

# CASL Newsletter

Issue: 2009-5

## Researcher in Profile

**Dr. Jean-Guillaume Dumas** has recently joined the Claude Shannon Institute from Université Joseph Fourier, Grenoble and will be based in UCD CASL for a year.

Jean-Guillaume's main research focuses on exact linear algebra, arithmetics and applications to cryptology and codes. Other research interests include symbolic-numeric dynamical systems, software engineering, models of computation and parallelism.

Recent talk: "LinBox: introspective algorithms for very fast exact linear algebra".

Find Jean [here](#).

## Vodafone App Star Competition

Representatives from Vodafone visited CASL on 8<sup>th</sup> Oct to introduce Vodafone's Application Competition. Vodafone together with Silicon Republic are looking for software applications developers to build mobile software applications to launch on their global market. The top 3 mobile widgets will be awarded prize money of €25,000, €15,000 and €10,000 respectively with the potential for further winnings for the top placed widget which will be entered into the Pan-European competition.

Full competition details are available at the following link – [Vodafone App Star Comp.](#)



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## Collaborate! Collaborations of a different kind...

### Summer BBQ

The CASL Summer BBQ was held at the end of the summer to celebrate another great year. Food and drinks were provided and a number of fun competitions were run, the highlight of which was the team-based "build-it" competition. Each team entered had to construct a catapult from a given set of materials including bamboo canes, rubber bands, tape, string and a plastic cup and then use it to launch a rubber ball.

The winning distance was dubiously measured in units of "[Prag](#)" of which we are sure there will be a wiki definition some day...



The winning team (pictured above) is based on the second floor and their "contraption"

takes pride of place at the entrance door.

### Other Highlights

Well done to Vijay Singh who was the winner of the *Guess Who?* competition.

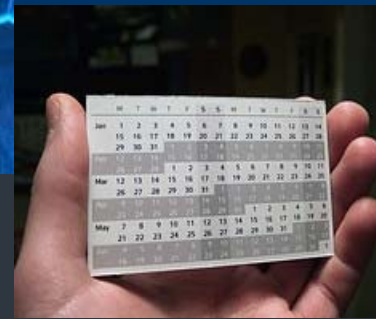


### Special Thanks

A big thank you to all those who came along and helped to make it a very enjoyable afternoon. A special mention to the CASL Social Committee as this was their first event – keep it up! And also to Rocketfoods for the great food and prizes and to those of you who sent in photos - Many thanks.

For more photos see:

<http://picasaweb.google.com/frantisek.polach/CASLBBQ#>



## Job Opportunities

**Post-doctoral Researcher Vacancy:** *Efficient Embedded Digital Signal Processing for Digital Mobile Health*  
**Contact person:** Chris Bleakley  
For more info see: [CSI job opp](#)

**Senior Post-doctoral Researcher position available:** *Clique* is looking for an SPD for its Visualization workpackage.  
**Full details:** [Clique job opp](#)

**Postdoctoral & PhD positions available with the Clique Research Cluster Group.** Clique is looking for 2 Postdoctoral Researchers and several PhD students to be based in UCD. More info [here](#).

**Postdoc Researcher opening with NCRA** starting early 2010 to work on Grammatical Evolution as part of the recently launched **FMC2**. Details available from UCD HR [website](#).

**Postdoc Researcher opening with NCRA** starting early 2010 to work on an NDRC-sponsored translational research project. Details available from UCD HR [website](#).

## Recent & Upcoming Talks

### Recent

**UCD CASL Seminar Room:**  
Oct 30, Prof. Barry McMullin, Head of the ALife Lab at Dublin City University, "Exploring Hierarchical Evolution with an Artificial Protocell".

Oct 22, Dr. Jean-Guillaume Dumas, "LinBox: introspective algorithms for very fast exact linear algebra".

Oct 9, Dr. Colin Johnson, University of Kent, Canterbury, England, "Theoretically-Grounded Genetic Programming".

Sept 17, Matt DiFranco, "Mapping Suspected Prostatic Carcinoma Using Smooth Co-occurrence Texture Features".

Sept 10, Conrad Power, Memorial University, Canada "A Spatial Agent-Based Model of Emotional N-Person's Prisoner's Dilemma in a Socio-Geographic Community".

## Social Corner

### Welcome to

- Prof. Brendan Murphy - Clique
- Isabella Gollini - Clique
- Gian Luca Negri - Clique
- Arthur White - Clique
- Dr. Niall Haslam - Bioinformatics
- Fergal Duffy - Bioinformatics
- Kevin O'Brien - Bioinformatics
- Eanna O'Keefe - Bioinformatics
- Fergal Duffy - Bioinformatics
- Giuseppe Tradigo - Bioinformatics
- Claudio Mirabello - Bioinformatics
- Ana Graca - Bioinformatics
- Lisa Kilmartin - IRU
- Eoin Murphy - NCRA
- David Fagan - NCRA
- Prof. Frederic Dias - Meteorology

### Farewell to

- Prof. Simon Dobson who has left to take up a position in the School of Computer Science at the University of St. Andrews in Scotland.
- Brian O'Mullane who has left to take up a research position with DKIT and to pursue academic interests.
- Dr. Ross O'Neill who has left to take up a research position at NUI Maynooth.
- Dr. Vitaly Skachek who has gone to Singapore to take up a research position at Nanyang Technological University.

