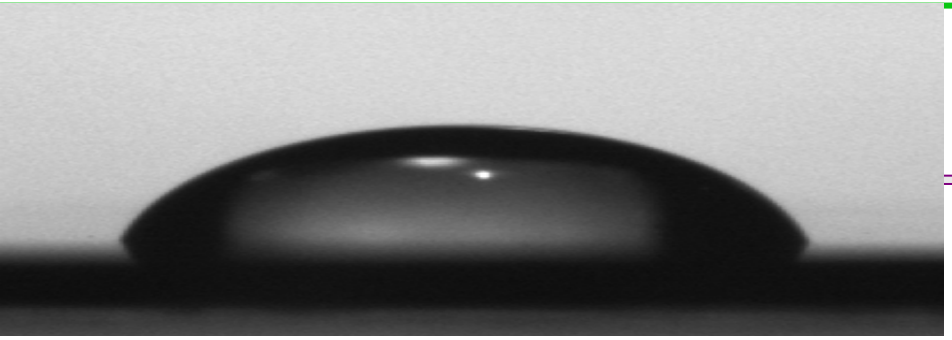


Loughborough University

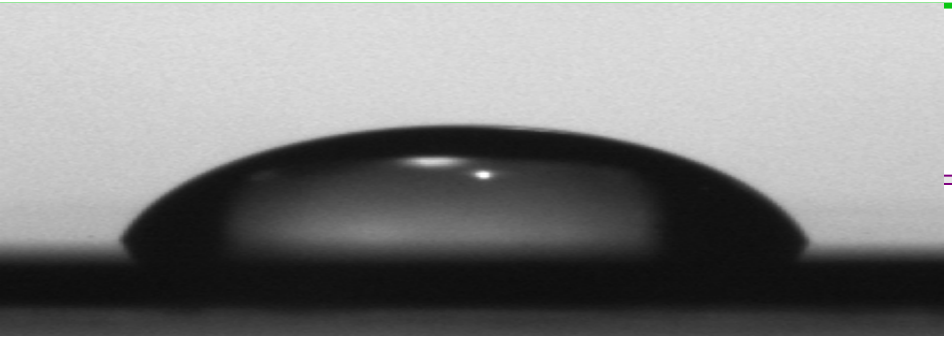
Research Team name: _Loughborough University_ _
Presenter name: __Victor Starov_

Team Presentation – Annual Workshop, COST Action MP1106
Dublin, September, 2012

WG1: all together 32 participants responded

Number	Name	Country	International Projects	National Projects	Industry funded	Comments
1	**Frieder Mugele**	Netherlands	1	3	2	
2	**Yoav Tsori**	Israel		1		
3	**Nikolai Denkov**	Bulgaria		1	3	
4	**Thodoris Karapantsios**	Greece	2			
5	**David BRUTIN**	France	4	3		
6	**Gehin-Delval,Cécile**	Switzerland	3	3		Industry
7	**Luciano Navarini**	Italy				Industry
8	**Avi Marmur**	Israel		5		
9	**Tomasz Sosnowski**	Poland		3		
10	**Marite Cardenas**	Denmark		3		
11	**Michael Antoni**	France	2	2		
12	**Herman Wijshoff**	????				Industry
13	**Sergei Tisler**	Estonia		4		
14	**Dusko Cakara**	Croatia		3		
15	**Ileana Malavasi**	Italy	3	2		

Number	Name	Country	International Projects	National Projects	Industry funded	Comments
16	**João Moreira de Campos**	Portugal		5		
17	**Maria Ekiel-Jezewska**	Poland		4		
18	**Dominique Langevin**	France	1		2	
19	**Ricard Gonzalez**	Spain	1	1		
20	**Stefan Hutzler**	Germany	2	1		
21	**Jiri Vejrazka**	Czech Republic		1		
22	**David Fairhurst**	UK		2		
23	**Günter Brenn**	Austria		3		
25	**Mehmet Yildiz**	Turkey	1	2		
26	**Victor Starov**	UK	1	1	1	
27	**Jaroslav Katona**	Serbia		2		
28	**Paul Stevenson**	Australia		1	3	
29	**Cees van der Geld**		1	5	6	
30	**Metin Muradoglu**	Turkey	1	1		
31	**Pierre Colinet**	Belgium	2	2		
32	**Stefano Guido**	Italy		1		



Loughborough University

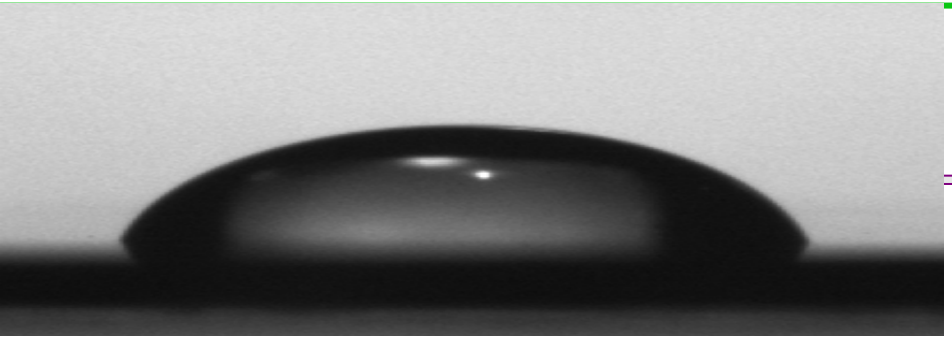
Research Team Name: __LU__

Number of team members: __15__

Team leader: Victor Starov, Colloid and Interface Science

- 4 post doctoral fellows
- 8 Ph.D. students
- 2 M.S. student
- 1 undergraduate students

