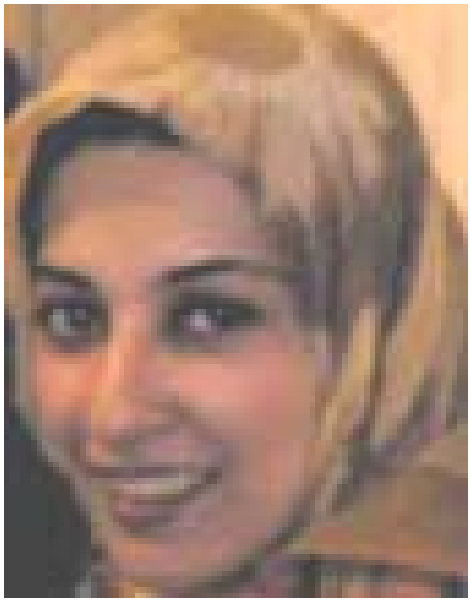
RITA DE ALMEIDA
Instituto de Fsica/ Universidade Federal do Rio Grande do Sul
rita@if.ufrgs.br

Research Interests:
We perform simulations of foam evolution in two and three dimensions. We have simulated a 3D dry foam with initially 2 million bubbles. After a long transient, the system enters a scaling state that was extensively characterized. We are now extending these simulations to contemplate wet foams, subject to gravity and to a local liquid source inputing liquid from above. The idea is to study 1) liquid fraction with height, 2) different coarsening at different liquid fractions, 3) onset of the convectivity instability.

Skills:
I work with simulations of foams using Potts model in two and three dimensions.

SHIRIN ATAEI
Laboratoire de spectrometrie physique, Grenoble
sataeita@spectro.ujf-grenoble.fr



Research Interests:
The subject of my thesis is “shearing of two dimensional foams” which is a simple shearing imposed on the whole of the bubbles of a foam , in order to get quantitative clues on the link between elasticity and plasticity of the foam which is an important subject both for applications and for fundamental reasons. We can examine the predictions of the elasto-plastic model [F.Graner, P.Marmottant, 2007], by having two parameters, first: the deformation in a plastic regime (Uy) and the second: the proportion of plasticity (h) which characterizes the transition between two regimes; one purely elastic and the other purely plastic. We can model the behavior of different regimes: elastic, plastic and elasto-plastic. The advantage of simple shearing experiments is that we can determine precisely “h” by having a good statistic.

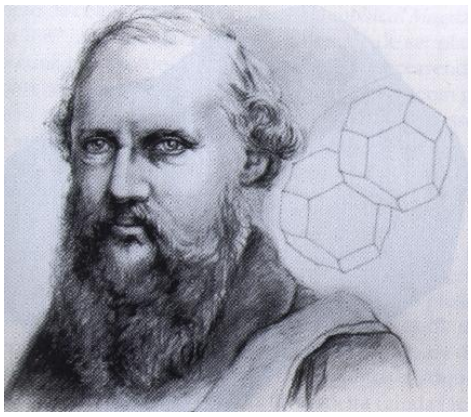
Skills:

JOSEPH BARRY
Trinity College Dublin, Ireland
barryjo@tcd.ie

Research Interests:
My main area of research is the rheology of 2d foams. My research is conducted primarily via computer simulation.Currently investigating the effect of disorder on shear localization in 2d foams, using the Viscous Froth Model. I am particularly interested in the dynamics of T1 events in 2d foam. Also have some interest in wealth distributions in society.

Skills:
Proficiency with the Surface Evolver, a great software package for simulating 2d (and 3d) foam. Come from a theoretical background, but have no experimental experience.

SYLVAIN BENITO
IMB, Universite Bordeaux 1
sylvain.benito @math.u-bordeaux1.fr



Research Interests:
constitutive equations, rheology

Skills:

ISABELLE BONNET
University Diderot (Paris 7)
isabelle.bonnet@lkb.ens.fr

Research Interests:
Starting research on the analogy between foam dynamics and rearrangements of biological cells in developing tissues. We first want to estimate physical parameter values by analyzing network deformations caused by laser ablation of individual cell boundaries.