### Congratulations

- Congratulations to Dr. Nora Khaldi who got married during the summer!
- Congratulations to Cathy McFadden who got married this summer!

### CASL Foosball Tournament

Thanks to Danny Lynch from the Claude Shannon Institute for organising the 1<sup>st</sup> CASL Foosball Tournament! Twenty teams of two are entered and group matches are to be completed by November 19<sup>th</sup>. Finals will take place during coffee hour on 26<sup>th</sup> November with prize giving to follow! Good luck to all competing!

## CASL Christmas Party

This year's CASL Christmas Party will take place on Thursday 17<sup>th</sup> December in the 4<sup>th</sup> floor Common Room during Coffee Hour. More details to follow!

## Recent Publications

J.R. Gonzalez and C.J. Bleakley, 'High-Precision Robust Broadband Ultrasonic Location and Orientation Estimation'. IEEE Journal of Selected Topics in Signal Processing, Vol 3, No. 5, October 2009.

Forthcoming publication of new book 'Innovation in Complex Social Systems' Edited by Petra Ahrweiler.

A. Narasimhamurthy, D. Greene, N. Hurley, P. Cunningham, 'Partitioning Large Networks Without Breaking Communities'. Knowledge and Information Systems (2009).

A. Brew, D. Greene, P. Cunningham, 'A Machine Learning System for Tracking Sentiment in Irish Economic News'. 20<sup>th</sup> Irish Conference on Artificial Intelligence and Cognitive Science (AICS '09), Dublin, Ireland, (2009).

D. Greene, P. Cunningham, 'A Matrix Factorization Approach for Integrating Multiple Data Views', European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD), Bled, Slovenia, (2009).

Z. Škrba, B. O'Mullane, B. R. Greene, C. Ni Scanail, C. W. Fan, A. Quigley, P. Nixon, 'Objective real-time assessment of walking and turning in elderly adults'. 31<sup>st</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC '09).

Q. U. Nguyen, M. O'Neill, X. H. Nguyen, B. McKay, E. Galvan, 'Semantic Similarity based Crossover in GP: The case for Real-valued Function Regression', 9<sup>th</sup> International Conference on Artificial Evolution (EA '09), Strasbourg, France. Springer.

E. Galvan-Lopez, M. O'Neil, 'On The Effects of Locality in a Permutation Problem: The Sudoku Puzzle'. IEEE Symposium on Computational Intelligence and Games (CIG 2009).

## Research News



### TRIL features in Irish Independent and Irish Times

TRIL's Clinical Director Dr. Mimi Fan, based in St. James's Hospital, gave advice in the Irish Independent Health and Living section published on Monday 7<sup>th</sup> September.

Two readers asked for advice on how to deal with 'fear of falling' and 'after a fall'.

Click [here](#) to read the full article.

The TRIL Centre featured in an article in the Business Section on Thursday 6<sup>th</sup> August. The article, entitled "Digital healthcare: 'There will be more silver dollars in the world than green ones'", also features on [SiliconRepublic.com](#) and [digital21.com](#).

TRIL also featured in a Technology and Innovation piece in the Irish Times Business Section published on 11th September. Click [here](#) for the full article.



### Press Coverage of New SFI Cluster Launch

The Financial Mathematics Computation Cluster (FMC<sup>2</sup>) was launched by the Tánaiste and Minister for Enterprise, Trade and Employment, Mary Coughlan, on 14<sup>th</sup> October 2009. FMC<sup>2</sup>, with funding of €4.7 million, is part of the Science Foundation Ireland Strategic Research Cluster (SRC) programme and is a collaboration between Industry, University College Dublin, Dublin City University and NUI Maynooth.

The new research cluster, led by Prof. Anthony Brabazon, brings together complimentary expertise in financial mathematics, financial economics and computer science to create a multi-disciplinary research centre with the critical mass to be globally competitive.

See related articles in [The Irish Times](#), [RTE Business](#), [Silicon Republic](#), [Business and Leadership](#), and [UCD News](#).

## Social Network Analysis (SNA) is now an official Working Group of ERCIM



of Directors. The SNA working group is now listed on the ERCIM Working Group [Homepage](#) with 29 initial members from 9 universities and 2 industry partners.