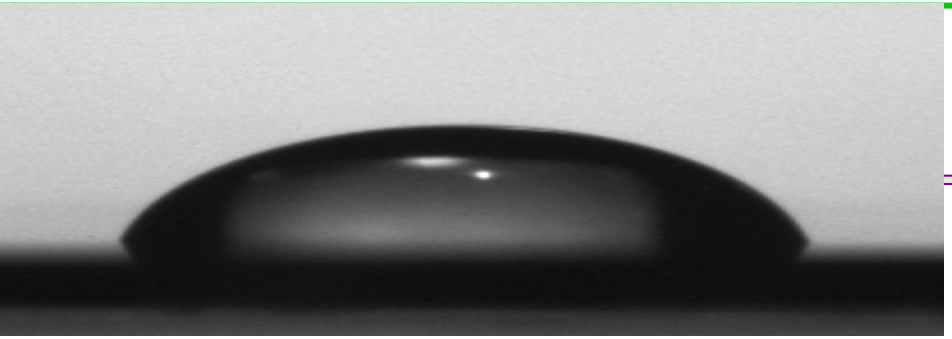
❖ 15 Chemical Engineers



Loughborough University

Research interests related to MP1106 :

- Kinetics of spreading of surfactant solutions over hydrophobic substrates
- Kinetics of simultaneous spreading and evaporation
- Rheology of concentrated suspensions
- Interaction of foams with porous substrates



Loughborough University

Basic facilities, equipment, devices etc :

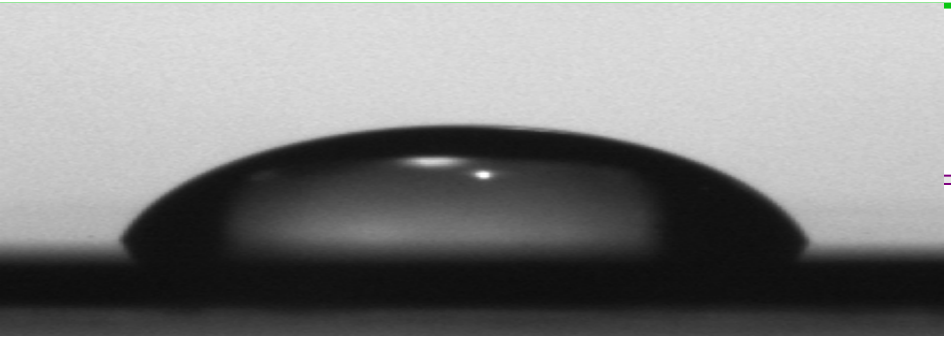
FTIR, Nikolett

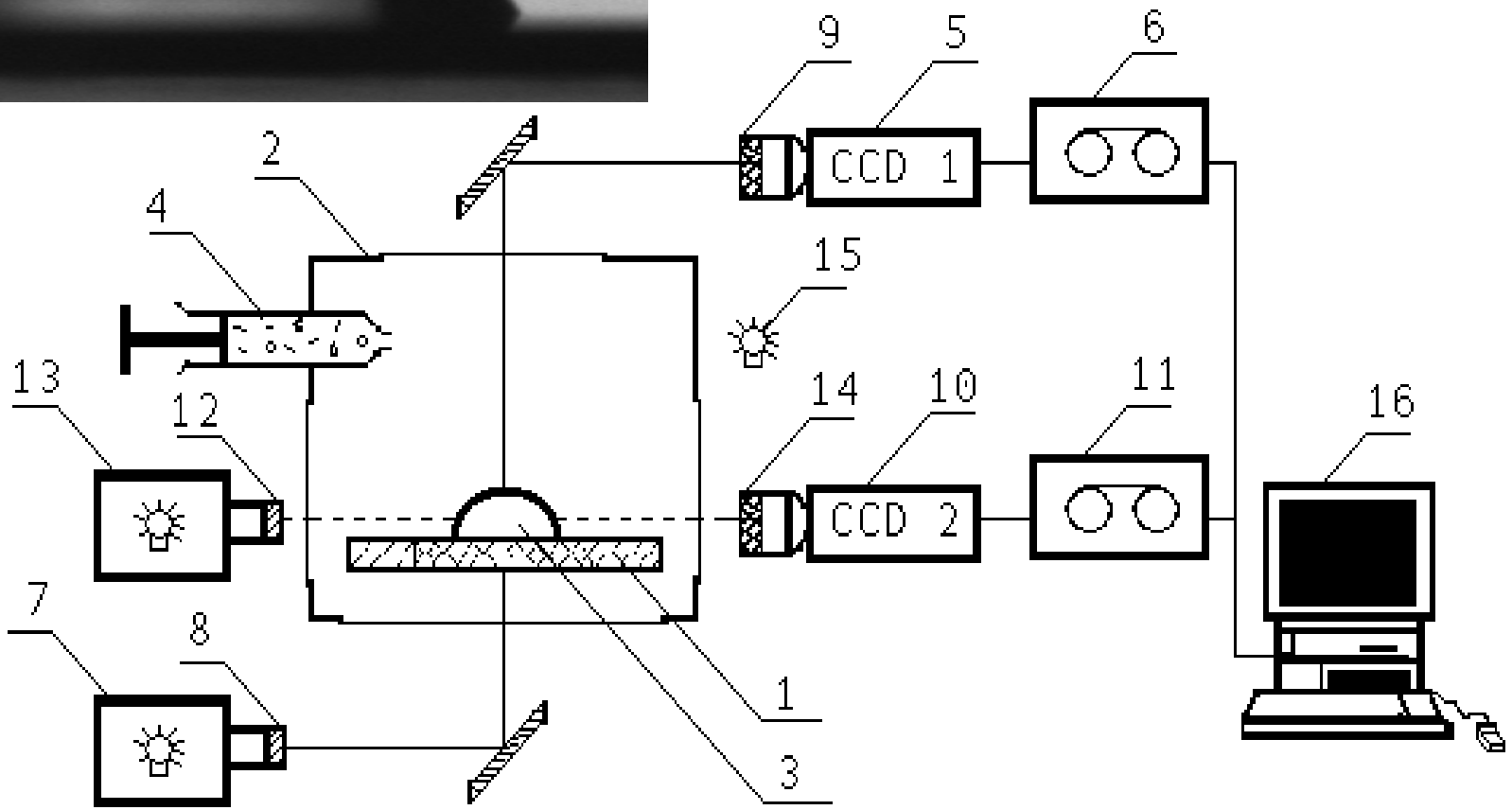
DSA100, KRUSS: surface rheology,
kinetics of spreading over non-porous substrates