Skills:
experiment : microscopy, image processing

PABLO BRITO-PARADA
Imperial College London
p.brito-parada07@imperial.ac.uk

Research Interests:
Starting research on Computational Fluid Dynamics for Modelling Foams Motion

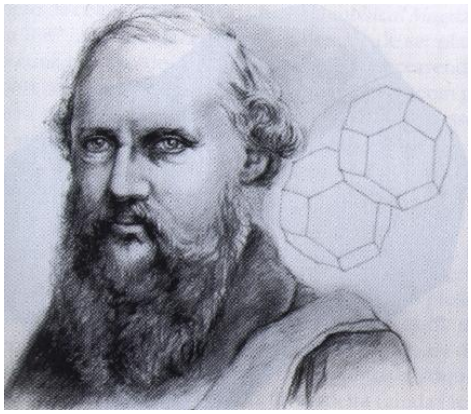
Skills:
CFD code (Fluent)

ISABELLE CANTAT
Institut de Physique de Rennes, univ. Rennes 1
isabelle.cantat@univ-rennes1.fr

Research Interests:
I am working on 2D foam rheology at high velocity, ie when dissipative forces are non negligible. I especially obtained theoretical results on the viscous force between the flowing foam and a rigid wall. Other topics : 3D foam imaging, coarsening, motion around an obstacle.

Skills:
numerics : Vertex model, Femlab (= comsol)
theory : lubrication, elasticity
experiment : image processing, 2D foam flow

IBRAHIM CHEDDADI
UJF Grenoble
ibrahim.cheddadi@imag.fr



Research Interests:
Numerical modelisation of liquid foam. Studied case : Couette flow (transient and stationnary)

Skills:
experimental : none.
numerical : finite elements (for numerical resolution of partial differential equations).
theoritical : viscoelastoplastic models (continuum mechanics framework)

SYLVIE COHEN-ADDAD
Université Paris-Est Marne-la-Vallée
sylvie.cohen-addad@univ-mlv.fr

Research Interests:
See the web site of our group www.univ-mlv.fr/lpmdi/RHE/index2.php

Skills:

ANNIE COLIN
Bordeaux 1
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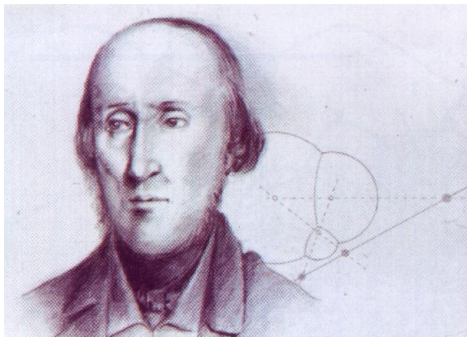
Research Interests:
My work is mainly experimental and deals with the behavior of concentrated emulsion under flow. I try to understand how does an emulsion flow in the vicinity of the yield stress. We perform local measurements of the velocity field by using light scattering, ultrasound or PIV set up. Our main results are the following:



- We point out that shear bands do not exist in non adhesive concentrated emulsion. Banding and inhomogeneous flow occurs in gel or in adhesive emulsion.
- Using Piv experiments in microchannels, we show that the behavior of a concentrated emulsion cannot be described using a simple relationship linking the local shear rate and the local shear stress. We evidence non local effects.
-We quantify the non locality in the dynamics is quantified by a length xsi, characteristic of the cooperativity of the flow at these scales, that is unobservable for an oil fraction below the jamming oil fraction and increases with the concentration of the glassy phase. xsi measures the influence of a plastic event.This length is tipically a few oil droplet diameter.

Skills:
PIV, Local rheological measurements

GWENNOU COUPIER
LSP Grenoble
gwennou.coupier@paris7.jussieu.fr

Research Interests:
I have never worked on foams, but on a 2D system of interacting charged balls, that can be trapped, pushed, or shaked. Many links can be made between this system and foams, and I'm interested in the questions we can have in common. I also intend to work on foams next year. For the moment, I work on the dynamics of vesicles in confined flows.

Skills:
Some skills in image processing ; some theoretical knowledge in elasticity with occasional use on experiments

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SEBASTIEN COURTY
Ecole normale supérieure
sebastien.courty@lkb.ens.fr

Research Interests:
quantitative description of tissue morphogenesis using tools developed for cellular patterns such as foams.

Skills:
imaging methods, image analysis, texture, tensorial formalism.

SIMON COX
Institute of Mathematical and Physical Sciences,
Aberystwyth University
foams@aber.ac.uk

Research Interests:
Bubble-scale simulations of flowing foams, mostly 2D, some 3D. Geometries include simple shear, Couette shear, contraction, Stokes. Viscous Froth simulations (including disspation on bounding surfaces). Foam Drainage Theory.

