The Scottish Institute for **Policing Research**

The Third SIPR Annual Conference

Communities and Policing:
evidence and innovation in Scotland

1st September 2009
West Park Conference Centre, Dundee

Programme, Abstracts and Delegate List

ACPOS
ASSOCIATION OF CHIEF POLICE OFFICERS IN SCOTLAND

Scottish Funding Council
Promoting further and higher education

CONFERENCE ORGANISING COMMITTEE

Tim Heilbronn, SIPR, University of Dundee
Nicholas Fyfe, SIPR, University of Dundee

P-CR Session: Alistair Henry, University of Edinburgh
E+I Session: Bill Buchanan, University of Strathclyde
                      & Derek Carson, University of Abertay
PO Session: Kenneth Scott, University of the West of Scotland

ACKNOWLEDGEMENTS

Welcome from the Director of SIPR

On behalf of the Scottish Institute for Policing Research (SIPR) I am delighted to welcome you to SIPR's third annual research conference. A year on from the inquiry by the Scottish Parliament's Justice Committee into community policing, the conference takes as its main theme the inter-relationships between communities and policing. It will explore a range of key issues relating to the security of citizens and the challenges for policing of engaging with rapidly changing local and virtual communities. Much of the focus will be on the Scottish experience, with opportunities to hear about innovative approaches to community policing and community partnerships from the perspectives of both practitioners and researchers as well as consider the findings from recent and on-going research evaluating these initiatives. In addition, we are delighted to welcome David Kennedy from New York's John Jay College of Criminal Justice and one of SIPR's Visiting Professors. David has extensive experience of working on troubled communities and will provide a US perspective on the interplay between crime, racial conflict and policing.

As the copy of our August 2009 newsletter (which is in your delegate pack) shows, SIPR continues to focus on developing both its 'local and global' contribution. At a local level, new research projects are underway developed in collaboration with Scotland's police forces; new staff have been appointed increasing policing research capacity in Scotland, and a full programme of seminars and workshops are held throughout the year, bringing together the police service, the policy community, and university researchers. In addition the creation of a Graduate Programme in Policing in Scotland is now a step closer following a successful bid to the Scottish Funding Council and the Scottish Police Services Authority for funding to cover the development costs. In partnership with the Scottish Police College and ACPOS, this research-based, practitioner-focused programme will draw on expertise from across Scotland's universities to develop the knowledge and analytical skills of people in the police service and those who work with policing organisations. In terms of its 'global' profile, SIPR continues to attract international attention as a model of engagement between universities and the police service. In addition, SIPR is a founding member of 'The North Sea Collaboration for doing research on and with the police' which brings together policing research institutes from the Netherlands, Belgium, Norway and England and Wales and which will create exciting opportunities for comparative research and exchanges of researchers and practitioners. Further details of all SIPR's activities are available on our website (www.sipr.ac.uk) and I also take this opportunity to invite you to the SIPR Annual Lecture on 1 October 2009 at the Scottish Police College, which will be delivered by Professor Larry Sherman (Wolfson Professor of Criminology, University of Cambridge) on 'Evidence-based policing: what we know and how we know it' (see the website for details of how to book).

The annual conference requires considerable planning and organisation and I am particularly grateful to Tim Heilbronn, SIPR's KT Manager and Administrator for his skill and hard work in organising this event. SIPR is also very grateful for the financial support provided by ACPOS and the Scottish Funding Council, to ESRI UK for their sponsorship of the session on 'Dimensions of 'Community' in Scotland', and to SunGard.

Nicholas Fyfe,
Director, Scottish Institute for Policing Research

ESRI (UK) – delivering new capabilities to the Scottish Public Safety community

ESRI (UK) is delighted to be a major session sponsor at the SIPR 3rd Annual Conference. For more than 10 years, ESRI (UK) has worked with Scottish Police and other public safety organisations to providing a leading source for Geographic Information System (GIS) solutions, advice and support and enabling these organisations to make the most of their location-based information.

In December of last year, the Scottish Police Services Authority (SPSA) signed a 3-year licence agreement with ESRI (UK) which will now give every Scottish police force access to ESRI's latest GIS tools and capabilities. Whilst many Scottish police forces already use GIS, the agreement will make it easy to extend your usage, allowing you to exploit and understand your data more effectively while benefitting from a common system between all forces.

The benefits of this agreement include:
- Facilitation of a national, joined up approach to geographic information management, sharing and analysis across all eight Scottish police forces and associated law enforcement agencies
- Increased regional policing effectiveness through a common crime analysis platform which will result in more effective decision making and resource planning at force level
- More efficient use of resources and enhanced response

The initial phase of the programme roll out will provide force analysts with ESRI (UK)'s CrimeAnalyst, a specialised solution developed in conjunction with UK police forces, that will enable quick, in-depth data analysis at force level in order to identify patterns and trends in different types of crime. Analysts will also receive specific training in the use of the solution.

The second phase will see the GIS integrated into each force's implementation of the National Command and Control system, which will be based upon a central repository of information. This integration will enable more efficient allocation of resources and faster, more accurate response to incidents.
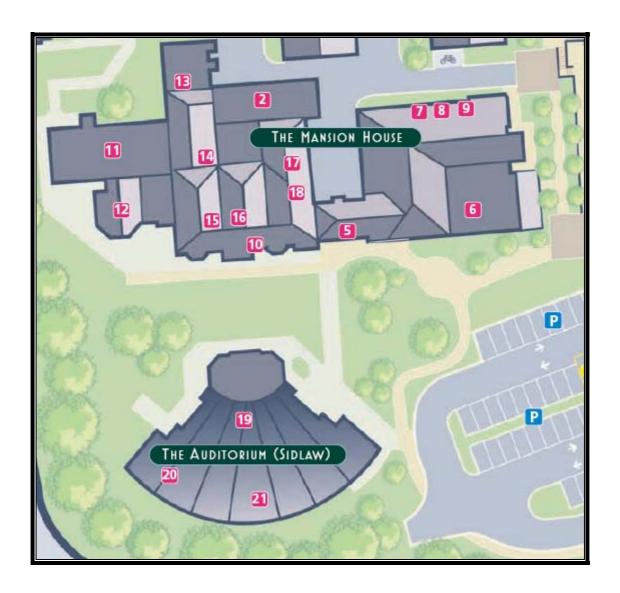
What could this mean for your force?