TA1000: bulk rheology

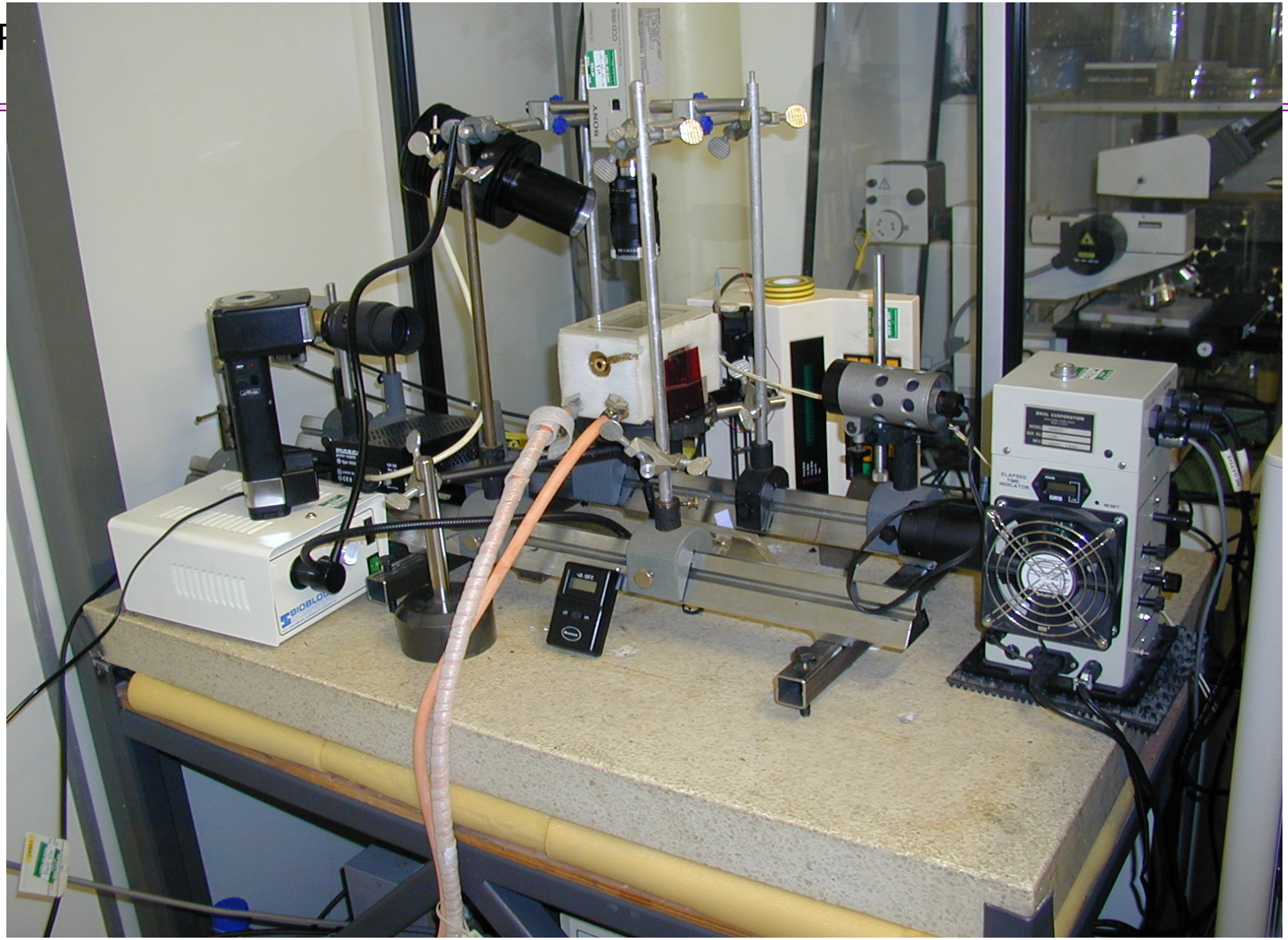
Home made spreading devise: kinetics of simultaneous spreading and imbibition into porous substrates

