Opening of 17th Annual IAIP Conference
C. Gabrielle Salfati, Director of the Investigative Psychology Research Unit, John Jay College of Criminal Justice

Are We There Yet? The End of the Beginning for Investigative Psychology
David Canter, President of the International Academy for Investigative Psychology

Professor Canter has been prolific in mapping out the discipline of Investigative Psychology, opening up thinking on the psychology of criminal actions, and the ways in which this can inform police investigations and the courts. Professor Canter is frequently asked to contribute to strategic policing issues at national and international levels. He has provided expert evidence in diverse legal cases of international significance.

Professor Canter is Professor of Psychology and Director of the International Research Centre for Investigative Psychology at Huddersfield University which he set up in 2009. He was formerly Professor of Psychology at Liverpool University from 1994, where he directed the Centre for Investigative Psychology and established the MSc in Investigative Psychology. Before that he held the positions of Lecturer, Reader and then Professor and Head of Department at The University of Surrey, starting in 1971, developing the world’s first MSc programme in Environmental Psychology and subsequently Investigative Psychology. From 1969 to 1971, Professor Canter was Research Fellow at Tokyo University on a Leverhulme Fellowship. His first lecturing position was taken up at Strathclyde University in the School of Architecture growing out of membership of The Building Performance Research Unit, starting in 1968.

Sexual Murderers and their Offense: Implications for Police Investigation

Despite its continued declining rate, sexual homicide continues to attract a lot of attention from the public and the actors of the criminal justice system. However, due in part to the low frequency of sexual homicide, most of the empirical work suffers from small sample sizes, which jeopardizes the generalizability of the findings. Another difficulty related to the study of sexual homicide is that this crime constitutes a “hybrid” offense. This raises the question of whether sexual murderers should be considered as murderers, sex offenders, or both. In order to better understand this type of offender, this symposium examines different aspects of the offending process involved in sexual homicide using various sources of data. Implications for the police investigation will be discussed.

The Sexual Murderer: Specialist, Versatile, or Both?
Eric Beauregard, Simon Fraser University, Canada

Information on the criminal career of sex offenders and more specifically on sexual homicide offenders (SHOs) can be very useful for the police. For instance, the study of the criminal career of sex offenders has some clear implications for the investigation of this type of crime, as this information may be useful in the prioritization of suspects, or what some have referred to as “criminal history profiling.” Police officers often rely on information about known suspects or offenders who were previously charged and convicted for a similar offense in order to start their investigation. The assumption behind criminal history profiling is that the current criminal behavior should reflect aspects of prior criminal behavior or a form of specialization on the offender’s part. Despite having been observed in a few studies, the research is not clear whether sexual homicide offenders – being a hybrid type of offender – present the same type of criminal career. In order to further our understanding of the criminal career of SHOs, this study compares several parameters of the criminal career of 387 non-homicidal sex offenders (NHSOs), 144 violent NHSOs, and 85 SHOs. Findings reveal that when comparing SHOs to violent NHSOs and NHSOs, it became clear that these two latter groups correspond to the versatile and specialist categories, respectively. Violent NHSOs are distinguished from the two other groups by having committed a wide variety of crimes – from nonviolent to violent offenses. On the other hand, the NHSOs are clearly more specialized; meaning that they mainly present previous convictions for sexual crimes. As to the SHOs, it seems that they more closely resemble the versatile offender; they typically do not possess many prior convictions for violent crimes, but they still have prior convictions for property offenses. Interestingly, most of the SHOs do not have prior convictions for sexual crimes. However, our findings have shown that SHOs were
distinguished from the other two groups of sex offenders by one particular offense: armed robberies. Implications of the findings for the police investigation will be discussed.

**Crime Scene Behaviors in Scottish Sexual Homicide**  
Rajan Darjee, The Orchard Clinic, Royal Edinburgh Hospital, UK  
Emily Baron, Parklea Correctional Centre, Australia

This paper will present the results of analysis of the crime scene behaviours of 51 Scottish sexual homicide perpetrators. Data were gathered from interviews with offenders and records (police, court, prison, social work and mental health). The behaviours are compared to those from samples in other jurisdictions, showing that the Scottish cases are similar to cases from other countries. Crime scene behaviours were analysed using Smallest Space Analysis (SSA), and the themes that emerged were ‘sadism’, ‘rage’ and ‘criminal’. Crime scene behavioural themes were then analysed in relation to offender characteristics to see if crime scene behavioural themes correlated with specific clinical, situational and background characteristics of offenders.

**Body Disposal Pathways in Canadian Sexual Homicides: An Investigative Approach**  
Ashley Hewitt, Simon Fraser University, Canada  
Eric Beauregard, Simon Fraser University, Canada

Although most sexual murderer typologies highlight differences in the offenders’ behavioral patterns and psychological characteristics, very few prove to be useful for the apprehension of an active, unknown offender. One aspect of the crime-commission process of sexual homicide, however, that has value for investigations where there is no identifiable link between the victim and the offender is the manner of body disposal. Body disposal sites are usually the first known locations that law enforcement personnel will be exposed to in their investigation and the different scenarios can reveal information about the nature of the crime, the criminal experience of the offender, and his relationship with the victim (Morton, Tillman, & Gaines, 2014). For instance, it has been shown that sexual murderers who present organized psychological characteristics are more likely to move the victim’s body after the homicide, whereas the body is more likely to be left at the crime scene when the victim is older and a conflict with the offender occurred prior to the crime (Beauregard & Field, 2008). Although efforts have been made to profile offender characteristics based on the manner in which they dispose of their victims’ bodies, few studies have investigated the effect that different contextual factors have on the way in which offenders choose to leave their victims after the murder.

As body disposal is one of the most important factors in solving homicide cases, we followed up on the work of Morton and colleagues (2014) and identified four mutually exclusive body disposal pathways involved in a sample of 350 cases of sexual homicide in Canada: (1) transported-concealed \((n = 63)\), (2) transported-dumped \((n = 56)\), (3) left at crime scene-concealed \((n = 63)\), and (4) left as is \((n = 168)\). Using a series of exhaustive chi-squared automatic interaction detection analyses, each pathway is put in relationship with elements significant to the investigation of these crimes, such as the geography (e.g., type of area, locations), type of victim (e.g., child, sex trade worker), method of access (e.g., break-in, blitz, surprise or con approach), weapon/manner of death (e.g., use of a weapon, strangulation), and offender-victim interactions (e.g., types of sexual contact). Findings indicate that the significance of each of these elements varies depending on the pathway in question, which suggests that there are particular contexts that lead to the offender disposing of the victim in a certain way. Specifically, it was found that the way in which the victim was disposed of reveals information about the geography of the crime, victim type, and the offender’s interactions with the victim. This information not only provides investigators with some clue as to what may have happened during the crime, but it may also help in the search for potential suspects. Knowing the most probable environmental characteristics of the encounter/offense location allows law enforcement officials to potentially search within these types of areas that are near the body recovery site to search for additional evidence and/or possible witnesses.

**The Crime Linkage International Network (C-LINK): Aims, Findings and Implications**

Crime linkage is a procedure that seeks to identify groups of linked offences that have been committed by the same person, which can significantly enhance the police’s ability to detect and prosecute serial offenders. While this procedure is used widely within investigative settings around the world, the empirical evidence to support its use has limitations. This thematic panel describes the work of the Leverhulme-funded Crime Linkage International Network (C-LINK), a collaborative group of academics and practitioners who have been engaged in work for the last two years that seeks to enhance research and practice in the area of crime linkage.
It is a truism within criminology/psychology that the majority of crime is committed by a minority of prolific serial offenders. These offenders are responsible for a disproportionate amount of crime, they pose a considerable risk to the public and are, therefore, a significant priority for law enforcement agencies around the world. In order to effectively tackle such offenders, the police need to be able to identify linked crime series that consist of multiple offences committed by the same person. The most reliable method for identifying linked crime series is through the recovery of matching DNA evidence at several crime scenes. Unfortunately, however, increasing forensic awareness amongst offenders, the growing cost of processing such evidence and ever-decreasing police resources means that law enforcement agencies cannot rely on DNA as the sole method for linking offences. In the absence of DNA or other physical trace material, offender crime scene behaviour has been suggested as an alternative means of identifying linked crime series. Thus, if two crimes have been committed in a very similar way behaviourally (e.g., similar sexual behaviours are evident, a similar level and type of violence is used, and so on), then it might be predicted that the same person was responsible. Conversely, if two crimes have been committed in a very different behavioural manner, then it might be predicted that two different offenders were responsible.

Given the potential value of crime linkage, it is perhaps unsurprising that this procedure is widely used during police investigations around the world. Indeed, specialist units have been established in several countries to support this specialised form of behavioural analysis, including units in South Africa, the United Kingdom, the United States, Canada, Belgium, the Netherlands and Japan (to name but a few). The academic literature on this topic has also grown considerably over the last decade, but important limitations exist that question the applicability of this research to practice.

This talk will give a brief overview of crime linkage research and practice as it currently stands, highlighting the current gaps in our knowledge, as well as the limitations of existing crime linkage research. Following on from this review and critique, the talk will introduce the Crime Linkage International Network (C-LINK), which is a collaborative group of academics and practitioners who have expertise in the area of crime linkage. This network is funded by the Leverhulme Trust and has been working together for the last two years. The ultimate aim of the C-LINK network is to overcome some of the limitations to existing research in this area, thereby providing a more solid basis from which to develop practical recommendations and guidelines for linking violent and sexual offences during ongoing police investigations. This talk will highlight the aims of the C-LINK network, will give an overview of its founding and associate members and will describe the methods and data collected as part of the ongoing research being conducted by this group.