Skills:
Surface Evolver, Viscous Froth Model, Drainage Theory

TUDUR DAVIES
Aberystwyth University
itd05@aber.ac.uk

Research Interests:
I work on the simulation of two circular discs falling through a dry two-dimensional foam using Surface Evolver. We vary the area of the discs as well as the initial placement of the discs within the foam. I am also at the preliminary stage of setting up an experiment that corresponds to these simulations. In simulation, we see rotation of the two discs when placed close together and less interaction when they are placed further apart.

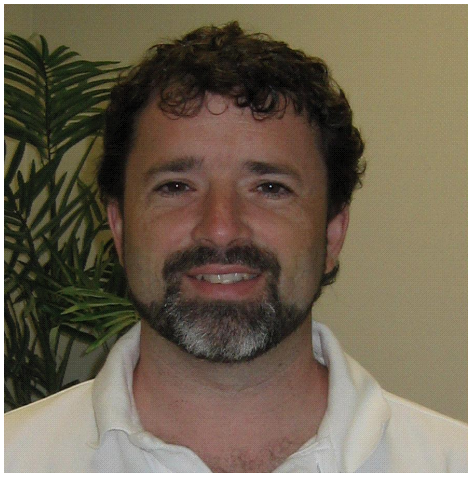
Skills:
Competent in using Surface Evolver and have brief knowledge of setting up a two dimensional experiment of a dry foam.

NIKOLAI DENKOV
Faculty of Chemistry, University of Sofia, Bulgaria
nd@lcpe.uni-sofia.bg

Research Interests:
Experimental and theoretical studies on foam and emulsion formation, stability, and rheology.

Skills:
Experimental characterization of foam rheological properties and bubble breakup in sheared foams, studies of foam and wetting films (thickness and stability), theoretical modelling of viscous friction between bubbles and solid wall (foam-wall friction) and between colliding bubbles in sheared foam.

MICHAEL DENNIN
University of California at Irvine
mdennin@uci.edu



Research Interests:
Our lab focuses on flow using bubble rafts - single layers of bubbles on the surface of water. We study three different flow geometries: Couette flow between cylinders, steady parallel shear, and oscillatory shear. Our most recent results that we are interested in discussing are shear localization, difference between time and ensemble averages, and issues of reversibility of T1 events.

Skills:
The focus of our group is completely experimental and focused on bubble rafts.

BENJAMIN DOLLET
CNRS / Universite Rennes 1
benjamin.dollet@univ-rennes1.fr

Research Interests:
Acoustics and rheology

Skills:
experiments: 2D foam flows, force measurements, high-speed imaging, basics of acoustical measurements. exp/num: image analysis. theoretical: good background in hydrodynamics, elasticity

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FLORENCE ELIAS
Université Paris 6
laboratoire Matiére et Systemes Complexes (Université Paris 7 et CNRS)
elias@ccr.jussieu.fr

Research Interests:
Main research subject : acoustics and fast dynamics of liquid foams.
Description : The general question is: how does a foam respond to a high frequency vibration (10 Hz - 1 MHz) ? We tackle this question in two directions:
1) vibration of small amplitude: probe the foam dynamical characteristics (internal characteristic times, sound velocity and attenuation..), at the macroscopic scale and at the scale of an individual bubble,
2) vibration of high amplitude: manipulate the foam properties using an acoustic wave.
Principal results: the 1st point is an ongoing research subject. So far, we have results on the 2nd point: effect of the wave on the distribution of liquid in the foam, and on the foam stability. It is also possible to deform a bulk foam at a given frequency and visualise the internal deformed bubbles.

Skills:
Experimental

BEN EMBLEY
University of Manchester
benjamin.embley@postgrad.manchester.ac.uk

Research Interests:
I research the structure of foam and when it yields, based upon the application of a load. We have a simple model for a single Plateau border that sags under its own weight and is held up by surface tension – until the structure collapses or yields.

Skills:
Surface Evolver (basic), programming in C, Monte Carlo (basic)

CYPRIEN GAY
Université Paris Diderot-Paris 7
Laboratoire Matiére et Systemes Complexes
cyprien.gay@univ-paris-diderot.fr

Research Interests:
I am interested in the rheology of soft glassy materials, such as foams, emulsions, copolymer micelles, multilamellar vesicles (onions), but I am rather new in the field. With colleagues in Montpellier and Bordeaux, we worked specifically on building a model that could deal with the large elastic deformations that are encountered in such materials prior to the onset of plasticity. Our manuscript can be retrieved from here : http://www.msc.univ-paris-diderot.fr/∼cgay/homepage/doku.php?id=3Dpublications:2007foam http://hal.archives-ouvertes.fr/hal-00184793/fr/ We are now interested in dilatancy effects and in disorder.