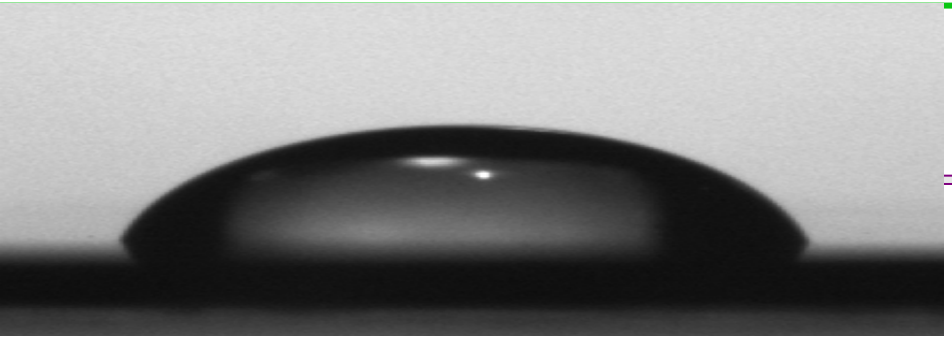
Home made spreading devise: spreading of surfactant solutions over thin liquid films





1-substrate, 2-hermetically closed, thermo stated chamber, 3-liquid drop, 4-syringe, 5, 14- front view and view from above CCD cameras, 6, 11-VCRs, 7, 13- light sources, 8, 12 collimating lenses, 9,14-tele-photo objectives, 15-flash gun, 16-PC.


SONY
ELAPSED TIME INDICATOR
RESET



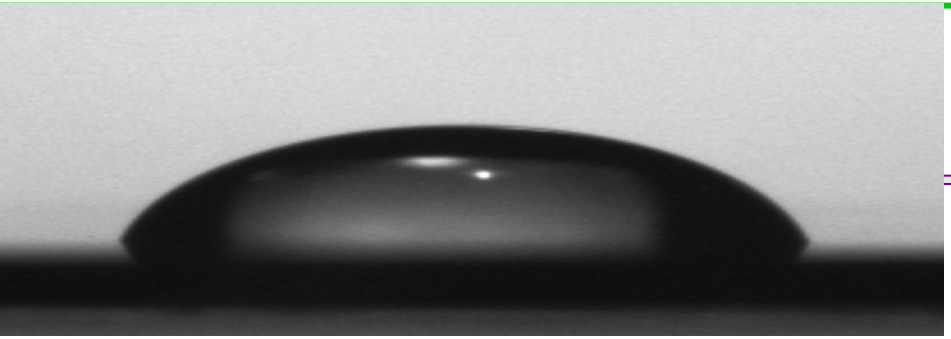
Description of projects related to MP 1106

MULTIFLOW project, EU: 16 Universities over EU + Israel.
Our part: kinetics of simultaneous spreading and evaporation of surfactant solutions and nanofluids

Kinetics of spreading of surfactant solutions, EPSRC, UK.
Joint project with Imperial College, UK.

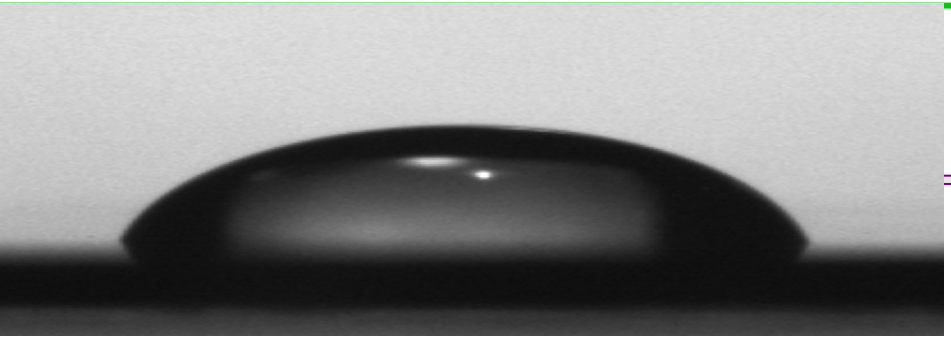
Interaction of foams with porous substrates, P&G, USA