The objective of the ERCIM Working Group on Social Network Analysis is to build a strong network of researchers with

aspects of network data analysis. The first action will be to foster collaboration through the organization of scientific meetings with the medium-term objective of collaborating on funded research programmes in this area.

For more info please contact [Prag Sharma](#), Clique Cluster Manager.

## Stuart Mangan's passing



Dear Colleagues,

A short note to say that we are deeply saddened by the death of Stuart Mangan on the 7th August this year. He was 26 years of age and died in St Mary's Hospital in Paddington, London, after he developed pneumonia. Our heartfelt condolences go to his family at this difficult time.

Stuart had been the inspiration for the SMART project (Stuart Mangan Assistive Research and Technology) here in CASL. Up until Stuart passed away we had been helping to improve his voice recognition software so that he could communicate better and participate more in life. He had got to a point where he could write

emails as quickly as most people could write them, he had a system of texting friends from his laptop and his computer was linked into a mesh so that it could be controlled and maintained at any time from the CASL lab here in Dublin. He also regularly used Skype under voice control to contact everyone. These simple interventions meant a huge amount to him, his family and his friends.

One of his last pieces of communication was an email that he sent us detailing projects he was keen to get moving on. This email gave his family great consolation as it exudes a positive hopeful outlook on his future. The family read the email out to one another in the hospital as Stuart passed away. They were comforted knowing he was happy before he died. The email was also read out at his removal.

We have put the email up on the SMART forum:

<http://casl.ucd.ie/smart/>

(You might need to register if you have not done so already). We plan to keep the project going in his memory. We will be in touch about how that will happen.

Here are some related Irish Times links:

<http://www.irishtimes.com/newspaper/obituaries/2009/0815/1224252584063.html>

<http://www.irishtimes.com/newspaper/ireland/2009/0815/1224252587829.html>

<http://www.irishtimes.com/newspaper/ireland/2009/0813/1224252500612.html>

A big thank you to everyone who got involved. Tá sé imithe ar Shlí na Fírinne. Go ndéanaí Dia a mhaith air agus ar dheis Dé ao raibh a anam.

Gary McDarby

## Innovation

### Systematic Innovation Competition

Science Gallery TCD hosted a Systematic Innovation Competition on October 17<sup>th</sup> as part of Dublin Innovation Week. Four teams took part – three multi-national tech companies: Intel, IBM and Google, and the TCD-UCD Innovation Alliance comprising two postgrads from Trinity and three from UCD (Luke Conroy – CASL, Elton Rexhepaj – Conway, Manuel Forero Rueda – Engineering).

The teams used PRIZM, a systematic innovation game, to address the following issue: "How could Innovation in Ireland support a Smart Economy and a Smart Society?"

Intel received the award for the best idea on the day. For more info see RTE link [Students in Innovation Week challenge](#).

### Upcoming Innovation Events

The NovaUCD 2009 Campus Company Development Programme (CCDP) Awards Evening will take place in the William Jefferson Clinton Auditorium, UCD on Wednesday 18<sup>th</sup> November at 5.15pm. More info [here](#). Members of CASL are in the final stages of the Competition – Good Luck!

Enterprise Ireland (EI) will host a Financial Services Innovation Forum on December 7<sup>th</sup> at EI, East Point Business Park. The intent of the Forum is to highlight research capabilities within Irish universities that are relevant to the financial services sector. Please contact [Ciaran O'Beirne](#) of NovaUCD for more info on this event.

Science Gallery TCD will host an innovation seminar on 10<sup>th</sup> November entitled, "Innovation Interface: From Research to Innovation: How Social Research and Design Are Working To Provoke Intel R&D". [Link](#).

## Recent Events

Congratulations to Prof. Joao Marques-Silva who was co-recipient of the 2009 Computer Aided Verification (CAV) Award this July at the

[21st International CAV Conference](#) held in Grenoble.

Congratulations to Prof. Gary McGuire who has been awarded access to PRACE (Partnership for Advanced Computing in Europe) prototype systems. More info [here](#).

UCD's talk series for Maths Week 2009 was kicked off on 13<sup>th</sup> Oct with an exceptional seminar by Dr. Neil Hurley about how maths discovered by 18<sup>th</sup> century mathematician Leonhard Euler is relevant each time we run a Google search today. More info can be found [here](#).

IRU showcased cutting edge research projects through multiple poster presentations at an Innovation Dublin event held at UCDNova on 16<sup>th</sup> Oct. For further details click [here](#).

TRIL took part in the technology demo at the [CSI Innovative Technology Exhibit](#) on 15<sup>th</sup> Oct as part of Dublin Innovation 2009 festival.

The 5<sup>th</sup> Workshop on Coding and Systems took place in the UCD Health Sciences Building from 2-4 Sept. This event was organized by Dr. Marcus Greferath and Prof. Gary McGuire of the [Claude Shannon Institute](#).