Skills:
I have worked on polymer statics and dynamics (entanglements) in semi-dilute solutions and melts, especially at interfaces : friction, slippage. I have also worked on adhesive films : what mechanisms are involved in making an adhesive tape sticky ?

JULIE GOYON
L.O.F., Unité mixte CNRS/Rhodia/Université Bordeaux 1
julie.goyon-exterieur@eu.rhodia.com

Research Interests:
Using a microfluidic velocimetry technique, we characterize the flow of oil in water concentrated emulsion, confined in gaps of different thicknesses by surfaces of different roughness, under pressure drop. We evidence the absence of an intrinsic local flow rule and a finite size effect. A rather simple non-local flow rule is shown to account for all the velocity profiles. The non locality in the dynamics is quantified by a length, characteristic of the cooperativity of the flow at these scales, which is unobservable for an oil fraction below the jamming oil fraction and increases with the concentration of the glassy phase.

Skills:
Microscopy, PIV

FRANCOIS GRANER
CNRS & Univ. Grenoble
graner@ujf-grenoble.fr

Research Interests:
Foam structure and disorder, and their effect on foam mechanics. Experiments in 2D flow: especially flow around an obstacle (Stokes' experiment). Search for a constitutive equation in foam.

Skills:
Analysis of experimental and numerical data. We have developed tools to measure and characterise the bubble deformation, rearrangements (T1) and velocity gradient. I've also experience in collaborations on 3D imaging (X-ray tomography) and simulations (Potts model, Surface Evolver)

ELHADJI MAMA GUENE
GMCM Universite Rennes 1
el-hadji-mama.guene@univ-rennes1.fr

Research Interests:
We study the behaviour of a 2D or 3D foam in quasistatic regime. We investigate the relation between structure and rheology by increasing and decreasing the volume of a bubble within the bulk of the foam

Skills:
Image analysis using Aphelion

REINE-MARIE GUILLERMIC
Université Rennes 1 (labo GMCM)
reine-marie.guillermic@univ-rennes1.fr

Research Interests:
rheology of 3D foams, foam aging, physical chemistry

Skills:
rheometry experimental techniques for foam aging

REINHARD HOHLER
Université Paris Est
hohler@univ-mlv.fr

Research Interests:
My aim is to understand the link between macroscopic foam rheology and physico-chemical processes at the scale of the bubbles and films. I am also interested in the microstructure of ordered foams, light propagation in foams etc. For more details, see http://www.univ-mlv.fr/lpmdi/RHE/index2.php

Skills:
A mixture of these skills.

GIJS KATGERT
Leiden University
katgert@physics.leidenuniv.nl

Research Interests:
I am looking at the rheology and unjamming behaviour of frictionless quasi-two-dimensional systems such as monolayers of foam bubbles and emulsion droplets. We have recently looked at the linear shear of a quasi-2d foam confined between a glass plate and the liquid surface. In this geometry the averaged velocity profiles show shearbanding. We have investigated the influence of exerted strain rate and volume fraction of liquid in the foam layer on the width of the shearbands. We relate this time-averaged behaviour of the bulk foam to the fluctuations of its individual constituents through a force balance equation and measure the viscous dissipation at the bubble scale by rheometry.

Skills:
Experimental work and image analysis.

JÉRÔME LAMBERT
Université Rennes 1
jerome.lambert@univ-rennes1.fr

Research Interests:
3d foam ageing (individual behavior of bubbles and scale invariant regime). 3d foam rheology in the quasistatic regime

Skills:
mainly image analysis methods

VINCENT LANGLOIS
Biophysics and Complex Systems, Technical University of Denmark
vincent.langlois@fysik.dtu.dk

Research Interests:
Applications of the soft-disk model to 2D foams: rheology, shear-banding, dilatancy, bubble flows.

Skills:

MARCO MANCINI
ENS-Cachan
man74cio@gmail.com

Research Interests:
We deforme a 2d cluster of bubbles by inflating and deflating quasi-statically a bubble. The work, the energy and the dissipated energy by T1s are measured. After some cycles the history of the topological changes become periodic. The direction of the deformation is driven by the depression regions.