As highlighted recently by law enforcement practitioners (e.g., Rainbow, 2015), there are several different (although inter-related) tasks that are currently being referred to under the umbrella heading of “crime linkage”. These tasks include proactive linking, whereby an analyst proactively searches for offences that may be committed by the same person from within (often) large crime databases. There is also reactive crime linkage, where an analyst is presented with a particular index crime and asked to find other offences within existing police databases that might have been committed by the same person. Finally, an analyst might be presented with group of, say, 10 crimes and asked to determine whether these offences were committed by the same person or not. While similar, these tasks might represent fundamentally different analytical problems whose investigation requires distinct forms of statistical analysis.

Indeed, such diversity is recognised within the academic literature, which has utilised a wide variety of statistical methods to investigate the potential for using offender crime scene behaviour to support crime linkage. This includes: binary logistic regression, discriminant function analysis, Bayesian analysis, Mokken scaling, factor analysis, classification tree analysis and multidimensional scaling procedures. From one perspective, the use of such varied methods is a strength because it means that the evidence to support crime linkage is not garnered from a single theoretical or methodological stance. However, each statistical/methodological approach makes slightly different
assumptions about crime linkage and it is not entirely clear whether the findings produced using one methodology are comparable to those produced using different methodologies. Indeed, there has never before been a crime linkage study that systematically compares the findings produced using all of the different approaches typically utilised. Consequently, the existing crime linkage literature is somewhat fragmented and it is very difficult to draw overarching theoretical conclusions or synthesise this research into meaningful recommendations for practitioners.

The current talk will briefly describe the main methodological approaches to studying crime linkage, highlighting their similarities and differences, as well as considering what insights each approach can offer to practitioners who are charged with linking crimes in practice.

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The C-LINK Research Projects and Findings
Matthew Tonkin, Birmingham City University, UK
Craig Bennell, Carleton University, Canada
Tom Pakkanen, Finnish National Police & Abo Akademi University, Finland
C. Gabrielle Salfati, John Jay College of Criminal Justice, USA
Jan Winter, Dutch National Police, Netherlands
Jasper J. van der Kemp, Vrije Universiteit Amsterdam, Netherlands

A significant proportion of previous crime linkage research has sought to test the theoretical assumptions that are thought to underpin this practice. These principles are (1) that offenders will display some degree of consistency in their crime scene behaviour from one offence to the next (behavioural consistency) and (2) that their behaviour will be recognisably different from the behaviour of other offenders (behavioural distinctiveness). As highlighted in Paper One of this thematic panel, there is a growing body of research to support the existence of behavioural consistency and distinctiveness across a range of crime types. Furthermore, it appears possible to distinguish linked crimes from unlinked crimes at a level significantly beyond chance using only offender crime behaviour as the basis for these decisions.

Academics and practitioners have, however, identified numerous limitations of this research, calling into question its validity and practical value. One primary limitation is that consistency and distinctiveness have often been tested using samples of solved, serial crime (excluding unsolved and apparent one-off crimes). This is problematic because, when conducting crime linkage in practice, an analyst will have to distinguish linked crimes from a database that contains solved, unsolved, serial and one-off offences. Thus, the data used to test crime linkage in previous research has not replicated the data with which linkage would typically be used in practice. Moreover, it is possible that crimes were solved in the first place because they were committed in a similar way behaviourally. Consequently, research based solely on solved crime may significantly over-estimate the degree of accuracy that can be achieved when crime linkage is applied to unsolved offences.

A further limitation of the extant crime linkage literature (as highlighted in Paper Two of this thematic panel) is the lack of research comparing different statistical and methodological approaches. This lack of comparative research makes it very difficult to draw overarching theoretical conclusions or synthesise the literature into meaningful recommendations for practitioners.

A primary aim of the C-LINK network has, therefore, been to conduct research that overcomes these two fundamental limitations, thereby providing a more solid basis from which to develop practical recommendations and guidelines for linking violent and sexual offences during ongoing police investigations. To support this research a large dataset of violent and sexual offences has been collated from five countries, including solved, unsolved, serial and apparent one-off sexual assaults and sexual homicides.

This talk will, for the first time, report the preliminary research findings of the C-LINK network, which will give an insight into whether the theoretical assumptions of consistency and distinctiveness hold when tested with a database of crimes that more closely resembles the practical reality of crime linkage. This talk will also report findings from a range of statistical/methodological approaches that represent the most commonly used and promising methods for investigating crime linkage. This includes: logistic regression, classification tree analysis, Mokken scaling, Bayesian analysis, geo-spatial analysis and multidimensional scaling. By presenting findings from these various methods the current talk will give (for the first time) an insight into the comparability of these different approaches.

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Offender Characteristics: Models and Typologies

Problem Personalities in the Workplace: The Development of a Scale to Assess Corporate Psychopathy
Katarina Fritzon, Bond University, Australia
Simon Croom, University of San Diego, USA
Nathan Brooks, Bond University, Australia
In recent years there has been an interest in an examination of psychopathic personality constructs in non-forensic populations, particularly the concept of the so-called "corporate psychopath". Because of the possible advantages afforded by some of the features of psychopathy, it has been suggested that there would be a higher prevalence within a business population (Boddy, 2011). The current paper will review the research literature on this topic and describe the development and validation of two related psychometric tools, which assess for the characteristics of corporate psychopathy.

Participants included N = 261 (161 male and 100 female) supply chain professionals aged between 27 to 75 years. The Corporate Personality Inventory initially consisted of 134 items, and through correlation analysis this was reduced to 61 items for an exploratory Factor analysis, which revealed a three factor structure. Factors were interpreted in accordance with the triarchic model of psychopathy (Patrick, Fowles & Knight, 2009) and were also consistent with the conceptual scales of the Psychopathic Personality Inventory - Revised (Lilienfeld & Widows, 2005). The factors were Boldness (α=.88), Disinhibition/Social Influence (α=.73), and Meanness/Egocentrism (α=.76). These subscales correlated as predicted with factors from the Psychopathic Personality Inventory-Revised and Paulhus Deceit Scale.

For the third party report version of the Corporate Personality Inventory, the sample consisted of n=173 supply chain and general workforce participants. Exploratory factor analysis supported a three factor structure consisting of 57 items. Factors were labelled Adaptive Façade (α=.91), Ruthless Determination (α=.92) and Impulsive Egocentrism (α=.75). Criterion validity was assessed using the NEO-PI-R domains, and revealed positive correlations between Adaptive Façade and Extraversion, Openness to experience, Agreeableness and Conscientiousness and a negative correlation with Neuroticism. Ruthless Determination had negative correlations with Extraversion, Openness to experience, Agreeableness and Conscientiousness and a positive correlation with Neuroticism. Impulsive egocentrism correlated positively with Neuroticism, Extraversion and Openness to experience and negatively with Agreeableness and Conscientiousness. Findings are discussed in terms of the moderated expression theory of corporate/"successful" psychopathy (Hall & Benning, 2005), and consistency with previous research involving both corporate and community samples. The current findings have important implications for further understanding the importance of impression management in the functionality of psychopathic personality characteristics in the workplace, and the dual nature of individuals high in psychopathic traits within corporate environments. The results of both studies have implications for advancing empirical data on the unique features of psychopathy that exist in different sub-populations, as well as implications for organisations in terms of recruitment and performance management.
The organised-disorganised concept in the study of sexual homicide was first described in 1980 by Hazelwood and Douglas, who were behavioural scientists with the Federal Bureau of Investigation. Based upon their investigative experience, and the extant literature at the time, the authors posited that there were two broad categories of lust murderer: the organised nonsocial and the disorganised asocial. As the names suggested, the former were characterised by more methodical offences whilst the latter revealed more frenzied offence behaviour. These features of the crime scene were also theorised to correspond with non-social and asocial characteristics of the offender. The organised-disorganised concept soon became an important consideration within the developing field of criminal investigative analysis and was the subject of some minor research attention in the 1980s. Decades later, several authors began to question not only the reliability but also the validity of this construct; deeming it at best an anachronism and at worst a myth. Indeed, recent literature in the field of investigative psychology seems to uncritically accept that this was an invalid concept worthy of little further attention. This paper first provides an overview of both the original literature and its later critique. It will be argued that publications that purportedly disproved this concept remarkably did not address the offence behaviours that had initially been proposed as characteristics of organised and disorganised offences. Rather, an examination of these conflicting results indicates that the distinction was never possible on the basis of the behaviours that were chosen for analysis. Moreover, it will be posited that published criticisms of the organised-disorganised concept were almost entirely based on erroneous assumptions, such that it was being criticised for not resulting in something that it was never intended to provide. As such, rather than being a myth, the construct was actually a straw-man that has subsequently been used to undermine the entire field of behavioural analysis. This paper will also examine the organised-disorganised concept with reference to the wider literature on sexual homicide and violent crime in general. It will be argued that the true concept of behavioural organisation in interpersonal crime has considerable convergent validity, with practically all typologies of such offending comprising organised and disorganised variants (e.g., instrumental-expressive, compulsive-catathymic, cognitive-affective, sadistic-angry, cognitive-hostile, etc). Nevertheless, the concept is far from a panacea in evaluating crime scenes or offenders. Recommendations for the appropriate and limited use of this construct in both the practice of forensic mental health and behavioural investigative advice will be discussed.