As an example, Strathclyde Police Force has used GIS solutions from ESRI (UK) for more than 10 years. They have realised a number of benefits:
- Improved access to police information across the entire force and making it accessible in a format that is easy to understand
- Enhanced crime analysis and the ability to see the distribution of crime across divisions, beats and wards
- Use of police intelligence to deploy police resources where and when they are most needed, contributing to lower rates of crime
- The ability to share information easily with partners including other forces, the local council and central government
- Cost savings due to reductions in the time required to prepare, manage and distribute analysis
- The production of better policing strategies, by drawing on police intelligence that reveals new trends and clearly highlights areas of concern

For more information about how the SPSA agreement will benefit your force, please **visit our stand** or come along to the **Dimensions of 'community' in Scotland: patterns, futures and challenges for policing session,** where we will be presenting.

Locations being used:

Plenary Sessions: The Sidlaw Auditorium (19)

Lunch: Sidlaw Foyer (21)

Parallel Sessions:

Dimensions of 'Community' in Scotland - The Sidlaw Suite (19)

Policing the Virtual Community: Cybercrime – Longforgan Room (10)

Partnerships in Policing – Balbeggie Suite (6)

PROGRAMME

PLENARY OPENING SESSION (VENUE: Sidlaw Auditorium)
Chair: Professor Nicholas Fyfe, Director SIPR

Plenary Session 1 Chair: Nicholas Fyfe (Director, SIPR)
10.00   Chair's welcome
10.10   Chief Constable Pat Shearer (President, ACPOS)

10.20   **Keynote Speaker:** Professor David Kennedy (Director of the Center for Crime Prevention and Control, New York) **Common Ground: Crime, Race, and Community**

10.50   Discussion
11.00   Coffee

Plenary Session 2
11.20   Superintendent Andy Bates (Strathclyde Police) **Community Policing in Strathclyde**

11.45   Dr Elizabeth Aston & Dr Kenneth Scott (Centre for Criminal Justice and Police Studies, University of the West of Scotland) **Local policing in Scotland: a case study approach**

12.10   Dr Alistair Henry (University of Edinburgh) & Dr Simon Mackenzie (SCCJR) **Understanding community policing: knowledge transfer and police perspectives**

12.35   Dr Donna Marie Brown (University of Dundee) **The ASBO generation?: Young people and Community Policing in Dundee**

13.00   Discussion

13.15   Lunch and Poster Session / Exhibitors **(VENUE: Sidlaw Foyer)**

POSTER PRESENTATIONS

The Efficiency of E-fit with mild learning disabled witness Julie Gawrylowicz, Derek Carson & Fiona Gabbert (University of Abertay, Dundee)

Firearms Training Using Games Technology Paul Robertson, Pat Cronin and Jim Bown (University of Abertay Dundee)

Utilising research methodologies as analytical tools in the investigative process Robert Smith (Robert Gordon University)

EXHIBITORS

ESRI UK Ltd

SunGard

Police Complaints Commissioner for Scotland

PARALLEL NETWORK SESSIONS

14.30   Parallel Sessions – as detailed opposite

c.15.35   Tea

c.15.50   Parallel Sessions - continued

17.00   Close of Conference

POLICE-COMMUNITY RELATIONS (VENUE: Sidlaw Auditorium)

DIMENSIONS OF 'COMMUNITY' IN SCOTLAND : PATTERNS, FUTURES AND CHALLENGES FOR POLICING

 Session Sponsor

14.30   Chair: Professor Peter Donnelly (University of St Andrews)

14.35   Vickie White (ESRI UK) **ArcView "Crime Analyst"**

Part l: **Scottish communities: dimensions, data and futures**

14.45   Matt Perkins (Scottish Government)

14.55   Allan Findlay (University of Dundee) and Alasdair Anthony (GRO Scotland)

15.15   Discussion

15.30   Tea

Part ll: **Communities in Scotland: challenges facing the police**

15.45   Neil Richardson (Strathclyde Police)

16.00   Panel Discussion

17.00   Close of Conference

EVIDENCE & INVESTIGATION (VENUE: The Mansion House - Longforgan Room)

POLICING THE VIRTUAL COMMUNITY: CYBERCRIME

14.30   Chair: Professor Bill Buchanan (Edinburgh Napier University)

14.35   Matthew Pemble (Director, Idrach Ltd) **True cost of cybercrime?**

14.55   Mike Dickson (e-Crime Unit, SCDEA) **Computer forensics**

15.15   Alan Batey (Northumbria Police Computer Crime Unit) **E-crime**

15.30   Tea

15.50   Mike Dowman (University of Abertay) **Profiling user behaviour to reveal computer misuse**

16.10   Panel Discussion

17.00   Close of Conference

POLICE ORGANIZATION (VENUE: The Mansion House – Balbeggie Suite)

PARTNERSHIPS IN POLICING

14.30   Chair: Dr Kenneth Scott (University of the West of Scotland)

14.35   Stewart Murdoch (Dundee City Council) **Community partnerships in Dundee**

15.05   Chris Mooney & Grant Arthur (Glasgow Community and Safety Services) **The Glasgow community safety services model**

15.35   Tea

15.50   Alan Dobie & Martin Rutland (SBCC) **Partners in business crime**

16.20   Jan Nicholson & Liz Frondigoun (Glasgow Caledonian University) **Community partnerships: an academic perspective**

16.50   Final discussion

17.00   Close of Conference

BIOGRAPHIES AND ABSTRACTS

These Biographies and Abstracts are presented in the order shown in the above Programme

PLENARY SESSION

NICHOLAS FYFE Session Chair

Nicholas Fyfe is the founding Director of the Scottish Institute for Policing Research and Professor of Human Geography in the School of Social Sciences at the University of Dundee. Over the last 20 years his research on policing has included studies of police-community consultation in London, the design of police user surveys in Scotland, the use of CCTV surveillance, and the policing of wildlife crime. Much of his most recent research has focused on witness protection and he conducted the first ever independent evaluation of a police witness protection programme, funded by the Scottish Government. He has also undertaken an international review of measures to facilitate witness co-operation in organised crime investigations for the Home Office and acted as an adviser to the Canadian Government on witness protection arrangements in Canada. He acted as the adviser to the Scottish Parliament's Justice Committee inquiries into the effective use of police resource and community policing.