Skills:
Numerical

PHILIPPE MARMOTTANT
CNRS/Université Grenoble 1
philippe.marmottant@ujf-grenoble.fr

Research Interests:
- Plasticity of foams: prediction of visco-elasto-plastic behaviour
- Microscopic foams: generation, flow and manipulation
- Acoustics with bubbles: radiation forces, acoustic streaming

Skills:

FRANCOIS MOLINO
Institut de Génomique Fonctionnelle, Montpellier
francois.molino@igf.cnrs.fr

Research Interests:
My work in physics has first focused the visoelastic properties of soft materials, in the shear banding context. I have worked both experimentally and using simulations on the onset of localisation in giant micelles, transient network systems and cubic phases of copolymers. I now turn to the same problems on foams. With Cyprien Gay, we have developped a continuous model of visco-elasto-plastic deformation suitable for foams. We are also developping a simulation tool to investigate the correlation between the topological properties of the foam, in terms of structure of neighbours, and the plastic behaviour.

Skills:
Monte carlo simulations. Molecular dynamics simulations. Viscoelasticity of soft materials : experiments and theory

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GARETH MORRIS
Imperial College
g.morris06@imperial.ac.uk

Research Interests:
Stability of flowing, particle-laden, foams, and its relationship with individual film stability based upon local particle loading. Rheology and coalescence, in particular the interaction between coalescence, gas (bubble) flow, and air recovery rates in flotation. Effect of particle loading on bubble velocities in a flowing foam.

Skills:
I am using surface evolver to develop a model of particle loaded films.

ADIL MUGHAL

adil.m.mughal@gmail.com

Research Interests:
- Using simulated annealing to examine the optimal packing configuration of a cluster of balls confined to a cylindrical tube; i am interested in the relationship with foams flowing through microfluidic devices.

- Use of sectional multiplicative voronoi partitions (SMVP) to model 2D foams, which allows T1s and T2s to be described in a unified manner.

- Geometry of conformal lattices, e.g. an ordered, quasi 2D, foam in a Hele-Shaw cell with non-parallel plates. Equilibrium conditions for foams impose limits on how well a foam can approximate a conformal lattice.

Skills:
Numerical techniques (Simulated annealing, conjugate gradient, monte carlo)
Theoretical techniques (Plasticity, topological defects, differential geometry of conformal mappings)

CATHERINE QUILLIET
Université Joseph Fourier, Grenoble
Catherine.Quilliet@ujf-grenoble.fr

Research Interests:
Foam rheology: elasto-plasticity in 2D foams. Link between geometric and topologic features in a bidimensional network. Segregation/mixing in bimodal distributions. Elastic deformation of spherical shells: buckling and postbuckling conformations.

Skills:
Soft matter experimentalist. Practising Surface Evolver.

DAVID RABAUD
UJF Grenoble
drabaud@spectro.ujf-grenoble.fr

Research Interests:
I sheared 2D foams with various liquid fractions and area distributions. I measured elasticity, plasticity, yeild and I established a link between the area and the number of sides of the bubbles. Now, I work on microfoams and I try to manipulate them with ultrasound.

Skills:
shearing of 2D foams in water-glass configuration, manufacturing of microfluidic devices in PDMS

NICOLAS RIVIER
IPCMS, Universite Louis Pasteur, Strasbourg
nick@fresnel.u-strasbg.fr

Research Interests:
Recently: Foam: rheology or plasticity ? (result: plasticity).
3D foam under shear: glide of a dislocation in a 3D disordered material ? (result: importance of a T1 in 3D - what is a T1 in 3D? Answer see detachment of superficial bubble in a stem of bubbles)
How can one rectify the "glide plane" ?
Is there a dislocation in a disordered 3D foam (in 2D, yes: well-known Kabla-Debregeas mode) ?
Any relation with granular materials (I don't think so. It is unfortunate, because in granular material the answers are well known: the glide of a dislocation is replaced by the climb (shrinking) of an "odd loop" (odd vorticity loop)).