**Investigative Decision Making**

**Discretion in Police Charging Decisions in Rape Cases**

Mandeep K. Dhami, Middlesex University, UK
Samantha Lundrigan, Anglia Ruskin University, UK
Sian Thomas, Metropolitan Police, UK

Over the last 20 years in the UK the reporting of rape has increased while the conviction rate has decreased, thereby creating an ever-increasing justice gap. In attempting to explain the high attrition rate for rape, past research has generally focused on prosecutorial decision-making and court outcomes with relatively little attention paid to earlier decision-making points in the criminal justice system. It is however known that many rapes do not proceed beyond the investigative stage. As the police act as the gatekeepers to the criminal justice system, it is important to examine decision-making at this stage in order to understand how rape cases are processed and what factors influence whether they progress or not. In the UK, although officers are provided with specialist training and guidance in relation to the processing of rape cases, they nevertheless have some discretion in how they interpret specific aspects of a case. In this study, we examined the judgments of senior investigating officers serving in the London Metropolitan Police rape unit about whether to progress a reported rape. The main aims were to: (1) examine how specific factors pertaining to the victim and suspect influence police officers' decision-making in rape cases, and (2) explore the extent of police officers' awareness into the factors that influence their decisions in such cases. Twenty-five officers were individually presented with 32 vignettes of simulated reported rapes that varied on seven cues (i.e., length of time to report, victim's previous convictions, suspect's previous convictions, victim-suspect relationship, consistency of victim account, victim's previous reports of sexual assaults, and victim's consumption of alcohol/drugs). For each vignette, participants judged how likely they would be to (a) take “no further action” and (b) refer the case to the CPS for charge. They also identified the most important piece of information for them in each case. Multiple linear regression models were computed for each participant with cues as the predictor variables and judgments as the criterion variables. In addition, correlations were computed between each participant’s self-reported cue-importance and their cue use as indicated by their models. Regression analysis revealed that a number of cues were predictive of detective decision-making and that those with the most weight were victim-related. In particular, we found that whether a victim was consistent in their account was the most significant cue for cases to be referred to the CPS or for no further action to be
Confirmation bias occurs when a person believes in or searches for evidence to support his or her favored theory while ignoring or excusing disconfirmatory evidence, and is disinclined to change his or her belief once he or she arrives at a conclusion. Confirmation bias is present in nearly all wrongful convictions as a secondary factor and poses a specific danger to criminal investigative decision making. Even if an investigator tries to remain objective they may revert to previously held biases when making judgments as the phenomenon of confirmation bias leads people to selectively attend to information that is consistent with their existing beliefs and convictions based upon limited available information. It must be recognized that it is not only what the investigator finds out, but also how they find it that is important because in the legal realm, truth is not always synonymous with proof. The purpose of this quantitative, quasi-experimental, between-subjects, factorial design study was to examine the phenomenon from the perspective of law enforcement, relative to domain-specific context and content, and to determine whether duty assignment, emotionally charged evidence, and evidence presentation order could influence a law enforcement investigator’s belief in a suspect’s guilt. This study included 166 sworn police officers who responded to criminal vignettes across different scenarios and recorded a measure of guilt belief upon reviewing each of 10 items of evidence. Analysis of variance was used to assess the relationship between the 3 independent variables: duty assignment (recruits, patrol officers, criminal investigators), scenario condition (child and adult sexual assault), and evidence presentation order (sequential, simultaneous, reverse sequential). The dependent variable was a measure of confirmation bias in the form guilt belief (0 to 10 scale) among the 10 items of evidence. According to the study results, confirmation bias was least evident in criminal investigators with more experience and training, and most evident in police recruits. Extreme emotional evidence and evidence presentation order were both found to influence guilt judgment. In particular, confirmation bias was less likely to occur when exculpatory evidence was analyzed before inculpatory evidence. The findings generalize to criminal investigators and attest to the importance of working to include and exclude suspects, and to withhold judgment until all available evidence is evaluated. Investigative objectivity is also likely to benefit from peer and supervisory review. This study emphasizes the importance of improving professional dialogue between the disciplines of law enforcement, criminal justice, and psychology concerning objectivity in investigative fact finding. Criminal investigators benefit from this study by recognizing the need to develop strategies to evaluate evidence objectively, particularly with highly emotional evidence such as child sexual abuse, and to reduce bias in order to arrive at more accurate decision making. Society benefits by improved police decision making and by avoiding wrongful accusations and potentially, wrongful convictions. Ultimately, improved decision making can result in greater confidence in law enforcement.

This case demonstrates how a flawed investigation led to the indictment of three innocent teenagers. A subsequent thorough investigation prevented the ultimate miscarriage of justice by bringing the true killer to justice, but not before the original investigators and the FBI, experiencing a type of institutional folie à deux, devastated the lives of three young men and their families. It took years to reveal how a cascading series of errors, including anchor traps, groupthink, belief perseverance, ego and other pitfalls, put the initial investigation on the wrong course and then locked it into a fatal tail spin. I have been involved in this case for a number of years and have provided expert testimony regarding many of these issues in this and other similar cases in both criminal and civil litigation. This case demonstrates the importance of integrating the best social science research into investigative practices because criminal investigative failures including unsolved crimes, unsuccessful prosecutions, unpunished offenders and wrongful convictions bring the entire criminal justice system into disrepute.

Like cascading failures in airplane crashes, investigative failures often have more than one contributing cause. Unlike airplane crashes, investigative failures are rarely studied and therefore their causes not commonly understood. It has been my experience that investigators, especially those in Behavioral Sciences, invest a good deal of time trying to understand how criminals think, but they spend precious little time thinking about how they think. This lack of insight often forms the foundation for investigative failures in both wrongful convictions and unsolved cases. The leading causes of wrongful convictions (eyewitness misidentification, false confessions, laboratory fraud, unreliable and/or false informant testimony) lie primarily within the investigative domain. These factors are frequently shaped by investigators’ cognitive and cultural biases, which often go unrecognized. Creating a narrative or hypothesis as to what occurred and why it occurred is inevitable when analyzing a crime and crime scene. While intuition based on experience can be helpful, it can also be a liability, especially if one jumps to conclusions prematurely. Even an attractive narrative poses problems as it may cause investigators to overlook disconfirming evidence. Investigators must not become overly invested or attached to a given hypothesis especially at the beginning of an investigation when the evidence is not fully developed. It is important for investigators to maintain a sense of humility in all of their
opinions and to subject those opinions that are held with the greatest confidence to the harshest scrutiny. This approach, combined with attitude of persistent curiosity, mitigates the risk of becoming ensnared in the subtle traps and hazards that commonly contribute to investigative failures. This presentation will demonstrate how these factors and biases impact judgment and decision-making during investigations and offer recommendations on how to understand, recognize and avoid these traps and hazards.

**Interviewing to Detect Deception and Gather Intelligence**

**Physiological Cues from a Detection of Deception Study**
Stephanie Chan, Home Team Behavioural Sciences Centre, Singapore  
Lee Peiwei, Home Team Behavioural Sciences Centre, Singapore  
Majeed Khader, Home Team Behavioural Sciences Centre, Singapore  
Jeffery Chin, Home Team Behavioural Sciences Centre, Singapore

The detection of deception that occurs in the context of investigative interviews employs strategic questioning techniques to elicit differences between liars and truth tellers. Recent literature on investigative interviewing explores the effectiveness of probing/clarifying questions, unexpected questions, and drawing requests in order to amplify cues to deception cues in liars. Deception cues are especially useful for investigators when there is a lack of substantial evidence pertaining to a crime. However, most studies look at the non-verbal and verbal deception cues that are elicited when strategic questioning techniques are used. Yet, some non-verbal and verbal deception indicators can be subjectively observed and scored. This study broadens our understanding of the usefulness of unexpected questioning by exploring the physiological responses of liars and truth-tellers in a mock forensic setting.

Physiological patterns and responses refer to the changes in an individual’s physiology in response to the surrounding external environment. Common physiological changes that are studied include heart rate, galvanic skin responses, respiration, brain activity and blood pressure. These physiological changes are often related to emotional states. There are several main emotions that are commonly experienced by interviewees in investigative interviews: guilt, fear, and excitement. Truth-tellers may experience anxiety at not being believed, or when they are unable to recall several aspects of an incident. Liars may experience fear when they are wary of getting caught, they might feel guilty for deceiving someone, or they may experience a sense of excitement for having successfully fooled an interviewer. In other words, while liars are afraid of the consequences of being caught, truth tellers are afraid of the consequences of being disbelieved.

With the introduction of unexpected questioning strategies in interviews, the literature posits that liars would experience greater cognitive load that truth tellers when responding to such questions. The underlying assumption is that liars are unprepared for these unexpected crime-relevant questions, whereas truth-tellers are generally unfazed by such questions and would respond truthfully with lesser mental effort required. When liars experience unexpected questions, there is a heightened awareness of the potential of being caught in their deceit, and there is a corresponding physiological response. Till date, there is limited research on the physiological responses of liars and truth-tellers towards unexpected interview questioning techniques.