PATRICK SHEARER QPM

Patrick Shearer has been Chief Constable of Dumfries and Galloway Constabulary since May 2007. He was appointed President of ACPOS on 1 April 2009.

He is a graduate of Aberdeen University having attained an Arts Degree and a Law Degree. He joined Grampian Police in 1983. He was one of the first Officers to qualify for, participate in and successfully complete the first Scottish Strategic Command Course and in April 2001 he was appointed Assistant Chief Constable of Grampian Police and subsequently Deputy Chief Constable in January 2005.

In July 2005 he undertook the challenging role of Mutual Aid Coordinator for G8, working within the Scottish Police Information Coordination Centre, (S-PICC).

In January 2006, he took on a leading role in driving up performance in the Scottish Police Service, working with others to develop the Scottish Policing Performance Framework and relevant performance induction. He is currently chair of the Performance Management Business Area.

DAVID KENNEDY

David Kennedy is Director of the Center for Crime Prevention and Control at the John Jay College of Criminal Justice, New York. Newsweek recently described David Kennedy as 'the only person who has ever come up with a consistently viable (and cost-effective) strategy for helping the inner city with its chronic blight and shame, the dope dealer on the corner.' His work focuses on strategies for assisting troubled communities, and he is widely respected for his ground-breaking problem solving police exercises aimed at serious youth violence.

Common Ground: Crime, Race, and Community

Professor Kennedy's talk will address what has been learned from a line of action research in the United States, now almost fifteen years old, which has shown that is possible to intervene with the most serious offenders in ways that dramatically reduce crime, reduce incarceration, strengthen communities, and address racial conflict between communities and law enforcement. He will include some recent applications in the UK.

ANDY BATES

Superintendent Andy Bates joined Strathclyde Police in 1983 and worked throughout the Force area in a number of operational roles. In 2002 he was promoted Chief Inspector and appointed Staff Officer to the Deputy Chief Constable. Later that year he was appointed Staff Officer to the Chief Constable.

In 2004, he was promoted Superintendent and appointed Sub Divisional Officer at East Dunbartonshire and in December 2006 he was appointed Deputy Divisional Commander at 'G' Division based at Govan covering south Glasgow and East Renfrewshire.

Superintendent Bates is currently leading on the implementation of the Strathclyde Police Community Policing Model and the design and implementation of a new Demand Management Model. The Demand Management Model has been designed to improve service delivery and reduce demand on front line operational police resources through the improved management of calls for service.

Community Policing in Strathclyde

Strathclyde Police has a long tradition of Community Policing, recognising the importance of working with the communities they serve to ensure they are providing effective, efficient and relevant policing services that address their needs. The value of working with partner agencies to identify and address community concerns and deliver sustainable solutions has also been recognised and has developed over the years, particularly since the advent of Community Planning.

In early 2008 the Chief Constable Mr Stephen House commissioned a review of Community Policing to examine the current structure and make recommendations for a new approach that would provide more effective and efficient Community Policing services that were fit for the 21st century.
Following extensive research, including the examination of Community Policing across Scotland and the Neighbourhood Policing structure in England and Wales, the Strathclyde Police Community Policing Model was developed.

The model provides a structure for delivering effective and efficient Community Policing to every community in the force area. Using the Public Reassurance Strategy as a vehicle for service delivery, Strathclyde Police now have dedicated local Community Policing Teams which are visible, accessible, skilled, knowledgeable, and known to the community in each of the 134 multi member wards in the Force area.

The foundations of the Community Policing Model are now well established and the number of Community Police Officers has more than doubled since implementation began in May 2008. The model will continue to evolve to ensure Strathclyde Police continues to provide effective, efficient and relevant policing services to all the communities they serve.

ELIZABETH ASTON & KENNETH SCOTT

Elizabeth Aston is a SIPR Postdoctoral Researcher based at the Centre for Criminal Justice and Police Studies at the University of the West of Scotland, Hamilton. Liz is working on the 'Local Policing in Scotland' study and is also particularly interested in police-community relations, youth offending, alcohol and drug use. In 2008, as a researcher at the Medical Research Council, she carried out research on youth diversionary projects in Glasgow. Her PhD, on the relationship between drug use and offending over the teenage years, was conducted with the Edinburgh Study of Youth Transitions and Crime. Both her PhD and MSc in Criminology and Criminal Justice were awarded by the University of Edinburgh.

Dr Kenneth Scott is Director of the Centre for Criminal Justice and Police Studies at the University of the West of Scotland (Hamilton Campus) as well as being Associate Director of Network 3 (Police Organization) at SIPR. He was co-editor and contributor to the book Policing Scotland (2005), and has researched and published in a range of topics relating to the police in Scotland, including governance, accountability and training. He is currently involved in a number of research projects for various police organisations and a three-year SIPR project on Local Policing in Scotland.

Local policing in Scotland: a case study approach

The study of police work in Edinburgh by Michael Banton (1964) remains one of the only examples of research on local policing in a Scottish context. This SIPR-funded project aims to address this gap. Through a series of case studies, the project is focusing on local policing activities, the determination of policing priorities and the role played by public expectations of policing in three communities in Scotland: one in each of Dumfries and Galloway Constabulary, Grampian Police and Strathclyde Police force areas.