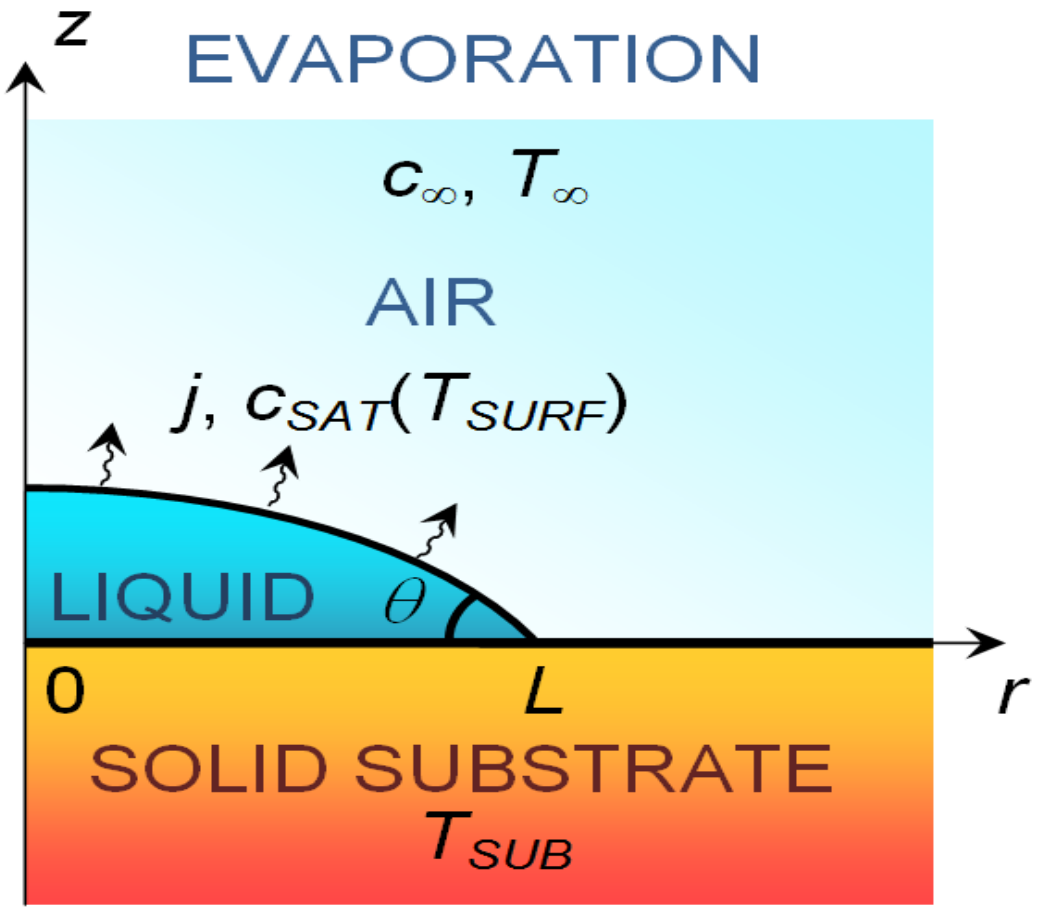
Foam formation, Loughborough University.

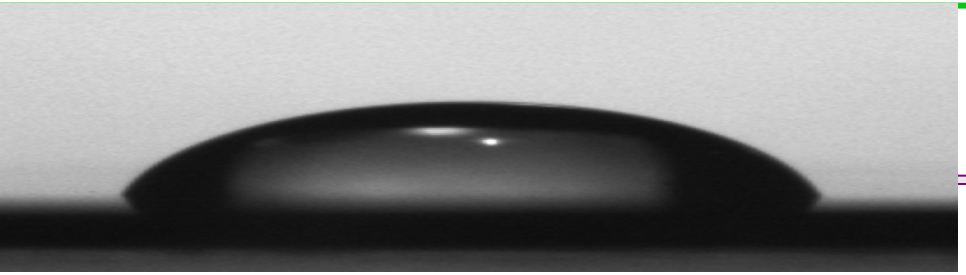


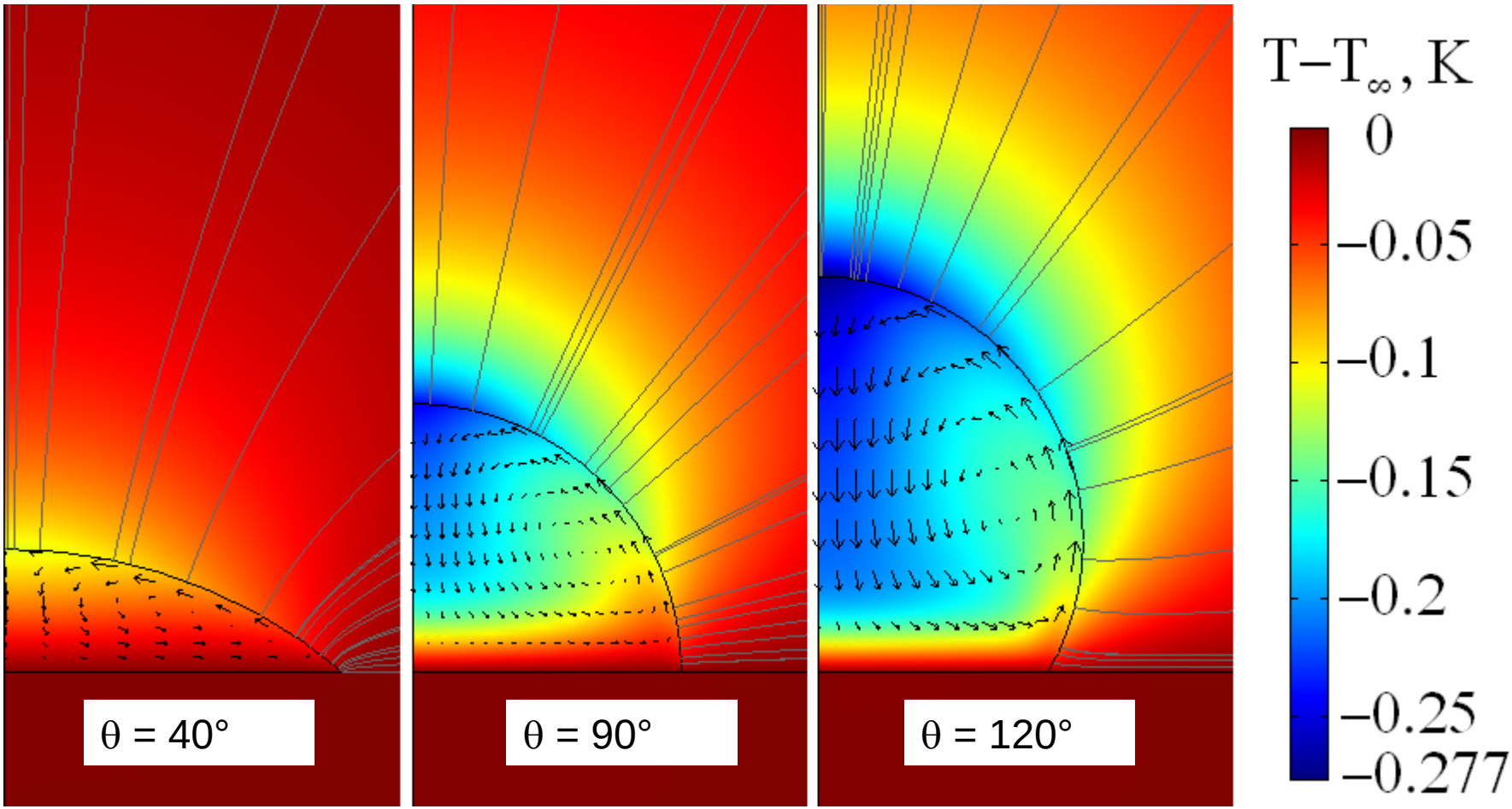
#1 project :