In the study, participants were randomly assigned to carry out a mock criminal task or a non-criminal task, before being interviewed. Participants’ heart rates and galvanic skin responses were compared across different questioning segments of the interview. The findings have implications for criminal investigative interviewing procedures.

**Training Handlers in the Scharff Technique**
Simon Oleszkiewicz, University of Gothenburg, Sweden  
Pär Anders Granhag, University of Gothenburg, Sweden  
Steven Kleinman, Operational Sciences International, USA

In previous research the Scharff technique has consistently outperformed the Direct Approach for gathering intelligence from human sources (Granhag, Kleinman, & Oleszkiewicz, 2016). However, little is known about the extent to which the same technique can be taught to practitioners in the field, and how the performance of Scharff trained interviewers compare against interviewers using their conventional approaches and tactics. For the current study we examined professional handlers from the Norwegian Police (N = 64), all experienced in interacting with informants. Half of the handlers received training in the Scharff technique (a 90-minute training package) and their performance was then compared against handlers receiving no Scharff training and who were free to use approaches and tactics as they saw fit. For the study phase, all handlers received the exact same case-file describing a source who held incomplete information about a future terrorist attack, and they were given the same interview objectives. Specifically, their objectives were to (1) collect information beyond what they already knew on the upcoming attack, (2) mask what information they aimed to gather and (3) make the source willing to talk with them again. Police trainees (N = 64) were instructed to take the role of semi-cooperative sources and were given incomplete information about the
attack. The results showed that the trained handlers adhered to the Scharff training as they (a) aimed to establish the illusion of ‘knowing-it-all’, (b) posed claims to collect information and (c) asked very few (if any) explicit questions. Importantly, the untrained interviewers did not use these tactics. Instead, the untrained handlers relied on evoking the sources’ motivation to volunteer information and posed explicit questions. These findings speak to that handlers do not typically employ Scharff tactics for interactions such as the one modelled in our test-phase. For the outcome of the interview, as predicted, the Scharff trained interviewers collected comparatively more new information, were assessed to be more knowledgeable about the case and were perceived to be less eager to gather information. However, all handlers masked their information objectives to a similar extent and were successful in making the source willing to talk with them again. In sum, the trained handlers asked fewer questions, talked less and interviewed for a shorter period of time, still they collected more new information. These findings capture the essence of the Scharff technique; it is subtle, yet effective.

**Applying the Verifiability Approach to Insurance Claims Settings; Exploring the Effect of the Information Protocol**

Adam Charles Harvey, University of Portsmouth, UK
Aldert Vrij, University of Portsmouth, UK
Galit Nahari, Bar-Ilan University, Israel
Katharina Ludwig, Julius-Maximilians University, Germany

Lie detection in insurance claim settings is difficult. When making statements, liars can easily incorporate deceptive information within descriptions of otherwise truthful events. As such, deceptive insurance claimants can provide richly detailed accounts. We examined whether the Verifiability Approach could be used effectively in insurance settings. According to the Verifiability Approach, liars avoid disclosing details that they think can be easily checked, whereas truth tellers are forthcoming with verifiable details.

The study experimentally manipulated notifying claimants about the interviewer’s intention to check their statements for verifiable details (the ‘Information Protocol’). It was hypothesised that such an instruction would (i) encourage truth tellers to provide more verifiable details than liars and to report identifiable witnesses who had witnessed the event within their statements, and (ii) would enhance the diagnostic accuracy of the Verifiability Approach.

After exclusions, a total of 80 Participants reported 40 genuine and 40 fabricated insurance claim statements. Half the liars and truth tellers were notified about the interviewer’s intention to check their statements for verifiable details. Both experimental hypotheses were supported. Informed truth tellers (informed of the Information Protocol) reported significantly more verifiable details than uniformed truth tellers. In contrast, informed and uninformed liars did not statistically differ in the number of verifiable details reported. In terms of diagnostic accuracy, notifying claimants about the interviewer’s intention to check their statements for verifiable details increased accuracy rates for the Verifiability Approach from around chance level to 80%. Furthermore, when a simple decision rule was applied (‘those who include more verifiable than unverifiable detail in their statements are being truthful’) to the informed participant’s statements, overall 85% of statements were correctly classified. This overall accuracy rate declined to 55% in the uninformed condition.

The results converge with two broader theoretically perspectives in the lie detection literature. First, the lack of diagnostic cue in the uninformed condition supports the idea that without active elicitation, cues to deception are unreliable and weak. Second, the success of statement verifiability for discriminating between truth tellers and liars in the informed condition supports the idea that cues to deception can be actively elicited via strategic interviewing. The findings also suggest that the Verifiability Approach, including the information protocol, can be used in insurance claim settings. Coupled with previous research, it can further be recommended that the information protocol is considered part of the full Verifiability Approach.
In comparison to the USA and Canada, there exists little published research on homicide in the UK. Building a research evidence base of the characteristics and causes of homicide in the UK is vital for enabling the development of evidence-based practice to inform homicide prevention, investigation and intervention work with violent offenders.

Existing homicide research focuses on offender characteristics and actions prior to and during a killing while offenders’ post offence behaviour has received less attention. One ‘type’ of post offence behaviour of particular psychological and investigative interest is the removal of a victim’s body from the location in which they have been killed. Such behaviour raises the following questions: In what circumstances do homicide offenders ‘decide’ to move the victim’s body? Where does the offender dispose of the victim’s body? What type of location does an offender ‘decide’ to move the victim to? How far does the offender travel to dispose of the victim’s body? What links does the offender have to the body deposition site? What are the characteristics of these offenders? And what is their relationship to the victim?

Existing research on homicide offender spatial behaviour and body disposal patterns has focused predominantly on sexual and serial homicide. There is therefore a need to consider the general prevalence and relevance of this ‘type’ of post offence behaviour to develop an understanding of why some homicide offenders ‘decide’ to move a victim’s body. From an investigative practitioner viewpoint, it is useful to determine how an offender’s post offence behaviour may affect an investigation such as the time taken to discover the victim and apprehend the offender.

To explore and develop an understanding of these issues, this study examines 74 homicides that were committed in the UK between 2005 and 2015 in which the victim’s body was moved from the location in which they were killed and the offender apprehended and convicted. The data was gathered from content analysis of archival data. Online newspaper reports and legal records were searched to generate the data sample and 58 variables were coded for each of the 74 homicides. The variables consisted of victim and offender demographics, crime scene actions, distances between crime sites and last known location of the victim, date the victim was killed, date the victim’s body was discovered and date the offender was arrested.

Drawing upon criminological and psychological theories of offender spatial behaviour and research on homicide offender decision making, the circumstances in which the victims were killed, the location to which they were moved, the distances between known murder site and body deposition site from the offender’s and victim’s home address and victim and offender characteristics are outlined. The theoretical and practical implications of the findings for investigative decision-making and the provision of Behavioural Investigative Advice are considered and suggestions made for future research.

Not collecting a blood spatter as evidence could mean a vital clue of the criminal is missed and successful investigation and prosecution will no longer be possible. But how do crime scene investigators decide what evidence to collect and what influences their decision making process? And how does collected forensic evidence influence crime investigations in the first phases when crime scenario’s need to be established? These questions are the focus of our studies.

Research on the work of crime scene investigators in general is scarce. While the crime scene examination is commonly the start of a criminal investigation and it is of fundamental importance for successful crime solving and prosecution, little is known. In understanding the practice and decision making processes of crime scene investigators we also might be able to shed light on why some crimes are solved and how evidence aids prosecutions.

Although the main focus of crime scene investigation research is on the forensic technical part of crime scene investigations there is growing interest in the decision making processes involved. Next to main psychological factors also practical and organizational factors play an important role in understanding crime scene investigators decision
In our studies of case files, crime scene investigations reports, documents and via interviews with crime scene investigators we come to an understanding of factors that influence decision making at the crime scene. We present an overview of factors that influence the recognition, selection and manner of collection of crime scene evidence by crime scene investigators.

The importance of understanding these factors in a decision making framework for future studies is discussed in light of an experimental study on the interpretation of forensic evidence in the context of crime scenario’s. The experimental study is conducted in order to gain insight in the importance of knowledge of forensic evidence in evaluating crime scenario’s. The participants of this experiment therefore consisted of forensically trained and untrained participants to able to compare the influence of forensic expertise.

In combing the theoretical focused analysis of factors that influence decision making with the experimental study we are able to interpret results of current studies on forensic decision making and create a theoretical framework for understanding these processes.

Crime scene investigation is a complex task. Many factors are of influence on the decision making process and distinguishing them and the level on which the influence practice is needed to better understand police investigations. The usefulness of our framework will be presented in our paper.

**The Effects of Contextual Information on Decision Making at the Crime Scene**
Claire A. J. van den Eeden, Police Academy of the Netherlands, Netherlands
Christianne J. de Poot, Amsterdam University of Applied Sciences & Police Academy of the Netherlands, Netherlands
Peter J. van Koppen, Vrije Universiteit Amsterdam, Netherlands

Research shows that contextual information can bias perception and decision-making in forensic contexts (Ask & Granhag, JASP, 2007; Charman, Gregory, & Carlucci, JEPA, 2009; Fraser-Mackenzie, Dror & Wertheim, S&J, 2013). Although an increasing number of studies have been conducted on this ‘forensic confirmation bias’ (Kassin, Dror & Kukucka, JARMC, 2013), no research to date has examined if and how such biases might influence perception and decision-making at a crime scene.