This presentation will consider the value of the case-study method in terms of describing local policing in a variety of different environments, discussing the common themes that are likely to emerge, and identifying the differences in policing that are likely to arise in each of the areas.

Some early discussion of how this approach relates to current models of policing and current thinking about policing at the local level will be included as well as the part which the project may play in identifying processes and models that can contribute to effective policing in local communities.

ALISTAIR HENRY AND SIMON MACKENZIE

Alistair Henry is a lecturer in criminology at the University of Edinburgh. He recently completed his doctoral research on community safety partnerships in Scotland. His recent publications include Transformations of Policing (edited with David J. Smith) and 'The development of community safety in Scotland: a different path?' in Crime Prevention Policies in Comparative Perspective (edited by Adam Crawford). Alistair acts as knowledge transfer coordinator for the Police-Community Relations network of SIPR, is associated with the Scottish Centre for Crime and Justice Research, and is co-chair of the Policing Working Group of the European Society of Criminology.

Simon Mackenzie is a reader in criminology at the Scottish Centre for Crime and Justice Research, University of Glasgow. He researches policing and regulation in relation to communities, organised crime, and international criminal markets. His current research activity and a list of published work can be found at http://www.sccjr.ac.uk/staff/Dr-Simon-Mackenzie/14. He is on the executive committee of the British Society of Criminology and his research has been supported by a range of sources, including the ESRC, AHRC, Home Office, EU, UN, and the police.

Understanding community policing: knowledge transfer, police perspectives and research

This presentation will outline work currently being carried out with Lothian and Borders police as part of an AHRC funded knowledge transfer fellowship on community policing. Knowledge transfer involves a two-way exchange of information. The idea is that the project will give police officers the opportunity to learn from the academics about 'what works' evidence, theoretical conceptualisations of community policing, and methodological approaches to documenting practice; and that the academics, in turn, will learn about the actual organisational and individual experiences of community policing, its practicalities, challenges and impediments, from those who are charged with delivering it. Possible mechanisms for facilitating and enhancing the process of knowledge transfer will be briefly outlined. The presentation will then review some of the emerging insights from the process by contrasting some findings from a review of the academic community policing literature produced in the early stages of the project with some of the basic perceptions about community policing expressed by officers in initial meetings. It will be argued that the academic and practitioner perspectives have much common ground (including ambiguity over definitions; contradictions at the heart of the role; the challenge of community engagement) and that an ongoing conversation between them has the potential to pose new research questions of mutual interest.

DONNA MARIE BROWN

Donna Marie Brown is a SIPR-funded Lecturer in Urban Geography, based in the School of Social and Environmental Sciences at Dundee University. She completed her Undergraduate, Master, and PhD degrees in Human Geography at Durham University. Donna Marie is currently involved in a comparative research project which examines the policing of youth in city centre and residential spaces of Dundee and Newcastle upon Tyne. Her work is, therefore, directly related to the research agenda of SIPR's Police-Community Relations Network. This current research builds on her interest in issues surrounding community policing, social justice, urban policy and qualitative research methods.
For more information about Donna Marie's current research projects visit
www.dundee.ac.uk/geography/staff/brown

The ASBO generation?: Young people and Community Policing in Dundee

Over the past decade, the term 'antisocial behaviour' has featured heavily in the discussions of public, policy and academic circles alike. One of the key features of contemporary discourses surrounding 'antisocial behaviour' is the way they repeatedly associate it with the behaviour and lifestyles of specific groups in society. Young people in particular have been portrayed, through certain channels, as one the key perpetrators of the increasing levels of 'antisocial behaviour' that continue to plague our communities. The link between young people and low-level crimes and incivilities is such that they are commonly characterised as the 'ASBO-generation' (Verkaik, 2005). The level of 'antisocial behaviour' associated with 'tomorrow's future' is, some argue, presenting a new set of challenges in contemporary cities, inspiring harsher methods of control over who can access public space and on what terms.

The eradication of 'antisocial behaviour', and its causes, is a key element of the Scottish Government's ambition to create a 'safer and stronger Scotland'. This has resulted in an increased focus on, and investment in, community policing. In order to understand the impact of community policing initiatives on young people, this paper argues that we need to consider how national strategies are translated into local delivery practices. This paper works through the aims, objectives, methodology and findings of a qualitative research project which investigates the policing of young people in city centre and residential spaces in Dundee. Synthesising new ethnographic material with existing debates surrounding young people, antisocial behaviour, and community policing, it produces a set of evidence-based insights into the impact of contemporary policing initiatives on young people. The paper argues that community policing initiatives in Dundee, as opposed to demonising young people, provide them with the opportunity for positive and meaningful encounters with both people and places in their local community.

Verkaik, R. (2005) The Asbo Generation: More children than adults given antisocial orders. The Independent (20th June).

POLICE-COMMUNITY RELATIONS

DIMENSIONS OF 'COMMUNITY' IN SCOTLAND: PATTERNS, FUTURES AND CHALLENGES FOR POLICING

'Community' is a notoriously difficult concept to define, and it is in any case more accurate to describe the world as being made up of multiple, often overlapping, communities definable along many different axes (geography, interest, demographics etc.). In a series of short presentations, drawing from available statistics in Scotland, the session will firstly seek to provide an accessible overview of the various dimensions of the Scottish 'community' (or communities), the sources of existing data that we have to explore and understand these dimensions, and the emerging trajectories of change that might allow us to predict, or at least speculate upon, the likely shape of Scottish communities in the near future.

This last issue will be taken up DCC Neil Richardson, Strathclyde Police, who will reflect upon how the dimensions of Scottish communities, and likely changes in them, shape existing and future challenges faced by the police and their partners.