Title: _MULTIFLOW project, EU___
Duration: _2009-2013___
Funding organization: _EU___
People involved and their function (*PhDs, postdocs, technicians etc*):
_2 PostDocs+PhD Student___



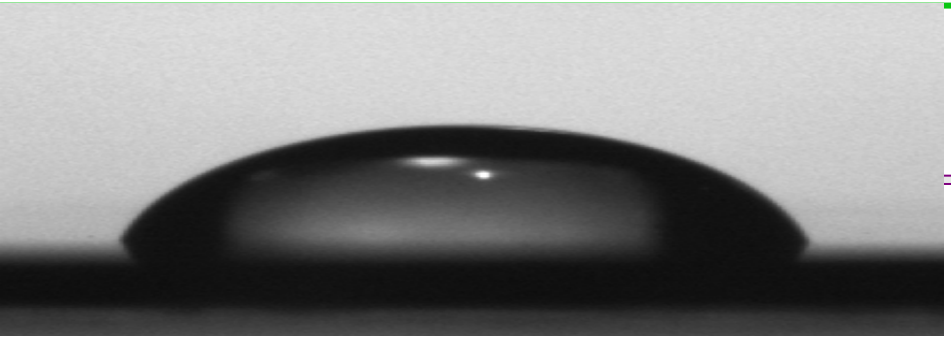

z
EVAPORATION
c_∞, T_∞
AIR
j, $c_{SAT}(T_{SURF})$
LIQUID
θ
0
L
r
SOLID SUBSTRATE
T_{SUB}



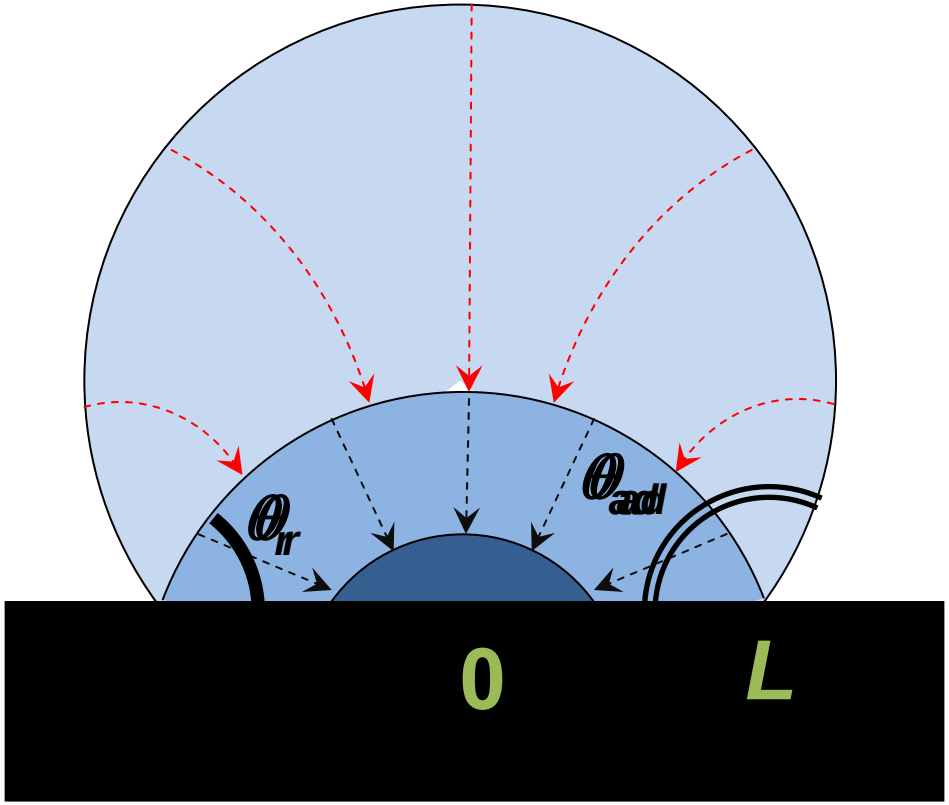


Arrows – velocity field,

Streamlines – diffusive vapour flux

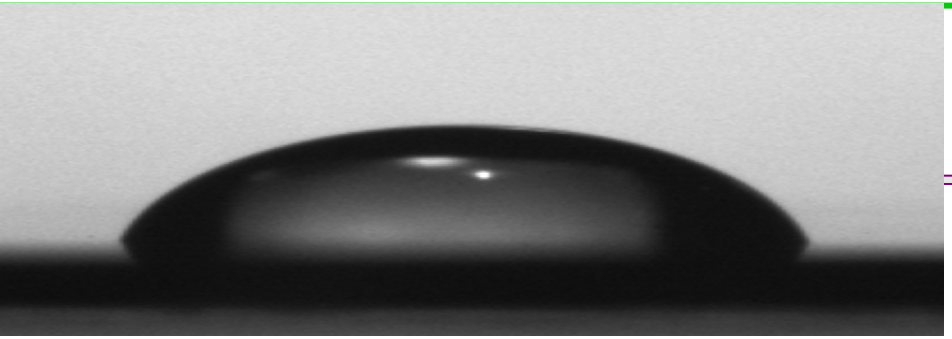


Universal behaviour was predicted and verified by a number of experiments taken from literature