In a first study, 58 experienced Crime Scene Investigators (CSIs) were asked to assess a crime scene about which they received either biasing, or no biasing information, to find out whether prior information created expectations that affected their objectivity. The results of that study showed that prior information did have an effect on how CSIs interpreted the crime scene. Participants who received biasing information were more likely to write down a most likely scenario that was in accordance with the prior information they had received.

A second study built on this and investigated the process of selecting and weighing contextual information at a crime scene. To this end 60 lay people were asked to act as Crime Scene Investigators and view two photographs (taken from two different angles) of a crime scene. The participants were divided in four groups. Half of the participants received contextual information (e.g. about the victim, time of day) and the other half did not. In addition, half of the participants in each condition were allowed to ask additional questions about the crime scene (to which predetermined answers were given). This protocol enabled an assessment of participants’ reasoning when they were interpreting the crime scene.

Finally, participants were asked to write down a narrative about what they thought had happened at the scene. They were asked to clarify the information on which their narrative was based and to indicate how confident they were in the accuracy of their narrative. No specifications were given about the length of the narrative or the amount of detail information it should contain.

The results of these studies will be presented at the conference.

**Reconstructing with Trace Information**
Madeleine de Gruijter, Amsterdam University for Applied Sciences, Netherlands
Christianne J. de Poot, Amsterdam University of Applied Sciences & Police Academy of the Netherlands, Netherlands
Henk Elffers, Netherlands Institute for the Study of Crime and Law Enforcement, Netherlands

Currently, a group of promising new tools are under development that will enable Scene of Crime Officers (SoCOs) to analyse traces in situ during a crime scene investigation, and to receive information on results when still on the scene. Potentially, these developments may have large effects on the way an investigation is conducted. If traces can already
be analysed during the crime scene investigation itself, reception of results may influence scenario formation even when still on the crime scene. Studies on police investigations show that detectives create a narrative event when they try to solve the crime (Innes, Investigating murder, 2003). An important consequence of this approach might be that data can be omitted from the account when it does not fit easily in the chosen narrative (Innes, Investigating murder, 2003). Furthermore, information acquired early on in the investigation is likely to carry more weight than information acquired later (Nickerson, General Psychology, 1998). Thus, identification information provided early in the investigation may determine the context of the chosen narrative. We should understand the consequences of analysing traces and receiving trace information this early in the investigation.

A first study is conducted with 40 Dutch SOCOs investigating a violent robbery at a mock crime scene to study the influence of such technologies on the perception and interpretation of traces. Qualitative findings suggest that CSIs are generally more focused on analysing perpetrator traces than on reconstructing the event. In their motivations the CSIs did give the impression that they were more focused on possible perpetrator traces that could be analysed quickly, than on reconstructing the crime and testing different hypotheses.

Our second study investigates whether the moment trace information is provided influences the interpretation of the crime scene and whether receiving a match with a known person from the database has an influence on the interpretation of the trace. For this study British students as well as British and Dutch SOCOs investigated a potential murder crime scene on the computer. The moment they receive trace information as well as the nature of the information are manipulated experimentally. Results will be provided during the presentation.

Crime Scenes and Characteristics: Terrorism

An Inside Look at Israeli Police Critical Incident First Responders
Brenda Geiger, Western Galilee College, Israel
Michael Fischer, Norfolk State University, USA

In this qualitative study police first responders reveal in their own words their experiences, feelings, and thoughts when managing critical incident (CI) bombing/terrorist attacks in Israel. Having police CI first responders attend the principal investigator’s seminar on law enforcement provided her the unique opportunity to examine the inside world of eleven policemen who in their professional career had managed at least three attacks. During semi-structured in-depth individual interviews they revealed their feelings, thoughts and reactions (1) from the time they had received intelligence about the attack until they reached the scene, (2) when managing the critical incident, and (3) on their way back home. The first stage was characterized by an adrenaline flow felt throughout the first responders’ body and mentally preparing themselves to encounter the worst. At this stage, the sensation of time changed and minutes became eternity until they reached the scene. The second stage was characterized by time stopping and by moving into a numb state during which they distanced themselves from their feelings and performed all operations step-by-step in a robot-like automatic manner. Despite this distancing, the first responders remained intensely aware of what was happening which was particularly visible in their attempt to avoid looking at the faces to objectify the dead bodies around them. Mental health professionals have often regarded numbing, splitting of affect and robot-like functioning as debilitating symptoms that reduced lucidity and impaired normal daily functioning. In the present study, numbing and robot-like performance were found to be an integral part of police first responders training which allowed to perform step-by-step a multitude of operations when managing the critical incident despite the threat to their life. Once on the scene they performed all the procedures needed to make the scene safe for medical emergency vehicles to enter. After the site was reconstructed, they tried on the return trip to “defrost” their feelings by resuming daily activities with family members. Despite their ability to distance themselves from feeling, first responders revealed intense awareness and vivid sensory memories of the events on site. The sight of dismembered bodies and the smell of blood and burnt flesh remained with them for months and affected their vision of the future. Although available, Israeli first responders seldom sought treatment for PTSD from professionals which they believed would have led to stigmatization in their “macho” subculture. They preferred sharing their experiences with other team members as they relieved tension through black humor and cynicism. Being there for each other, having a common faith in God, and organizing the events as part of a better future and belief in their God-given mission were essential. They were thus able to derive meaning from the disasters and loss and transform the ordeal into a source of strength and growth, which enabled them to continue their mission time after time.

Modelling Lone Wolf Terrorism: Exploring the Offender Characteristics of Lone Wolf Terrorists
Saskia Xanthe Ryan, The University of Huddersfield, UK
Laura Hammond, International Research Centre for Investigative Psychology, The University of Huddersfield, UK
Maria Ioannou, International Research Centre for Investigative Psychology, The University of Huddersfield, UK
Background: Lone wolf terrorism is both an increasing concern for security forces and a growing interest for academics. Whilst not a new phenomenon, it is an increasing strategy adopted by terrorists. Previous research has tried to profile such a population without the consideration that lone wolves are not a homogeneous population. A lack of rigorous methodology and empirical research has limited the theoretical development within this area and the practical uptake of findings, especially from a psychological perspective. Furthermore, much of the previous research has been fraught with reductionist generalisations that provide a confusing array of conclusions that lack validity.

Objectives: Through examining the offender characteristics of lone wolf terrorists the present study aimed to identify themes of lone wolf offending. It was proposed that these themes would be revealed through the visual representation of clusters of variables relating to background characteristics of offenders by examining how often these variables co-occurred with every other variable.

Methods: The present study examined the offender characteristics of 39 lone wolves across 9 countries from 1968 to 2015. Case selection was conducted through a comprehensive review of previous literature alongside the authors own research to include more recent cases. All cases were then subjected to a content analysis using a combination of databases such as the Global Terrorism Database (GTD) and other open source data. Final case list was then compiled on the criteria that each coded variable could be corroborated among at least two sources.

Results: A multidimensional scaling analysis (smallest space analysis (SSA-I)) revealed three themes of lone wolf offending based on the clustering of related variables; stray wolf, grey wolf and dire wolf.

Conclusion: The themes of lone wolf terrorism revealed show that lone wolves are not a homogeneous population and that any attempt to develop profiles of such offenders needs to differentiate between these ‘types’ of lone wolf. It challenges the previous reductionist views of the lone wolf terrorist and addressed a number of criticisms to move towards increased understanding of this population. The originality of these empirical findings and the application of an Investigative Psychology perspective to lone wolf terrorism provides a substantial development to the literature.

Implications: Practically, the implications of these findings are vast, especially in the management, investigation and prosecution of lone wolf terror offences. It has the potential to inform those working in counter-terrorism about those individuals they are seeking to detect, capture and control by providing an empirical basis for future strategies.

Identifying crime series, and attributing these to a single offender/group of offenders, is crucial for police investigators (Bennell, Jones, & Melnyk, 2009; Sorochinski & Salfati, 2010) as it allows them to implement more efficient investigative leads (Labuschagne, 2012) such as pooling information from multiple crime scenes to generate investigative leads (Bennell et al., 2009). Crime linkage focuses on identifying crimes committed by the same offender using crime scene actions (i.e. offence behaviours). This paper tests the underlying assumptions of crime linkage (behavioural consistency and behavioural distinctiveness) by comparing the behavioural similarity of linked pairs of offences (i.e. two crimes committed by the same offender) with the behavioural similarity of unlinked pairs of offences (i.e. two crimes committed by different offenders). A higher level of behavioural similarity in linked pairs of crimes provides evidence for both assumptions. The current research replicates previous work by Burrell, Bull, and Bond (2012) which explored whether behaviour could be used to link personal robbery offences using a sample of 166 solved cases committed by 83 offenders in Northamptonshire. This study found that inter-crime distance, temporal proximity, and target selection emerged as the most useful linkage factors. Furthermore, it found that changing the size of the geographical area under examination (i.e. force or local level) impacted on the ability to discriminate between linked and unlinked pairs for some behaviours. Most notably, the performance of inter-crime distance (traditionally a strong linking factor) reduced. The current study aims to establish if similar trends emerge with a new dataset. The data for the current study is a sample of 554 solved offences committed by 277 offenders in the West Midlands and uses receiver operating characteristic analyses to explore which behaviours can be used to reliably link personal robbery offences. Behaviours were classified using the same coding dictionary as the previous research conducted in Northamptonshire thus allowing for a direct comparison of findings. In addition, the current paper expands upon the coding dictionary to test if the inclusion of extra behavioural information boosts discrimination accuracy. The current research provides evidence for the assumptions of crime linkage with linked pairs displaying increased levels of behavioural similarity across numerous behavioural domains. However, discrimination accuracy was impacted by the size of the geographical size of sample areas, most notably inter-crime distance where linkage performance deteriorated significantly when used at a local rather than force level. There was no evidence that adding extra...
behaviours to behavioural domains boosted linkage performance substantially.

