



THE UNIVERSITY OF AUCKLAND
NEW ZEALAND

2012 ANNUAL REPORT COVER SHEET

for

UNITS, CENTRES & INSTITUTES

Name of Unit, Centre or
Institute:

Centre for Mathematical Social Sciences

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Name of Director/s:

Patrick Girard

.....

Attach:

Annual Report 2012

Financial Statement 2012

Signed by:

Patrick Girard

(Director)

Date 11/07/13

..... (Dean)

Date

Please email signed off report and coversheet to:
Denice Belsten, Research Administrator, University Sponsored Funding,
Research Office, City Campus d.belsten@auckland.ac.nz
by 28 February 2013



RESEARCH UNITS, CENTRES AND INSTITUTES

Annual Report Template

Please refer to the University of Auckland Policy on Research Units, Centres and Institutes for more information on reporting and accountability requirements (clause 2.5). A copy of this policy is available from:

<https://policies.auckland.ac.nz/policy-display-register/research-units-centres-and-institutes.pdf>

Section 1a - IDENTIFICATION INFORMATION:

Title of Unit, Centre or Institute:	Centre for Mathematical Social Sciences
Name of Director:	Dr Patrick Girard
Name of Deputy Director:	Dr Mar C. Wilson; A/Prof Arkadii Slinko

Section 1b – ENDORSEMENT OF REPORT:

Signatures:	<i>Please sign in appropriate space below</i>
Director (Required for all Units/Centres/Institutes)	<i>Patrick Girard</i>
Head of Department (Required only for Department Units/Centres)	<i>Canon A O'Brien</i>
Dean (Required for Faculty/University Centres/Institutes)	

Section 2 – ADVISORY BOARDS AND MEETING DATES:

Names of Advisory Board members (for Faculty Centres and University Centres and Institutes)	N/A
Names of Management Committee Members (for University Centres and Institutes)	N/A
Dates of the meetings of the advisory board and management	N/A

committees that took place during the year	
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Section 3 – PARTICIPATING MEMBERS AND EMPLOYEES/STUDENTS:

Names and Departments of participating members	Dr Patrick Girard, Dr Mark Wilson, A/Prof Arkadii Slinko, A/Prof Matthew Ryan, A/Prof John Hillas, Dr Simona Fabrizi (Massey University, Albany), Dr Jeremy Seligman, Dr Geoffrey Pritchard, Dr Fernando Beltran, Dr Valery Pavlov, Dr Tan Lee
List names, positions, and FTEs of all staff employed and postgraduate students involved in the Unit, Centre or Institute	Ali Hameed (PhD, A. Slinko), Nina Anchugina (PhD, A. Slinko), Slinko), Shau Girard), Antonia Chen (PhD, M. Ryan), Addison Pan (PhD, S. Fabrizi/M.Ryan)

Section 4 – INTRODUCTION:

Provide here a brief introduction to the report (maximum of 300 words)	The centre's third year of existence was productive. Members worked closely on grant applications, workshop organisations and publications.
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Section 5 – AIMS, GOALS AND FUTURE PLANS:

<p>a. General Aims: Briefly describe the general aims (plans and objectives/goals) of the Unit, Centre or Institute. Identify how they address the University and Faculty Strategic Plan.</p>	<p>The Centre for Mathematical Social Sciences is a group of researchers interested in applying mathematical and computational modelling to social sciences (particularly politics and economics), based at the University of Auckland. The central topic is mathematics of collective decisions made by a group of self-motivated agents.</p> <p>The main goals of the centre are to serve as a focal point for seminars, workshops and other research collaboration, for postgraduate student training, and for public outreach. They obviously relate strongly to Objectives 1,3,4,5,6,11 of the UoA Strategic Plan 2005-2012, and to points 2,6,10 of the FoS Strategic Plan 2010-2015.</p>
<p>b. Goals for Reporting Year: Describe the specific goals for the reporting year.</p>	Increase profile of CMSS at UoA and more widely; increase links with similar overseas centres; obtain more secure funding.
<p>c. Plans for Upcoming Year: Outline the plans for the next year. Identify any resource</p>	Regular seminars, organising 5 th centre's summer workshop, recruit more members and students, and secure funding for the various activities.

implications.	
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Section 6 –MAJOR ACHIEVEMENTS AND OTHER NOTABLE ACTIVITIES:

Report against the specific goals listed in 5b above	<p>Mark Wilson's work on MMP reform found its way into the final report.</p> <p>Funding acquired to secure participation of international speakers at the workshops listed below increase our links/profile.</p> <p>We have reached out to Massey and EPOC to co-organise the 4th CMSS summer workshop.</p> <p>We have new joint supervision, between members of the centre and Massey.</p> <p>We have secured funding for our activities, although we couldn't find more stable funding for future activity. In that respect, the demise of the CFRIF in 2013 and how the proposed changes to inter-disciplinary funding are unhelpful to us.</p> <p>Reyhaneh Reyhani (supervised by Mark Wilson, official co-supervisor Geoff Pritchard) completed her PhD in early 2013.</p>
Summary of major developments and achievements. Identify how these activities contribute to the research capability of the department or faculty (beyond what would be achieved through the activities of the individual members). Please provide greater detail for anything noteworthy that may give useful publicity to the University	<ul style="list-style-type: none"> • 4th CMSS Summer Workshop Theme: Mathematical Economics March 21- 22. ~ 30 participants. Special guess (DVA): Clemens Puppe • Workshop on Epistemic Game Theory February 17-18, 2013. ~ 20 Participants. Special guess (DVA): Dov Samet
Comment on any co-operative commercial activities, research with other University or Government laboratories or research groups	N/A
Comment on any courses given or workshops and seminars held	<p>The centre held regular seminars at the university, with presentations from members of the center, invited speakers from New Zealand and international visitors. For further details of activity, please consult the center's website: http://cmss.auckland.ac.nz/</p>

Section 7 - Reviews

Date of last review	N/A
Review Recommendations List the recommendations of the review and give an update of progress on addressing the recommendations.	

Section 8 – FINANCIAL REPORT

State whether the Unit, Centre or Institute has its own Activity Centre/s and list the Activity Centre/s being used	N/A
State sources of funding, for example, from research funds from outside bodies, from the Department or Faculty, or other	2 distinguished visitor awards, for Clemens Puppe and Dov Samet. Contributions from the members's departments. PBRF allocations. Funding from ATE research network for the summer workshop.
List any significant resource allocation decisions taken by the Advisory Board during this reporting year (if applicable)	N/A
Include a statement of financial performance (contact Faculty Accountant for assistance), or give a clear explanation of the reasons if there has been no financial activity	N/A