PETER DONNELLY Session Chair

Professor Peter Donnelly joined the Bute Medical School at the University of St Andrews as Professor of Public Health Medicine in September 2008. His principal research interests are in violence reduction and in working with politicians and policy makers on reducing health inequalities.

In his previous role with the Scottish Government as Deputy Chief Medical Officer (2004-2008) he led the Public Health Professionals Group which was responsible for providing cross government professional advice and leadership in the fields of health protection and health improvement. He also led for the health directorates on international development issues, health and matters with the Ministry of Defence. Professor Donnelly is a past Vice-President of the UK Faculty of Public Health and past President of the UK Association of Directors of Public Health.

VICKIE WHITE

Vickie joined ESRI (UK) in (2004) and is member of the Public Safety team. Vickie is responsible for supporting Public Safety and Central Government clients across Scotland. Before joining ESRI (UK), Vickie previously spent 2 years with ON / ITVDigital as a GIS Consultant in a range of roles including the use of GIS to map analogue to digital switchover. Prior to that, she was GIS Project Manager at Western Geophysical, travelling across Europe, Africa and the Middle East in the Petroleum industry.

Holding a BSc and Msc in Geographical Information Science, Vickie is a member of the Association for Geographic Information (AGI) Scotland Executive Board. Vickie is also a volunteer with the charity MapAction, mapping humanitarian disasters as they unfold, which has taken her as far afield as Tajikistan and Iraq.

MATT PERKINS

Matt Perkins is a Government Statistician, currently heading up the Small Area Statistics branch in the Office of the Chief Statistician within Scottish Government. He is responsible for the Scottish Neighbourhood Statistics website (www.sns.gov.uk) and the Scottish Index of Multiple Deprivation (www.scotland.gov.uk/simd). He has been in his current post since December 2006 and prior to this worked as a Government Statistician in various roles in Whitehall starting off at HM Treasury before spells in the Department for Education and Skills and the Department for Constitutional Affairs where he worked on civil and family justice statistics.

Matt Perkins will speak about two products (SNS and SIMD) produced by the Small Area Statistics team within the Office of the Chief Statistician in Scottish Government and what they can tell us about communities in Scotland. The presentation will run through a worked example and provide some pointers for using the tools to identify different aspects of communities.

The Scottish Neighbourhood Statistics (SNS) website is the Scottish Government's public website used to disseminate small area statistics at a consistent geographic level across the policy areas of Scottish Government. The site allows users to create their own areas of interest (eg a beat or neighbourhood) and compare a range of statistics including population, health, education, employment etc for this area and with other areas.

The Scottish Index of Multiple Deprivation (SIMD) uses the small area statistics held on SNS to identify the areas of Scotland that have the highest concentrations of deprivation and areas with concentrations of different aspects of deprivation. The aspects covered in calculating the index are income deprivation, employment deprivation, health deprivation, housing deprivation, education deprivation, access to services deprivation and crime deprivation.

ALASDAIR ANTHONY AND ALLAN FINDLAY

Alasdair Anthony joined the population and migration statistics team at the General Register Office for Scotland in August 2009. The team is responsible for producing the annual estimate of Scotland's population, estimates of migration, population projections, life expectancy and population estimates for small areas. His work is focused on improving the quality and dissemination of international migration data. He also produces population estimates of the very old.

Allan Findlay's research interests include international migration and population mobility. In particular, he has investigated international skill flows, highlighting the structuring influences of transnational companies, international recruitment agencies, global city managers and institutions of Higher Education in shaping patterns of mobility. This has involved field research in Dublin, Paris, London, Hong Kong, Singapore, Sydney and the Arab world.

His most cited works are, however, methodological papers mapping new directions for the sub-discipline of population geography. He has also held major grants to study other aspects of population mobility including international student flows, English migration to Scotland, Scots migrants in England, and population mobility in response to environmental change in India, Bangladesh and the Philippines.

The number of people living in Scotland has changed little over the last 60 years. For the last 30 years, birth and death rates have remained low and stable. However, these headline figures mask changes in the demographics of Scotland's population. The main overall factors in these changes are the ageing of the population and the increasing mobility of people worldwide. This presentation will explore the current and future trends of ageing and migration in Scotland. In addition, at community level, other changes have also been important, including changes in household composition, resulting in more single person households and more multiple occupancy households. The spatial distribution of demographic change has also meant that the impacts have been very uneven producing local challenges for communities to adapt to demographic change.

NEIL RICHARDSON

Neil Richardson was appointed Deputy Chief Constable of Strathclyde Police in July 2008, having previously served with Lothian and Borders Police since 1985. He gained experience within several policing disciplines including secondment to the Scottish Crime and Drug Enforcement Agency, and responsibility as ACC with Lothian & Borders for Territorial Policing. Neil has a Bachelor of Arts degree from the Open University, MBA with distinction from Napier University and a Diploma in Applied Criminology from Cambridge University.

EVIDENCE & INVESTIGATION

POLICING THE VIRTUAL COMMUNITY: CYBERCRIME

The usage of digital information is becoming an important element in police investigations, and cybercrime is growing in its impact on communities and on policing. This is both from the usage of digital information in investigations, and in its usage in new types of crime. This theme will investigate the policing of virtual communities and on the impact of the cybercrime.

The Session will conclude with a study on computer misuse (Computer Misues Act 1990) looking at combining psychology and computing knowledge to try to identify behaviour producing signs of stress (e.g. whilst typing threatening emails) and using someone else's login.

BILL BUCHANAN Session Chair

Bill Buchanan is a Professor in the School of Computing at Edinburgh Napier University. He currently leads the Centre for Distributed Computing and Security, and works in the areas of security, e-Crime, intrusion detection systems, digital forensics, e-Health, mobile computing, agent-based systems, and simulation. He has published over 25 academic books, and over 80 academic research papers, along with awards for excellence in knowledge transfer. Presently he is working with a range of industrial/domain partners, including with the Scottish Police, health care professionals and the FSA.