**Heterogeneity of Crime Series Patterns Among Serial Sex Offenders: Duration, Frequency, and Environmental Consistency**

Nadine Deslauriers-Varin, Université laval, Canada  
Eric Beauregard, Simon Fraser University, Canada

Crime linkage and the investigation of behavioral consistency among serial offenders has been a flourishing field of research over the past decade or so, especially with respect to serial sexual offenders. The emerging research in this field has often portrayed serial sexual offenders as a single, distinct, and homogeneous group. Such an assumption, however, has never been empirically examined. In fact, results coming from the criminal career field support the heterogeneity of offending patterns (i.e. offending frequency and career duration) among offenders. Such heterogeneity in offending patterns influences the level of specialization displayed by offenders and is associated with specific offender’s characteristics. Criminal career researchers, however, have not examined consistency within a particular type of persistent offending such as serial sexual offending. In the field of investigative psychology, researchers have not examined in a systematic way patterns of offending frequency and duration of a crime series among serial offenders. Neither have they looked at the individual differences that might exist between serial offenders presenting different patterns of crime series or the potential impact of such patterns on the level of behavioral consistency displayed by offenders. Using a criminal career approach and a sample of 72 serial sex offenders who have committed a total of 361 sexual assaults on stranger victims, the current study tries to bridge this gap and aims to examine and describe subgroups of crime series patterns among serial sex offenders in terms of duration and frequency of offending. It is believed that accounting for such patterns could help to better contextualize how series unfolds over time and the heterogeneity of serial sex offenders and their crime series patterns as well as provide insight on the offender’s motivation, characteristics, modus operandi, and decision-making process in the commission of his sex crimes. Moreover, accounting for patterns of crime series could help to better understand and identify subgroups of offenders for whom higher or lower levels of environmental consistency should be found. As such, the level of environmental consistency display (i.e. offender’s choice of crime location and characteristics of the crime site selected) across subgroups of crime series patterns is also examined. Study findings suggest the presence and heterogeneity of crime series patterns among serial sex offenders, advocating for the consideration of subgroups of crime series patterns when studying serial sex offenders. These subgroups of crime series are also found to be distinctively associated with offender’s characteristics and modus operandi. Moreover, the offenders’ level of environmental consistency varies across the different crime series patterns identified, allowing for the identification of subgroups of offenders showing a higher or lower level of environmental consistency.

**In Search of the Serial Killer**

Hester M. A. Brink, National Police, Netherlands

Between 1980 and 2015 approximately 150 prostitutes were murdered in various regions in the Netherlands in gruesome, and often similar, ways. Many remained unsolved, and were seen as “difficult” cases to investigate. Until recently, there hadn’t been a nationwide research into the possible behavioral links between these cases: different law enforcement agencies did not work well together and registration of crimes remained inadequate. Potential similarities between these cases remained overlooked and serial offenders may not have been recognized and identified. The Cold Case Team and Behavioral Science Unit from the Rotterdam police force took it upon themselves to try to change this.

We started our project in 2011 and it covers homicide cases that have been committed in The Netherlands between 1980 and today, in which the victim was working as a prostitute. About 40% of the cases are unsolved. Within our dataset we also have 3 series that are solved; these we have used as a ‘control group’. The overall goals of our project are to develop a method for linkage analysis on behavioral aspects of (sexual) homicides and to develop tools to simplify the comparison of cases on a forensic and tactical level, both to be used by the Dutch police.

The first step in our project is the behavioral linkage analyses. We had access to the original police files on most of the cases (for some cases the files had been destroyed). To collect the information we needed, we’ve used questionnaires about the victim, crime and the offender. These, together with the photographs and the reports from our forensic institute, are the basis of the first analysis of each case. For the behavioral linkage, we use different types of analyses: qualitative analysis based on several behavioral themes; qualitative analyses; typologies of perpetrators and crimes and geographical linkage analysis.

Once we’ve established a behavioral link between two or more cases, the second step consists of this ‘series’ being investigated by a Cold Case team, especially assigned to this project in order to try to verify the behavioral link. Amongst other things, the Cold Case team reviews the forensic evidence that is available, and if possible this evidence will be sent back to the lab for (new) analysis. They look for tactical evidence that the cases are linked and of course...
they will try to find who is responsible for these homicides.

Thirdly we use the outcomes of step two to evaluate how well or poor the methods used turned out to be, in order to establish a method for linkage analysis of (sexual) homicides in The Netherlands. This way our research project hopes to provide a scientifically based yet practical method in which behavioral, forensic and operational knowledge can be integrated, to achieve a more holistic approach. This contrasts with traditional police investigation methods in a homicide where the primary focus is on the search of the offender in the isolated case.

**Sexual Homicide: Empirical and Clinical Issues**

Sexual homicide is a crime that provokes negative emotions in both general populations and criminal justice professionals. To overcome these negative reactions, we need to base our practice on sound empirical research on the factors that favour sexual homicide. In addition, forensic psychologists involved in the justice system, for example, in cases of sexual homicide, must follow assessment procedures that are guided by evidence-based practice. In this panel, we will review the state of the art of research on sexual murderers (Proulx), as well as new empirical studies on the topic (Higgs, Carter). Finally, we will discuss the role of forensic psychologists in cases of sexual homicide (Perkins).

**Studies of Sexual Homicide: State of the Art and New Directions**  
Jean Proulx, University of Montreal, Canada  
Jonathan James, University of Montreal, Canada

Since the publication in 1988 of Ressler, Burgess and Douglas’ seminal Sexual Homicide: Patterns and Motives, there has been a proliferation of studies on sexual murderers and their crimes. Most of these studies have been performed in the United States, Canada, the United Kingdom, and Germany, and have tended to focus on five specific questions: 1) What are the features of sexual murderers’ psychosexual development that favour such extreme acts of violence? 2) What are sexual murderers’ distinctive personality characteristics, and how are these related to the commission of sexual murder? 3) Are all sexual murderers paraphiliacs, and more specifically sadists? 4) Are there a diversity of profiles of sexual murderers, each defined by specific developmental, personality, and motivational characteristics? 5) Is there a biological basis to sexual homicide, either neurological, genetic, or epigenetic? This presentation will discuss the convergent and divergent results produced by different research groups in the countries mentioned above. In addition, avenues of research likely to resolve some of the inconsistencies in the reported results, and to expand our understanding of the diversity of pathways that lead to sexual homicide will be presented.

**Developmental and Criminal Histories of Sexual Murderers:**  
A Comparison of Subgroups Engaging, or Not Engaging, in Post Mortem Sexual Interference  
Tamsin Higgs, University of Nottingham, UK  
Adam Cater, National Offender Management Service, UK  
Ewa Stefanska, University of Birmingham, UK  
Kevin Browne, University of Nottingham, UK

The established typologies of sexual murderers provide opportunities to consider the different functional role that the act of killing plays within the offence process. That is, in some cases there is a direct link between sexual arousal and killing: the sexual aspect of the offense can be demonstrably connected to the death. For others, the factors that lead to a homicide being classified as sexual are indirect: killing is instrumental and not a source of sexual stimulation. Postmortem sexual interference (PMSI) was identified as a useful proxy to delineate a subset of sexual murderers a ‘direct’ group. This approach was taken as arguably, for this subset of sexual killers, the killing itself represents an integral sexual element of the offense, and other explanations for the victim’s death (occurring as a result of injuries sustained during a rape or to prevent the victim from identifying their assailant) are least likely to apply. Empirical support for the utility of PMSI as a behavioural indicator of ‘direct’ cases has been found. In a study identifying offending pathways of sexual killers, PMSI clustered almost exclusively into a ‘deviancy’-driven group, which appeared most representative of ‘direct’ cases by comparison to the other groups (‘grievance’ and ‘sexually’ driven; Stefanska et al., 2015).

Comparisons of the developmental and criminal histories of a sample of 90 PMSI murderers and 90 sexual murderers not engaging in PMSI will be presented. Whether or not previously identified patterns (e.g. Cusson & Proulx; Nicole & Proulx, 2007) are replicated will be explored. We will also discuss further the utility of the novel operationalization, in terms of both its limitations but also advantages for working towards a better understanding of the perpetrators of this crime.
This presentation will describe links between research findings on sexual homicide (aetiological and typological) and the provision of expert advice to the court on individual cases of alleged or suspected sexual homicide. It will describe an approach to case formulation that utilises psychological, psychiatric, crime scene and pathology information. It will discuss the integration of historical data, interview information, psychometric/psychophysiological assessments and forensic science information into a 'dynamic formulation' that can be adjusted as new information emerges. The role of mental disorder, will be discussed, with implications for a legal defence of diminished responsibility.