Section 9 – RESEARCH OUTPUTS

Include a list of public and	Arkadii Slinko Journal - Research Article Chevyrev, I., Searles, D., & Slinko, A. M. (2012). On the Number of Facets of Polytopes Representing Comparative Probability Orders.
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other research outputs	<p>Order, Online First. doi: 10.1007/s11083-012-9274-0.</p> <p>Elkind, E., Faliszewski, P., & Slinko, A. M. (2012). Rationalizations of Condorcet-consistent rules via distances of Hamming type. <i>Social Choice and Welfare</i>, 39 (4), 891-905.</p> <p>Hameed, A., & Slinko, A. (2012). Roughly Weighted Hierarchical Simple Games. <i>CoRR</i>, abs/1205.2152.</p> <p>Skowron, P., Faliszewski, P., & Slinko, A. M. (2012). Proportional Representation as Resource Allocation: Approximability Results. <i>CoRR</i>, abs/1208.1661.</p> <p>Conference - Proceedings</p> <p>Elkind, E., Faliszewski, P., & Slinko, A. M. (2012). Clone structures in voters' preferences. B. Faltings, K. Leyton-Brown, & P. Ipeirotis (Eds.) <i>EC'12 Proceedings of the 13th ACM Conference on Electronic Commerce</i>, (496-513). Valencia, Spain.</p> <p>Conference - Conference Paper</p> <p>Betzler, N., & Slinko, A. M. (2012). Complexity of Fully Proportional Representation. Presented at 12th SAET (Society for Advancement of Economic Theory) conference, 30 June - 3 July 2012.</p> <p>Hameed, A., Slinko, A. M., & Gvozdeva, T. (2012). Structure and characterisation of hierarchical simple games. Presented at SING 8 (8th Spain-Italy-Netherlands Meeting on Game Theory), Corvinus University, Budapest. 16 July - 18 July 2012.</p> <p>Betzler, N., & Slinko, A. M. (2012). Computation of Fully Proportional Representation. Presented at Computation and Incentives in Social Choice. Dagstuhl Seminar 12101, Dagstuhl, Germany. 4 March - 9 March 2012.</p> <p>Other stuff</p> <p>Invitation-only Dagstuhl Seminars in Schloss Dagstuhl (Germany) (4 March - 9 March 2012). This was my fourth invitation to Dagstuhl.</p> <p>Referee for the following A* and A ranked journals: <i>Journal of Economic Theory</i>, <i>Economic Theory</i>, <i>Social Choice and Welfare</i>, <i>International Journal of Game Theory</i>, <i>International Game Theory Review</i>, <i>Journal of Artificial Intelligence Research</i>, <i>Annals of Operations Research</i> and some other. I conducted around 15 reviews in the period 2010 - 2012.</p> <p>Invited fully funded plenary speaker at:</p> <p>7th Pan-Pacific Game Theory Conference, Adelaide, Australia, 21-24 February 2013;</p> <p>Invited semi-funded speaker at:</p> <ul style="list-style-type: none"> - Program on Algorithmic Game Theory and Computational Social Choice, Institute for Mathematical Sciences (IMS), Singapore, 18 January - 2 February, 2013. <p>Program Committee Member of the 13th ACM Conference on Electronic Commerce, June 4-8, 2012, Valencia, SPAIN (colocated with AAMAS).</p> <p>Program Committee Member of the 11th International Conference on Autonomous Agents and Multiagent Systems (AAMAS-12). 4-8 June, 2012. Valencia, SPAIN.</p>
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<p>Program Committee Member of the Twenty-Sixth Conference on Artificial Intelligence (AAAI 2012). 22-26 July, 2012. Toronto. CANADA.</p> <p>PhD students:</p> <ol style="list-style-type: none">1. Gvozdeva Tatyana (obtained her PhD in May 2012.2. Ali Hameed - submitting in 2013.3. Shaun White - successfully completed his provisional year. <p>Matthew Ryan</p> <p>Journal - Research Article</p> <p>"Additivity and Uncertainty" (with Alan Rogers), Economics Bulletin 32(3) (2012): 1858-1864.</p> <p>Conference - Conference Paper</p> <p>"Path Independence and the Ranking of Opportunity Sets", 3rd CMSS Summer Workshop (Auckland, 20-22 February).</p> <p>Invited Research Paper in Workshops/Conferences</p> <p>"Default and Renegotiation in PPP Tenders" (with Flavio Menezes), Association for Public Economic Theory (APET) Workshop (Brisbane, 25-26 June)</p> <p>"Default and Renegotiation in PPP Tenders" (with Flavio Menezes), Society for the Advancement of Economic Theory (SAET) Conference (Brisbane, 30 June – 2 July)</p> <p>"Default and Renegotiation in PPP Tenders" (with Flavio Menezes), VUW Microeconomics Workshop (Wellington, 2 November)</p> <p>Invited Seminar</p> <p>"Ambiguity Aversion, Innovation and Investment Bubbles" (with Luca Rigotti and Rhema Vaithianathan), University of Otago (20 April)</p> <p>Research Visit</p> <p>University of Queensland (March, 2012)</p> <p>Research Supervision</p> <p>Harshal Chitale (PhD; due to submit in 2014) Antonia Hao Chen (PhD; due to submit in 2015)</p> <p>Refereeing activities</p> <p>International Economic Review, Journal of Mathematical Economics, Mathematical Social Science, RAND Journal of Economics, Social Choice and Welfare.</p> <p>Other</p>
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<p>Successful DVA Grant (PI = Arkadii; AI = myself) to fund Clemens Puppe's trip to Auckland in February/March 2013 (\$6500)</p> <p>Session organiser, SAET Conference (Brisbane, 30 June – 2 July)</p> <p>Mark C. Wilson</p> <p>2012 Research and Creative Works Book - Monograph Pemantle, R., & Wilson, M. C. (2013). Analytic Combinatorics in Several Variables. New York. Cambridge University Press.</p> <p>Conference - Proceedings Reyhani, R., Wilson, M. C., & Khazaei, J. (2012). Coordination via Polling in Plurality Voting Games under Inertia. COMSOC 2012, Krakow. Reyhani, R., & Wilson, M. C. (2012). Best-reply dynamics for scoring rules. L. De Raedt (Ed.) Frontiers in Artificial Intelligence and Applications, 242, (672-677). Montpellier. IOS Press.</p> <p>Journal - Research Article Pritchard, G., & Wilson, M. C. (2012). Simulator for the 2011 NZ referendum. Parliamentary Affairs, accepted. Pritchard, , Reyhani, , & Wilson, M. C. (2012). Power measures derived from the sequential query process. Mathematical Social Sciences, to appear. Lladser, M. E., Potocnik, P., Siran, J., & Wilson, M. C. (2012). Random Cayley digraphs of diameter 2 and given degree. DISCRETE MATHEMATICS AND THEORETICAL COMPUTER SCIENCE, 14 (2), 83-90.</p> <p>Other - Oral Presentation Wilson, M. C., & Fowlie, M. (2012). Electoral Engineering Through Simulation. Presented at CMSS seminar, 25 September 2012.</p> <p>Patrick Girard</p> <p>Chapter Girard, P., Fenrong Liu, , & Seligman, (2012). General Dynamic Dynamic Logic. Thomas Bolander, Torben Brauner, & Silvio Ghilardi (Eds.). Advances in Modal Logic. College Publications.</p> <p>Conference – Oral Presentation Girard, P. & Tanaka, K. (2012). Public announcement, paraconsistency and relevance, Trends in Logic XI, Bochum, Germany. Girard, P. (2012). Logical dynamics of belief change in the community. Department of Philosophy, invited speaker, Regensburg, Germany.</p> <p>Supervision:</p> <p>Shaun White (with Arakadii Slinko). Liang Zhen (with Jeremy Seligman).</p> <p>Simona Fabrizi</p> <p>Journal - Research Article Fabrizi, S., & Lippert, S. (2012). Due diligence, research joint ventures, and incentives to innovate. Journal of Institutional and Theoretical</p>
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Economics, 168(4), 588-611.