MATTHEW PEMBLE

Matthew Pemble has been Technical Director of Idrach since its founding, having previously worked for the UK Government, Royal Bank of Scotland Group and several testing and security consultancies. Matthew is perhaps recently best known for his contributions to incident management and counter-fraud strategies but also has considerable experience in policy-based security, security architectures, security testing and ISO27001. Additionally, he has provided product development support to various security vendors, including Cronto and Qualys Inc.

Historically, he was one of the first people to qualify as a penetration test team leader under the GCHQ "CHECK" scheme and was also one of the limited number of security professionals qualified as a BS7799 Auditor under the c:cure scheme.

A regular writer in trade magazines and speaker at regional, national and international events, Matthew is a Chartered and European Registered Engineer, a Fellow of the British Computer Society and a Member of the Institute of Engineering & Technology. He is an associate member of the Institute for Information Security Professionals, also acting as a Full Membership Interviewer and Advisor; a Certified Information Systems Security Professional and a Certified Fraud Examiner.

The True Cost of Internet Crime?

The allocation of policing and other investigations resources to e-crime is a difficult and contentious subject. Many crimes now have e-crime components – whether they are facilitated by email, recorded in corporate ledger systems or by digital camera, or merely that, like the rest of the population, the suspects have used mobile telephony at some point of interest to the investigators.   Clearly, murder, rape and terrorism, and the whole other gamut of "traditional crime" require proper investigation whether that uses DNA techniques, computer forensics or the proverbial issue size 9 boot on the street or searching waste ground.

However, crimes based and committed on the internet require electronic investigation, at least until you have narrowed the subjects down to a specific jurisdiction. In order to determine how much of the limited law enforcement resource should be allocated to this, we need to consider the costs to society of internet crime, where the most effective resource is available from and then compare the utility of allocation versus other crimes (often of greater societal or political significance.)

The talk will consider where there are costs implications for victims, financial organisations (mainly banks and insurance companies) and wider society from internet crime. Although direct costs will be described, the first part of the talk will concentrate on the hidden costs – the costs of stronger internet banking controls imposed as a result of phishing attacks, the opportunity costs resulting from the rejection of business ideas because of fraud concerns and the costs, to society at large, from a lack of public confidence in the internet as a channel for financial or business transactions.

Difficulties in the effective prevention and investigation of internet crime will then be addressed:
- Monitoring is invasive and technically difficult and not too difficult for the fraudsters to overcome.
- Ease of use / public access considerations.
- Public perception of fault.
- The divergence between technical capability and investigative privilege.
- International issues.

Finally, the talk will consider the co-operative models for combating internet crime, looking at the DCPCU model, the "National" Fraud Reporting Centre and the FIRST Law Enforcement / CSIRT Co-operation SIG.

MIKE DICKSON

Mike Dickson joined Lothian and Borders Police 22 years ago and has held a number of roles within that Force. During this time he was also working as a freelance computer programmer on numerous projects worldwide, notably for the financial sector and IBM. On the basis of this, in 1998 he was invited to help set up the Forensic Computer Unit within Lothian's headquarters as a forensic analyst.

In 2003 this Unit was expanded greatly to become the Scottish National Hi-Tech Crime Unit at which time it was migrated to the Scottish Crime and Drug Enforcement Agency. During this time he obtained a Masters Degree in Computer Forensics at the Royal Military College of Science and has worked on high profile cases covering such diverse areas as child abuse, fraud, counterfeit currency, software piracy, drugs, terrorism, missing persons, murder and money laundering. Mike lectures at the Scottish Policing College, Glasgow University, Strathclyde University and the National Police Improvement Agency and assists with technical courses in his field. He has also been published in various journals in the field of computer and mobile telephone forensics.

ALAN BATEY

Alan Batey is a Detective Sergeant in Northumbria Police. With 26 years experience as a Police Office the last 8 years has been as the head of Northumbria Police High Tech Crime Unit. This unit is responsible for investigating or assisting in all crimes which have a digital or high tech element. Alan Batey is also the regional secretary for the ACPO High Tech Crime Working Group and a director of the North East Fraud Forum where he advisors on high tech crime issues. Other roles include project board member for safer internet in schools and member of the Hadrian Project looking at cyber crime.

All Police forces including those of Scotland have a forensic capability to deal with e-crime, but how many of these forces have the ability to deal with the investigative side of e-crime? Does your force have an e-crime unit with the knowledge to investigate reports such as denial of service attacks, botnets or a simple hacking? If a report was to come into your force who would deal with it? Would it be local uniform officers, CID or a specialist unit?

Perhaps in the past we have had few, if any reports, however these crimes are being committed and will only increase in the future and we need to be prepared. This is not policing the "virtual world", it is policing in the real world.

In my talk today I will cover the basic crimes which every police force is experiencing and equipped to deal with. I will then present three case studies, two of which highlight the complexity of e-crime and the difficulties in dealing with it, and the final case study, although not a crime, highlights the vulnerability of organisations to e-crime and how difficult such a simple report of lost property can be.

MIKE DOWMAN

Michael Dowman is a Postdoctoral Research Assistant investigating behavioural and emotional biometrics at the University of Abertay Dundee. His first degree was an MA in psychology and linguistics at the University of Edinburgh, where he began to work on the computational modelling of language acquisition, a line of research he continued to do as a Ph.D student at the University of Sydney. After this he undertook postdoctoral work in applied natural language processing at the University of Sheffield, followed by a one year postdoc in cognitive science, again at the University of Edinburgh. He continued his work in a computational linguistics project at the MIT, USA, before moving on to a two year postdoc in cognitive science and artificial life at the University of Tokyo.