**POSTER SESSION & BANQUET**

**Sex Offending and Homicide**

**Sexual Violence Against Marginalized Victims: Choice of Victim or Victim of Choice?**

Loren Horan, Simon Fraser University, Canada

Eric Beauregard, Simon Fraser University, Canada

As suggested by Salfati et al. (2008), it is important to look specifically at sexual homicide of sex trade workers in order to examine whether offenders targeting these victims present different characteristics and use specific strategies during the crime. The current study attempts to achieve this goal by taking a slightly different approach. Instead of focusing exclusively on sex trade workers, we examine marginalized victims in general. Moreover, instead of only looking at sexual homicide, the study investigates serious sexual violence inflicted on these victims, considering that Beauregard and Martineau (in press) have found that violent non-homicidal sex offenders and sexual homicide offenders were more likely to target marginalized victims compared to non-homicidal sex offenders. Based on a sample of 229 violent sex offenders, the current study investigates differences between sexual crimes committed against marginalized (N = 73) and non-marginalized victims (N = 156) on the modus operandi used by the offender, the context of the crime, and the offender characteristics. Some of the findings show that sex offenders targeting marginalized victims are more likely to use more force than necessary on the victim, to react with force to the victim resistance, to commit intrusive sexual acts on the victim and force the victim to commit sexual acts on him compared to non-marginalized victims. Moreover, the sex offenders who target marginalized victims are more likely to humiliate the victim, to inflict pre and post-mortem torture on the victim, to leave objects in the victim’s body cavities, to hide the victim’s body (if the victim is killed) as well as have post-mortem sexual activities with the victim’s body compared to non-marginalized victims. These findings as well as others will be discussed in light of the practical implications of the police investigation.

**Exploring the Crime Scenes of High-Risk Sex Offenders:**

**Investigative, Therapeutic, and Preventative Implications of Behavioural and Situational Components**

Kimberley Kaseweter, University of British Columbia Okanagan, Canada

Michael Woodworth, University of British Columbia Okanagan, Canada

Tabatha Freimuth, Interior Health, Canada

Matt Logan, Retired, Royal Canadian Mounted Police, Canada

High-risk sexual offenders remain a complex and heterogeneous group about which academics, practitioners, and law enforcement still know relatively little. A recent study investigated the influence of sexual fantasy, sexual paraphilia, and psychopathy on the offending behaviour of 139 high-risk sexual offenders. Data analyses revealed significant differences between offender types (e.g., child molester vs. rapist) for a number of criminal history variables including weapon use, and age of offending onset. Significant differences were also found between offender types for sexual fantasy themes, paraphilia diagnoses, and levels of psychopathy. Further investigation into the high-risk sexual incidents was recently conducted using latent class analysis, revealing a typology of high-risk sexual offending based on offender behavior and situational characteristics of the incidents. Together, results provide a refined understanding of sexual offending behavior, contributing to research-informed practice for law enforcement agencies and mental health professionals. Specifically, it is recommended that mental health professionals make a concerted effort to consider the types of fantasies and paraphilic interests. A careful consideration of behavioural and situational aspects of crimes can help elucidate important differences even amongst a group of the highest risk sexual offenders, with important investigative, therapeutic and ideally preventative implications.
Gazing into the Abyss: A Contemporary Examination of the Relationship Between Interviewer and Murderer
Vanessa Leggett, University of Houston-Downtown, USA

Any seasoned interviewer of murderers has experienced the troubling yet necessary intimacy at the heart of such relationships. What is rarely considered, but is examined here, is that in positioning oneself to “watch a train wreck”—by learning details of unspeakable acts committed by killers—the interviewer risks becoming part of the wreckage. Custodial interviews with criminals who, after questioning, returned to their cells, indefinitely separated from interviewers, are all but gone in contemporary society. Indeed, from Death Row and prisons across America, murderers utilize websites, e-mail addresses, and even cell phones to reach out and touch that certain someone: the interviewer. Engaging with such subjects can have grave personal, legal, and psychological ramifications. Since criminals are taking advantage of communicating via modern technology, interviewers would be wise to consider the potential consequences.

This presenter has been contacted multiple times by both accused and convicted killers, and each encounter has been unsettling. Suspected serial killer Robert Durst sent her a LinkedIn message and requested a face-to-face meeting. She sat down with him a few weeks prior to his arrest. Another notorious accused murderer, a fugitive hiding in another country, proposed a videoconference. Then there was the mass murderer who received death by lethal injection. After witnessing that man’s execution, this presenter was startled, days after his death, to open her mailbox and discover his final letter to her. The abyss that widens during the quid pro quo exchange can envelop the interviewer long after the subject’s death. Two of this presenter’s subjects died shortly after their last interview—one in a bloody jail cell, the other strapped to a gurney—compelling her to be a witness to the prosecution in one case and a witness to an execution in the other.

Certainly, the moral and legal implications of such a relationship are complex and can come at significant personal cost. For example, what happens when a murderer demands confidentiality in exchange for an exclusive interview? How does the professional maintain independence in research when subjects demand conditions? What if the interviewer possesses information law enforcement needs? This presenter faced such dilemmas and was ultimately jailed by the Justice Department. Over the course of several months in federal custody, she sat opposite interviewers—glimpsing, for the first time, what it felt like to be scrutinized, gaining a rare insight into a subject’s perspective.

From the viewpoint of the murderer and the interviewer, a gestalt of this insidious relationship is presented. The repercussions of such encounters can be life-changing and lasting for both. When facing “monsters,” Frederick Nietzsche warned, those who engage in “the process” should proceed cautiously. “For when you gaze long into the abyss,” he wrote, “the abyss also gazes into you.” Technology advances, the law evolves, but the essence of this unusual relationship remains the same. This presentation aims to help interviewers learn how to gain the most information from their subjects, while contemplating where to draw the line to protect their work and themselves.

Unsolved Homicides: The Structure of Homicides in Sweden 1990 to 2014
Joakim Sturup, Swedish National Board of Forensic Medicine & Karolinska Institutet, Sweden
Sven Granath, National Council for Crime Prevention, Sweden

Background and Methods: Studies from North America report decreasing clearance rates in homicides, mostly due to increases in firearms-perpetrated homicides and furthermore gang- and drug related homicides, while studies from the European context report no change or increasing clearance rates, possibly due to increasing level of domestic homicides. It is important for the police to follow the changes of homicides to advance the response and thereby increase the clearance rate and prevent future homicides.

The main study objective was to explore the homicide clearance rate in Sweden from 1990 and forth using a retrospective register-based study design. The data includes all police reported homicide cases and is based on data from police investigations and court verdicts in solved cases (N=2149). The dataset is an extension of an international dataset on homicide, known as the European Homicide Monitor (EHM).

Results: The incidence of males killed using firearms has increased somewhat (IRR=1.01) and the incidence of males hospitalized due to firearm injuries has increased throughout the study period (IRR=1.04) with corresponding decreasing figures in females (IRR=0.96; IRR=0.93).

The combination of firearm violence, public place and male victim (the so called ‘hard-to-solve’-cases) were strongly associated with higher share of unsolved cases compared to other cases (OR=5.5). The number of unsolved homicides has varied around 10-20 annually, constituting about 15-25% of all cases. Uncleared cases increased somewhat overall during the study period but this was mostly due to a considerably increase in unsolved cases in firearms-perpetrated cases with about 5% non-cleared status in the early 1990s and about 45% after 2010 (IRR=1.04).
There has been an increase in clearances in homicides with contact violent methods in public places, from about 80% in the early 1990-1996 to 90% in 2004-2010. Another factor that seemed most strongly associated with low clearance rates among homicides cases was the body of the victim not being found and/or the violent method was unknown.

Discussion and Conclusion: The study concludes that there has been a decrease in homicide clearance rate in Sweden and that this decrease was related to a shift in the nature of the offences rather than ineffective police-work. That homicides related to criminal milieus have increased has implications for how the Swedish Police and Prosecution Authority should organize their work. Especially as previous research has shown that homicides related to criminal milieus should be investigated by specialized investigation units rather than units investigating all types of major violent crimes.

It is important for the police, politicians and others involved in the criminal justice system to note that the structure of homicides are changing and that the police and criminal justice need to develop to meet these changes and thereby increase the clearance rate and also hopefully prevent future retaliation homicides.

Addressing the Challenges and Limitations of Utilizing Data to Study Serial Homicide
Enzo Yaksic, Serial Homicide Expertise and Information Sharing Collaborative, USA

Conducting systematic research on serial homicide is complicated by variations in definition, sample size, data sources and collection procedures. Almost three decades ago, Kiger (1990) highlighted the limitations of employing then existing data to study the social problem of serial murder and called for the creation of new sources to allow for quantitative assessments that used empirical data. In response, serial homicide researchers – previously operating in ‘information silos’ – were encouraged to contribute information to the ‘Serial Homicide Expertise and Information Sharing Collaborative’ to build a comprehensive record of serial homicide offending in partnership with the ‘Radford Serial Killer Database Project’. Providing serial homicide data in an open access format empowers users to interact with the information and supply edits and corrections, a process that increases data reliability and validity. This statistical evidence enables analysts to disprove ingrained myths and stereotypes about serial murderers. To address some institutionalized definitional differences, impaneled experts applied the Modified Delphi Technique and proposed adopting the broad term ‘multiple-event murderer’. Further study of serial offenders committing revenge murders, witness elimination and robbery homicides, organized crime, contract and gang killings was recommended alongside the exploration of creating and utilizing a dashboard to track instances of serial homicide.