DOI: <http://dx.doi.org/10.1628/093245612804469764>

Conference - Conference Paper

Fabrizi, S., Bloch, F., & Lippert, S. (2012, March 16). Learning and collusion in new markets with uncertain entry costs. In International Industrial Organization Conference (IIOC 2012). Arlington, Virginia. Retrieved from: https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=IIOC2012&paper_id=175

Fabrizi, S., & Lippert, S. (2012, March 16). Corruption and the public display of wealth. In International Industrial Organization Conference (IIOC 2012). Arlington, Virginia. Retrieved from: https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=IIOC2012&paper_id=318

Fabrizi, S., & Lippert, S. (2012, September 2). Corruption and the Public Display of Wealth. In European Association for Research in Industrial Economics (EARIE 2012). Rome. Retrieved from <http://www.earie2012.org/index.php?a=13>

Fabrizi, S., & Lippert, S. (2012, February 23). International Internet Roaming. In Australasian Economic Theory Workshop (AETW 2012). Sydney. Retrieved from <http://www.asb.unsw.edu.au/schools/economics/newsandevents/Pages/AustralasianEconomicTheoryWorkshop.aspx>

Fabrizi, S., & Lippert, S. (2012, June 30). Corruption and the Public Display of Wealth. In Society for the Advancement of Economic Theory (SAET 2013). Brisbane, Australia. Retrieved from <http://saet.net/>

Invited Research Paper in Workshops/Conferences

Fabrizi, S., & Lippert, S. (2012, November 2). Corruption and the public display of wealth. In 2nd Microeconomic Workshop. VUW, Wellington.

Fabrizi, S., & Lippert, S. (2012, November 2). International telecommunications pricing: Is there scope for reform?. In 2nd Microeconomic Workshop. VUW, Wellington.

Invited Seminar

Fabrizi, S., Bloch, F., & Lippert, S. (2012, August 27). Learning and collusion with uncertain entry costs. In Invited seminar at the Centre for Mathematical Social Sciences (CMSS), University of Auckland. Retrieved from <http://cmss.auckland.ac.nz/2012/08/>

Fabrizi, S., & Lippert, S. (2012, September 19). Corruption and the public display of wealth. In Invited seminar at the University of Macerata, Law & Economics Department. Retrieved from http://www.unimc.it/en?set_language=en

Fabrizi, S., Bloch, F., & Lippert, S. (2012, October 19). Learning and collusion with uncertain entry costs. In Invited seminar at the University of Otago, Economics Department. Retrieved

<p>from http://www.business.otago.ac.nz/econ/seminars/index.html</p> <p>Fabrizi, S., & Lippert, S. (2012, November 5). International telecommunications pricing: Is there scope for reform?. In New Zealand Commerce Commission. Retrieved from http://www.comcom.govt.nz/</p> <p>Research Visit Ecole Polytechnique, France: Invite Prof. Francis Bloch.</p> <p>University of Macerata, Italy: Invite A/Prof Federico Boffa.</p> <p>Research Supervision Lowis Seikowsky, Master of Industrial Engineering, Massey U/KIT (joint with Clemens Puppe).</p> <p>Refereeing activities Ad-hoc referee for Economic Modelling and Journal of Industrial Economics.</p> <p>Editor of reports for 'New Economic Papers' in 'Contract Theory and Applications', nep-cta, in RePEc. Retrieved from http://econpapers.repec.org/scripts/nep.pf?list=nep-cta</p> <p>Other September 2012-ongoing, Founding member of the newly established 'Research Network in Applied and Theoretical Economics (ATE),' hosted and administered at Massey U, School of Economics and Finance.</p>
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Please forward your report to your Head of Department or Faculty Office for endorsement (Section 1B above). Note: Annual Reports to be submitted to Research Committee must reach the Research Office by 28 February.