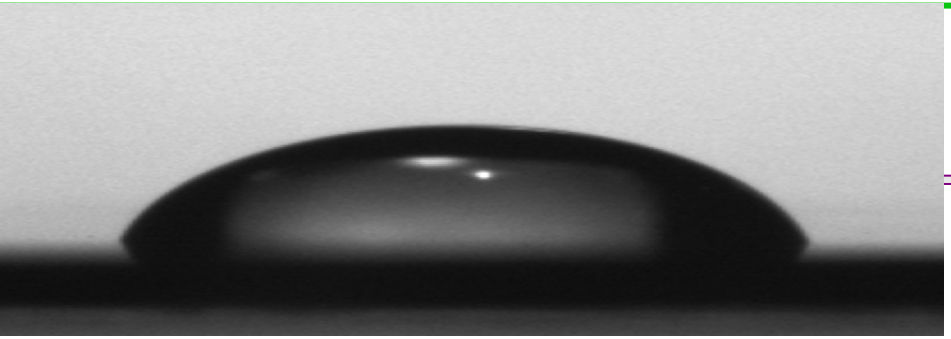
$$L = \text{const} = L_0$$
$$(0 \le t \le t_r)$$

$$\theta = \text{const} = \theta_r$$
$$(t > t_r)$$



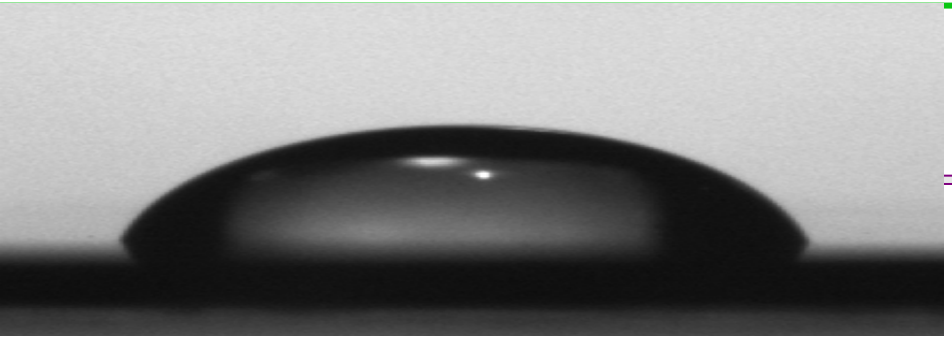
#2 project :

Title: _Kinetics of spreading of surfactant solutions, EPSRC___
Duration: _2012-2014___
Funding organization: _EPSRC___
People involved and their function (*PhDs, postdocs, technicians etc*):
2 PostDocs____
The project _only started___



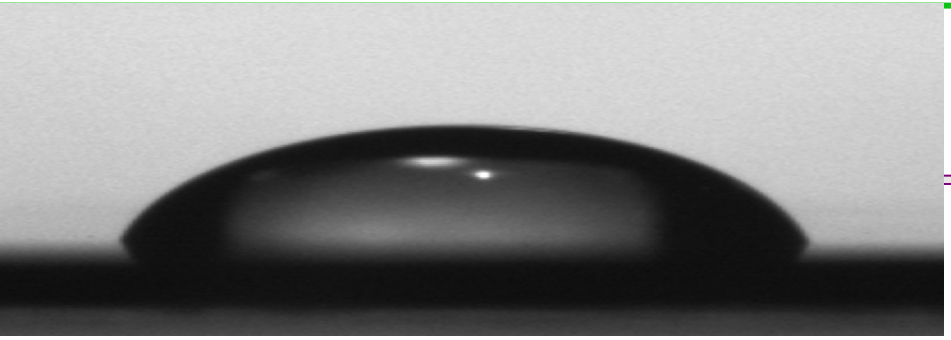
#3 project :

