGH LECTURE THEATRE

- (i)  $H^1$  transfer principle in stochastic differential geometry
- (ii)  $L^p$ -Chen forms over the loop space.

Durham Symposium on Stochastic Analysis, 11-21 July 1990

Main speakers

Aldous	Discrete and continuum random trees
Dawson	Two classes of measure valued diffusions and their long time behaviour.
Kesten	Estimates for the growth rate of DLA
Meyer	Contributions of quantum to classical probability
Varadhan	Interacting particles and their scaling limits
Sznitman	Lifshitz tail and Wiener sausage

Other talks

Adler	Intersection local times for super and density processes
Bather	Search models
Burdzy	Boundary problems in potential theory - a probabilistic approach
Carlen	Entropy production inequalities
Chan	Laws of functionals of BM
Clark	Markov field on $\mathbb{R}$ and diffusions
Cutland	Non standard methods in stochastic analysis
Davies	Stochastic Lagrangian
Dynkin	Superprocesses & PDE
Edwards	Ito calculus - vector integral approach
Elliott	Martingale representation under equivalent measure
Emery	Mass centres & martingales in manifolds
Fitzsimmons	Harmonic morphisms & the resurrection of markov proc.
Greenwood	Evolving random fields
Hudson	Quantum flows
Jacka	Inequalities for random times
Kendall WS	BM & Dirichlet problem for harmonic maps
Kunita	Limit theorems for stochastic flows
Lawler	Problems on the geometry of random walk paths
Lewis	Large deviations & operator traces, & statistical mechanics
Liggett	The contact process in a random environment.
Lindsay	Quantum probability
Lindstrom	BM on fractals - an introduction
Lyons	Symmetric Markov processes, Dirichlet forms & stochastic calculus
March	Remarks on scaling the Witten-Sander model.
McNamara	Differential games & mathematical biology
Oksendal	SDEs involving positive noise
Papangelou	Large deviations & critical mean field fluctuations
Pardoux	White noise driven parabolic SDEs
Perkins	Interactions in superprocesses
Pinsky	Lyapunov exponent and rotation number of nilpotent systems with Markovian noise.
Protter	Weak convergence of stochastic integrals & SDE
Roberts	Boundary hitting times
Roekner	Uniqueness of generalised Schrodinger operator and applications to symmetric markov processes
Rogers	SDEs in superspace
Toth	Phase transition & large deviations
Truman	On Nelson's stochastic mechanics
Walsh	To be announced
Yor	Local times for self-intersections of BM

List of Participants

Dr. Miklos Ajtai (IBM Almaden, USA)  
Professor A.E. Andreev (Volgograd University, USSR)  
Professor David Mix Barrington (University of Massachusetts, USA)  
Professor Alessandro Berarducci (University Aquila, Italy)  
Dr. W. Meurig Beynon (University of Warwick, UK)  
Professor Norman L. Biggs (London School of Economics, UK)  
Professor Béla Bollobás (Cambridge University, UK)  
Professor Allan Borodin (University of Toronto, Canada)  
Dr. Graham Brightwell (London School of Economics, UK)  
Mr. Andrew A. Chin (Oxford University, UK)  
Mr. Aviad Cohen (Hebrew University, Israel)  
Ms Paola d'Aquino (Oxford University, UK)  
Dr. Paul E. Dunne (University of Liverpool, UK)  
Dr. Martin Dyer (University of Leeds, UK)  
Dr Keith Edwards (University of Dundee)  
Professor Merrick Furst (Carnegie-Mellon University, USA)  
Ms Leslie Henderson (University of Edinburgh, UK)  
Dr. Mark R. Jerrum (University of Edinburgh, UK)  
Dr. Kyriakos Kalorkoti (University of Edinburgh, UK)  
Professor Mauricio Karchmer (Massachusetts Institute of Technology, USA)  
Professor Maria Klawe (University of British Columbia, Canada)  
Dr. Imre Leader (Cambridge University, UK)  
Professor Angus Macintyre (Oxford University, UK)  
Dr. William F. McColl (Oxford University, UK)  
Dr. Colin McDiarmid (Oxford University, UK)  
Dr. Roland Mirwald (University Frankfurt, West Germany)  
Mr. Ilan Newman (Hebrew University, Israel)  
Dr. Noam Nisan (Hebrew University, Israel)  
Ms. Margarita Otero (Oxford University, UK)  
Professor Mike Paterson (University of Warwick, UK)  
Professor Nicholas Pippenger (University of British Columbia, Canada)  
Professor Franco P. Preparata (University of Illinois, USA)  
Dr. Pavel Pudla'k (Mathematics Institute CSAV, Czechoslovakia)  
Dr. Ran Raz (Hebrew University, Israel)  
Dr. Alexander A. Razborov (Steklov Mathematics Institute, USSR)  
Professor John E. Savage (Brown University, USA)  
Professor Dr. Claus Schnorr (University Frankfurt, West Germany)  
Dr. John Shawe-Taylor (Royal Holloway & Bedford New College, UK)  
Dr. Alistair J. Sinclair (University of Edinburgh, UK)  
Professor Mike Sipser (Massachusetts Institute of Technology, USA)  
Dr. Roman Smolensky (University of Toronto, Canada)  
Ms. Alyson Stibbard (University of Warwick, UK)  
Professor Carl Sturtivant (Aarhus University, Denmark)  
Dr. Andrew Thomason (Cambridge University, UK)  
Dr. Dietmar Uhlig (IH Mittweida, East Germany)  
Professor Leslie Valiant (Harvard University, USA)  
Professor Dr. Ingo Wegener (University Dortmund, West Germany)  
Dr. Dominic J.A. Welsh (Oxford University, UK)  
Professor Avi Wigderson (Hebrew University, Israel)  
Dr. Alex J. Wilkie (Oxford University, UK)  
Professor Andrew C. Yao (Princeton University, USA)  
Dr. Uri Zwick (University of Warwick, UK)