Profiling user Behaviour to Reveal Computer Misuse
Mike Dowman, Andrea Szymkowiak, Natalie Coull & Leslie Ball, University of Abertay

Crimes involving computers are becoming increasingly common, and can range from terrorism to fraud. The aim of our research is to identify potentially illegitimate computer use, by profiling the behaviour of computer users in stressful situations. This work proceeds under the assumption that, in at least in some cases, undertaking criminal activity will cause the perpetrators to show signs of agitation or increased arousal. We build upon a keystroke dynamic biometric profiling technique that allows people to be identified based on the latencies between successive keystrokes each time they type a word. The temporal patterns in this data are stable over time, but differ sufficiently between people for them to be used as the basis for biometric systems that allow the identity of the typist to be verified with a high degree of precision. Research in psychology and physiology has shown that stress often increases the speed of movements, while reducing the variability in the timings of individual sub-parts of movement sequences. In our experiments, we created stress by playing sounds from the International Affective Digital Sounds inventory that were rated as both highly arousing and highly unpleasant, such as arguments or sirens. The galvanic skin response (GSR) of the participants was measured throughout the study, to confirm that the aversive sounds were successful in producing an emotional response. Our results show that the timings of key presses, and of how long each key is held down, are significantly altered in the presence of stress, and thus indicate that keystroke dynamics can be used to identify anomalous on-line behaviour. Our work could form the basis for developing a computer system that automatically detects suspect behaviour through the analysis of changes in movement patterns. This technology could then be applied in many different situations, such as screening passengers at airports, detecting fraudulent ATM transactions, or flagging suspect logins to websites.

POLICE ORGANIZATION

PARTNERSHIPS IN POLICING

Recent years have seen an enormous growth in multi-agency partnerships involving the police service in Scotland. Based on the realisation that many of the problems in communities cannot be effectively dealt with by a single agency, these partnerships now cover a wide range of community problems. Some of these have a statutory basis, while others have developed more informally at local levels. The aim of this session is to hear something of the work of policing partnerships with local government, business and communities.

However, partnerships are not without their challenges. The intention of this session is also to provide a forum within which some of the issues around partnerships can be discussed by practitioners and researchers and the way forward for this approach can be evaluated.

KENNETH SCOTT Session Chair

Dr Kenneth Scott is Director of the Centre for Criminal Justice and Police Studies at the University of the West of Scotland (Hamilton Campus) as well as being Associate Director of Network 3 (Police Organization) at SIPR. He was co-editor and contributor to the book Policing Scotland (2005), and has researched and published in a range of topics relating to the police in Scotland, including governance, accountability and training. He is currently involved in a number of research projects for various police organisations and a three-year SIPR project on Local Policing in Scotland.

STEWART MURDOCH

Stewart Murdoch is Director of Leisure and Communities for Dundee City Council. Trained in Urban and Regional Planning, Community Education and Management, Stewart worked for 15 years in Glasgow for a variety of Urban Programme and voluntary sector projects. Between 1980 and 1990, he was Director of Community Central Halls in Maryhill, a multi-funded community development trust which provides a wide range of services under the direction of a local Board of Management.

In 1990, he moved to Tayside as Regional Community Education Organiser. Between 1996 and 2003 he was Manager of Neighbourhood Resources & Development. In 2003, Stewart was appointed as Head of Communities Department and in September 2005 Director of Leisure and Communities for Dundee City, with responsibility for community development, adult learning, social strategy, community safety, libraries, sports provision, parks, cemeteries, arts and heritage, and implementation of the local community planning within the city.

Stewart has served on a number of national committees for the Scottish Government and CoSLA. He is currently Chair of the Scottish Community Development Alliance, the Scottish Community Development Centre and is the Scottish representative on the UK-wide Community Development Foundation and the International Association for Community Development.

CHRIS MOONEY AND GRANT ARTHUR

Chris Mooney joined Strathclyde Police as a Criminal Intelligence Analyst in 2003, having graduated from Strathclyde University with a BSc Hons in Mathematics, Statistics and Management Science. Chris was initially based with CID Crime Operations providing analytical support to a range of force operations, major investigations and frauds.

In 2004, Chris was promoted to the post of Senior Analyst within the Force's Community Planning Department where he provided analytical support to a number of high profile multi-agency projects,

including Glasgow Housing Association's £200 million pound investment in achieving 'Secured by Design' status and Glasgow City Council's Antisocial Behaviour Strategy.

In 2005, he was promoted to his current post of Analyst Coordinator within Glasgow Community and Safety Services, a company jointly owned by Strathclyde Police and Glasgow City Council. He is currently responsible for Performance and Information Management within the organisation and the delivery of Glasgow's Safe Theme Strategic Assessment on behalf of Glasgow's Community Safety Partnership. Recently, he has been responsible for the development of an inter-agency offender management process for Strathclyde Police, which has delivered a more structured and inclusive approach to the way offending behaviour is tackled across Glasgow. Chris is also an APM certified Prince2 practitioner and an associate director of the Scottish Police Credit Union.

Grant Arthur *joined Glasgow Community & Safety Services in August 2007 as Manager of the Community Relations Unit, the company's antisocial investigation team. The Team provided antisocial behaviour service within the Private and Public Sector to the tenants/residents of Glasgow.*

Recently Grant managed a multi-discipline service in the South of the City which included Restorative Justice (RJ) services, Mediation, Community Enforcement Officers, Youth Engagement etc, his present role within GCCS is Service Manager within the Company's Business Development Section. Grant has 15 years experience of working in the Public Sector and had previous roles in Renfrewshire Council and Glasgow Housing Associations Antisocial Investigations Team.

The Glasgow community safety services model

Glasgow Community and Safety Services Ltd was incorporated in October 2006 to deliver a range of services on behalf of Glasgow City Council and Strathclyde Police. Working alongside key partners its locality teams deliver a diverse range of services including the management of community intelligence, environmental enhancement, antisocial behaviour investigation, mediation, individual support, violence against women and youth engagement. It also has its own police unit staffed by a range of personnel specialising in information sharing, intelligence and analysis which assists the deployment of GCSS's Community Enforcement Officers, public space CCTV, security services and mobile youth diversion resources.