Skills:
Only theoretical skill. But interest and willingness to learn (if not too old or decrepite) numerical and experimental techniques

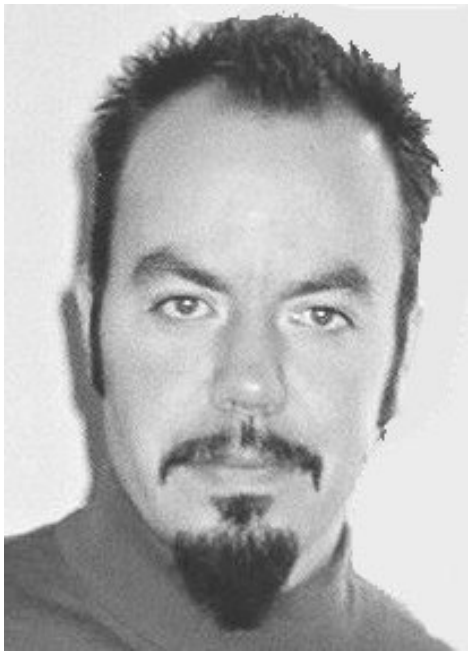
PIERRE ROGNON
CNRS Matière et Systèmes complexes (Paris 7), Centre de Recherche Paul Pascal.
rognon@crpp-bordeaux.cnrs.fr

Research Interests:
discrete simulations; particulate flow; collective behavior - particle properties; comparison of foam, emulsion and granular rheology. My PhD researches focused on the behavior of dry granular flow. Discrete simulations (integration of Newton's law for each grain interacting through binary direct contacts) enabled us to measure macroscopic constitutive law of dense granular flow, and to relate it to the grain characteristics (size distribution, contact mechanics) and their spacial organization (contact force anisotropy, formation of clusters...). My post-doctoral researches, with Cyprien Gay, consists in developing a similar numerical method to simulate the dynamics of soft particulate materials such as foams and emulsions. The point we focus on is that particles (drops or bubbles) can deform significantly when they are submitted to external forces. We expect that this method should provide new insights about the relation between collective behavior and particle properties for both foams and emulsions.

Skills:

ARNAUD SAINT-JALMES
Institut de Physique de Rennes
CNRS / Université Rennes 1
arnaud.saint-jalmes@univ-rennes1.fr

Research Interests:
Experimental studies on foam aging (drainage, coarsening) and foam rheology : determining some effects linked to the chemical components.



Skills:
rheometry on 3D sample, multiple light scattering, techniques for monitoring foam aging

PIERRE SARAMITO
CNRS / LJK
pierre.saramito@imag.fr

Research Interests:
subject :
numerical simulation based on continuous models for liquid foams
main results :
new elastoviscoplastic model suitable for liquid foams ; and numerical resolution on simple shear and extensional flows

Skills:
skills in numerical techniques : 1,2 & 3D finite elements, nonlinear iterations techniques
theoretical : mathematical physics, fonctional analysis, partial differential equations, formal calculus

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GILBERTO L. THOMAS
Federal do Rio Grande do Sul / Instituto de Física
glt@if.ufrgs.br

Research Interests:
modeling and numerical simulations on dry and wet foams; coarsening, drainage, convective instability; rheology of foams. Main result: scaling state for dry foams

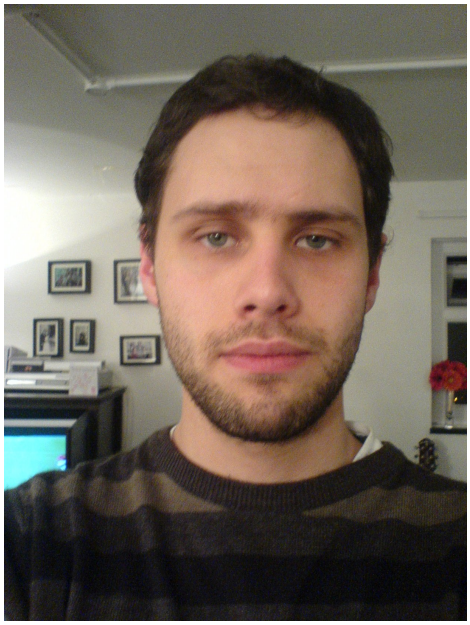
Skills:
Numerical and theoretical skills.

JAMES WINTERBURN
Unviersity of Manchester
james.winterburn@postgrad.manchester.ac.uk

Research Interests:
Acoustics coupled with drainage and coarsening.
Mechanisms of foam-ultrasound interaction- Experiments have been carried out involving subjecting a column of detergent based foam to low power ultrasound (40kHz and also 27kHz). Results show that 40kHz ultrasound influences the drainage and rupture behaviour of foam and also causes an increase and peak in liquid holdup.
Production of biosurfactant by fermentation with Integral Foam Fractionation- Concerned with the separation of proteins from cell culture broth, through the application of foam fractionation. Incorporation of reflux to process.

Skills:
Experimental researcher.

ALED WYN
Aberystwyth University
alw05@aber.ac.uk



Research Interests:
Shearing of 2D foams through simulation

Skills:
Using the Surface Evolver.