Title: _Interaction of foams with porous substrates. P&G, USA___
Duration: _2012-2013_ __
Funding organization: _P&G, USA___
People involved and their function (*PhDs, postdocs, technicians etc*):
2 PostDocs____
The project_only started, confidential results___



#4 project :

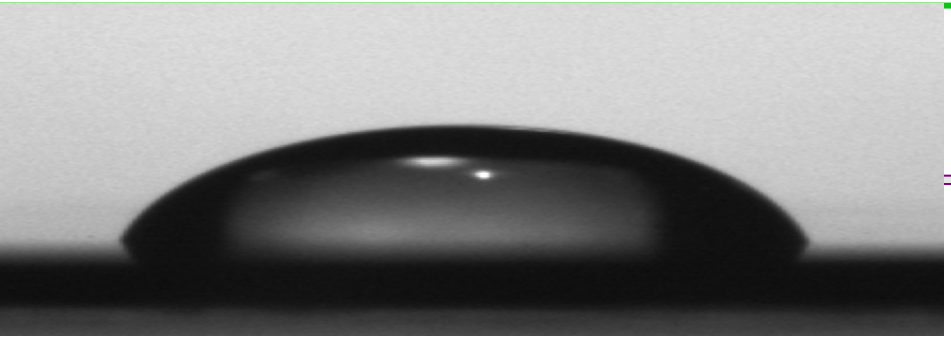
Title: _Foam formation___
Duration: _2012___
Funding organization: _Loughborough University___
People involved and their function :
1 undergraduate student____



EU Projects to be submitted

#1 Topic
Title: _ComplexWetting___

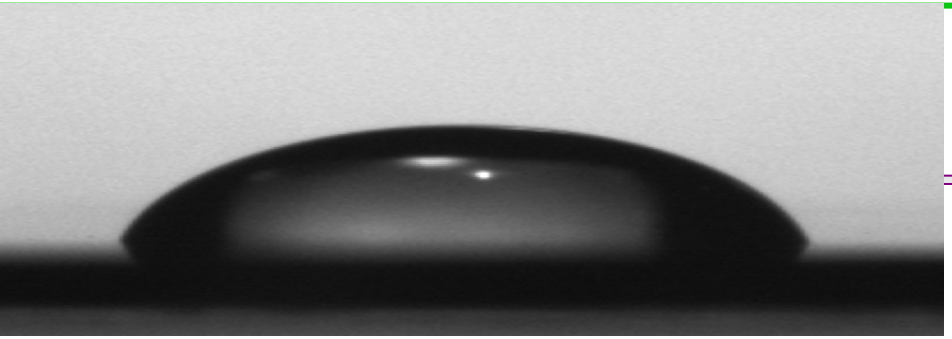
Duration : __4 years__



#2 Topic

Title: _Membrane separation of solutions___

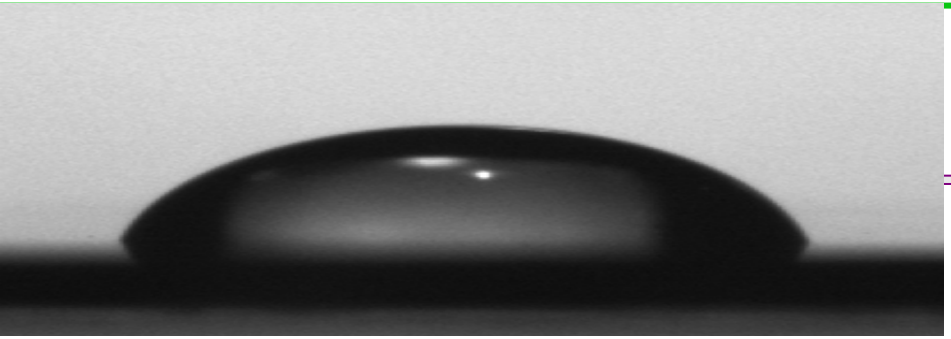
Duration : __3-4 years__



#3 Topic

Title: _Interaction of nanoparticles with leaving organisms___

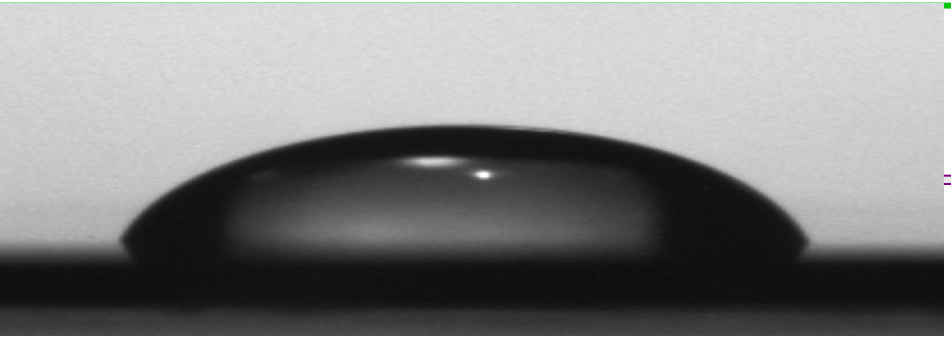
Duration : __3-4 years__



#4 Topic

Title: _Rheology of concentrated suspensions/emulsions based on consideration of surface forces

Duration : __3-4 years__



Thank you for your attention