Currently GCSS, in conjunction with Strathclyde Police, are targeting offending behaviour through a range of coordinated responses. By streamlining offender management data under the Antisocial Behaviour etc. (Scotland) Act 2004, partners are using this information to plan service interventions tailored to differing levels of offending behaviour.

ALAN DOBIE AND MARTIN RUTLAND

Alan Dobie *was appointed as Executive Director of the Scottish Business Crime Centre (SBCC) after a career of 30 years in with Royal Mail. A graduate of the University of Edinburgh, he has successfully increased the profile of business crime and the work of the SBCC throughout the wider Scottish business community and beyond.*

Alan is a member of the Board of Crimestoppers, Scotland and sits on the Project Advisory Group of the Home Office funded Action Against Business Crime Group, is a member of the National Identity Fraud Consumer Awareness Group and is a Director of the Home Office funded Best Bar None initiative for England and Wales.

Alan chairs The Prince's Trust committee for the Edinburgh area and has a Postgraduate qualification in Marketing. He is a member of the Chartered Institute of Marketing and a fellow of the Institute of Direct Marketing and is a Chartered Marketer.

Inspector Martin Rutland *was appointed Assistant Director on 29 May 2007. A serving Officer with Strathclyde Police, Martin has over 14 years experience in the Police Service, with expertise in criminal intelligence, strategic policy development, and police drug education & harm reduction initiatives.*

JAN NICHOLSON AND LIZ FRONDIGOUN

Jan Nicholson is Research Lecturer in Policing at Glasgow Caledonian University where she contributes to the BA Criminology degree delivering modules on Policing & Society and Introduction to Criminology and Criminal justice. She has previously lectured in criminology at the universities of Glasgow and Strathclyde and has been Associate Lecturer in Crime Order and Social Control with the Open University. Jan is a member of SIPR and contributes to the SIPR Network 3 Steering Group on Police Organisation. Areas of research include policing of youth gangs, law of evidence in sexual offence trials and routes out of prostitution. Jan is also a member of the Independent Monitoring Board for Cornton Vale Young Offenders Institution.

Liz Frondigoun is a Lecturer in the Social Science Division at Glasgow Caledonian University where she contributes to under-graduate and post-graduate teaching on the BA Social Sciences, BA Criminology, and MSc Social Research Degree Programmes. She also has supervisor responsibilities for two students who are undertaking police-related PhD studies. Liz has considerable research experience with marginalised, socially excluded and hard to reach populations as well as policing, including minority ethnic groups, youth crime - violence and gangs, violence in institutional settings, gender and poverty. She is a member of SIPR, the Scottish Network Co-ordinator of the British Society of Criminology, and a member of the Steering Group seeking to develop a National Teaching award for Criminology. Liz also has a responsibility for Community Engagement with the Social Science Division.

Community partnerships: an academic perspective

Multi-Agency Partnerships have historically been fraught with difficulties not just for the Police but for the other agencies involved and the issues are well-catalogued. The earlier experience of SIPs and the more recent statutory requirement through Community Planning Partnerships for the Police and other public services to engage in partnership working have helped identify and address some of the problems. However, there remain some issues regarding the decision making process which some argue is more to do with funding policy than with efficiency or effectiveness. Recent evaluation of Glasgow's Enhanced Policing Plan has highlighted key areas of good practice however it is clear that some tensions remain particularly in respect of funding, control and delivery. This paper will consider some of these challenges along with issues emerging from the further evaluation currently being conducted 'one year on'.

POSTER PRESENTATIONS

ROBERT SMITH

Utilising research methodologies as analytical tools in the investigative process
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The paper proposes the adoption of widely understood academic research methodologies as advanced tools in the 'Analysts Toolbox' and presents arguments and examples of how and where such methodologies could add value to the investigative process. As policing becomes ever more complex and resource intensive it behoves us as professional to consider any available and cost effective techniques with the potential to make an impact on organized crime. The aim of this paper is therefore to encourage a move away from the traditional crime fighting model to a more open and holistic model where academic research methodologies can be used to help fight crime.

JULIE GAWRYLOWICZ

The Efficiency of E-fit with mild learning disabled witness
Authors: Julie Gawrylowicz, Dr. Derek Carson & Dr. Fiona Gabbert, University of Abertay Dundee
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Victims and witnesses to crimes where the perpetrator is unknown are often required to provide the police with a verbal description of the perpetrator's face. Individuals with a mild learning disability often have limited verbal abilities, which might act as a barrier to them providing reliable evidence (Emerson, 2001). To investigate this possibility, two participant groups, one with and one without a mild learning disability, were required to use the E-fit (Electronic Facial Identification Technique) system to construct a facial composite of a previously seen unknown face. Composites were constructed on the basis of the facial descriptions provided by the participants, and were subsequently evaluated by an independent sample of participants using a matching task and a likeness rating. The forensic implications of the findings will be discussed.

PAUL ROBERTSON

Firearms Training Using Games Technology
Authors: Paul Robertson, Pat Cronin and Jim Bown, University of Abertay Dundee
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A police firearms officer faces the shoot no-shoot dilemma when confronting a suspect who is possibly armed. Within a fraction of a second the officer has to make the decision to shoot or not. The officer has several lives in the balance: his/her own, his/her team, the suspect's and other people in the immediate area. This situation is made more difficult because of a number of factors that may contribute to the decision, including high stress, low natural light, and prior information affecting context and accountability. Given the high impact of this decision, training is extremely important and an essential part of that training is undertaken in simulators. Current simulator training is supported by a finite set of film footage and images, and firearms officers follow the action sequences and make decisions based on their interpretation of observed events. Computer games technology has the potential to offer a highly flexible, adaptive and interactive training environment. We present the findings of a series of experiments with novice participants using the simulator in controlled conditions. Currently we are extending the study with trained firearm participants.