Offender Characteristics

Moral Correction of Property Offenders as the Goal of Criminal Law
Yael Aviad, Ariel University, Israel
Sharona Aharoni-Goldenberg, Netanya Academic College, Israel

Retribution as the leading goal of criminal law has led to imprisonment becoming the primary punishment for property offenses, despite its high recidivism rates (82.1%). The poster will explore sentencing approaches that may reduce reoffending rates by property offenders. To this end, it argues that the root of crime is low moral judgment. Its starting point is Kohlberg’s theory of moral development and the empirically proven evidence about the connection between delinquency and low moral standards.

We propose to adopt a three-point penal approach. First, the verdict must focus on the moral aspects of the crime committed and explicitly articulate its immorality. Second, the sentence should incorporate mandatory Moral Reconciliation Therapy (MRT), proven to lower recidivism rates. Third, the verdict should impose a combination of three monetary sanctions: fines, compensation for the pain and suffering, and restitution of the spoils (which is already mandatory). We claim that Financial sanctions are pro-moral.

In this way, the goal of retribution is also attained, as the suggested approach to sanctioning is proportional with the just desert of the offender, it is economically burdensome, and it may lead to public catharsis. In most cases, the sentence should forsake incarceration, which rarely prevents reoffending or elevates the offender’s moral judgment.

Female Offenders’ Crime Narratives
Kayley Ciesla, The International Research Centre for Investigative Psychology at The University of Huddersfield, UK
Maria Ioannou, The International Research Centre for Investigative Psychology at The University of Huddersfield, UK
Laura Hammond, The International Research Centre for Investigative Psychology at The University of Huddersfield, UK
Background: Although there is a vast array of theories on crime, one area that is largely under-represented is that of the actual experience of the offender engaged in criminal acts. Similarly, although it is acknowledged that males and females commit the same offences, it has increasingly been demonstrated that a female specific view is instrumental. This is largely due to the fact that females’ routes into offending are completely different to those of their male counterparts (Chesney-Lind & Pasko, 2004; Corston, 2007).

Objectives: The main aim of this study was to examine the individual and phenomenological experiences of crime amongst female offenders. This was done by exploring the overall structure of roles females see themselves as acting out when committing their crimes.

Method: The sample consisted of 64 females convicted of a criminal offence, with an average age of 35.90 years (SD = 10.45). Participants were recruited to take part in the study by answering a questionnaire exploring narrative roles they experienced during commission of a crime. The questionnaire was derived from Narrative Theory (McAdams, 1988) and Frye’s (1957) Theory of Mythos.

Results: In order to explore the narrative experience of female offenders Smallest Space Analysis (SSA) a form of multidimensional scaling analysis was utilised. SSA analyses revealed in regards to criminal narrative roles that four themes were identified: Hero, Professional, Revenger and Victim that reflect the four story forms in Frye’s (1957) mythoi: Comedy, Irony, Romance and Tragedy.

Theoretical and practical implications: The results of this research reinforce the importance of exploring and drawing inferences from the perpetrators interpretations and recollections of crime. An understanding of how individuals felt and thought during their crimes, offers an alternative perspective of criminal behaviour and a framework for future explorations. As well as offering useful theoretical implications for the exploration and study of crime, this study can also potentially offer practical solutions for various practitioners involved in the criminal justice system such as aiding police investigations (crime linking, negotiation, investigative interviewing) informing treatment options and management of female offenders.

Is Sadism a Distinctive Feature of Sexual Homicide?
Kylie Reale, Simon Fraser University, Canada
Eric Beauregard, Simon Fraser University, Canada

Although prevalence rates of sadism are scarce, some studies have found that around 37% of all sexual homicide offenders are sadists. This is particularly problematic as some research indicates that sadistic sexual offenders differentiate from other sexual offenders in important behavioural aspects such as the level of torture and humiliation exhibited during the offense, whether the crime has been premeditated, and their ability to evade police detection. However, most of this research has been conducted on mixed samples of sex offenders (i.e., rapists and child molesters), neglecting to look specifically at sexual homicide offenders. Moreover, recent studies have suggested that a dimensional approach would be more efficient than a classificatory one for diagnosing sexual sadism. Therefore, there is a need to explore whether sadism is a distinctive feature of sexual homicide. At the same time, it is also important to examine this question while looking at sadism from a dimensional perspective. Based on a sample of 350 cases of sexual homicide, regression analyses are used to identify crime characteristics associated to sadism, whether as a classification or as a dimension using the SADSEX-SH-R (Myers, Beauregard, & Menard, 2013), an 8-item sexual sadism scale for sexual homicide. Although some behaviors are associated to the dimension of sadism as measured by the SADSEX-SH-R, results also suggest that differences exist between sadistic and non-sadistic sexual homicide offenders. For instance, sadistic sexual homicide offenders are more likely to use various precautions to avoid detection, select a deserted location, and dismember the victim’s body compared to non-sadistic offenders. Implications of the findings for police investigations will be discussed.

Reducing Isolation and Instilling Hope:
How to Reduce Sexual Reoffending via Peer-Support Networks in and Beyond Prison
Christian Perrin, Nottingham Trent University, UK

Widespread research cites community isolation, public denigration, stigma, and loss of hope as risk factors for further offending. Conversely, ex-offenders who receive social support are more likely to reintegrate successfully and desist from offending. This is especially true for sexual offenders. Recent developments such as Prevention Project Dunkelfeld and Circles of Support and Accountability have demonstrated the need for and effectiveness of prison- and community-based interventions that offer support as a preventive measure. In the research being presented here, 15 incarcerated sexual offenders participated in interviews exploring their involvement in peer-support programs designed to support fellow offenders. Transcripts were analysed using interpretative phenomenological analysis. Analysis revealed three super-ordinate themes (‘addressing wellbeing’, ‘countering negative emotions’, and ‘accumulating positivity’) which
related to the impact of offenders supporting each other through the desistance process. Results suggest that prisoners who provide and receive peer-support experience an enhanced sense of social support, hope, and connectedness. These outputs have been empirically linked with reductions in reoffending for sexual and violent offenders. The application of peer-support interventions in the context of reducing reoffending and preventing sexual crime are discussed, and suggestions for further research are offered.

The Use of Geographic and Psychological Profiling Combined With Use of a Database in the Search After the Offender in a Sexual Murder
Jonas Hildeby, Department of National Operations, Sweden
Tess Hérisson, Department of National Operations, Sweden

In August 2015 a young woman was brutally killed on a running path in a sexual homicide in Upplands Vasby, a suburb to Stockholm. The Analysis group at the Department of National Operations was given the task to create a geographic profile along with a psychological profile and a database to be used in a DNA-screening. The outcome of the profiles was used to search in the database over all the men living within the area of the geographic profile. The psychological profile pointed out three specific characteristics of the offender that gave the men in the area a value from 0 to 3. The geographic profile divided the area of interest into four different subareas prioritized from 1 to 4. The combination of the geographic subareas and the values of the psychological gave groups of men with different levels of interest. The DNA-screening was based on the findings and the offender was found after three weeks. The database continued a total of more than 20 000 men.

Investigative Techniques and Decision Making

Background Checks in the U.S. and Japan: A Comparative Analysis of Investigative Techniques
Chelsea A. Binns, St. John’s University, USA

Japan is known for their low crime rate, compared to the United States. One investigative technique that is relied upon to vet potential criminals in both the United States and Japan is the background check. There are major differences in the way these checks are conducted in both areas. A comparative analysis will shed light on the significance of those differences, in light of their ability to prevent and detect crime. These areas make interesting subjects for comparison, as their access to information, and interest in personal characteristics, are very different. For instance, in Japan, there is less access to information than in the United States. Due to privacy laws, the Japanese are replied upon to self-disclose criminal information. In the United States, the same information can be obtained by third parties. Also in Japan, background checks focus on areas the United States considers to be more “private” and thus often doesn’t consider in their checks, such as political beliefs. These differences will be examined, in light of their ability to prevent crime.

The Presumption of Guilt in Suspect Interrogations: On Coercion as a Trigger of Confirmation Bias
Moa Vicky Josefina Edvardsdotter Lidén, Uppsala University, Sweden
Minna Gräns, Uppsala University, Sweden
Peter Juslin, Uppsala University, Sweden

According to Swedish law, all apprehended suspects shall be interrogated as soon as possible after their apprehension. Since apprehensions require police officers to hypothesize about a suspect’s guilt, they are potential triggers of confirmation bias. To test this, an experiment was conducted where police officers (N = 60) were faced with 12 scenarios in which they either had to decide for themselves whether to apprehend a suspect or were informed about another police officer’s or prosecutor’s decision. Thus, the study had a 3 (decision maker: police officer himself, other police officer, prosecutor) x 2 (decision: apprehension, no apprehension) mixed design. The scenarios were inspired by real criminal cases and concerned different kinds of crimes reflecting the proportions of reported crimes in Sweden in 2014. Furthermore, the suspects’ personal characteristics (gender, ethnicity, criminal record etc.) varied.

After having decided whether a suspect was to be apprehended (or having been informed about someone else’s decision on the matter), police officers were asked to prepare questions for an interrogation. First, they freely generated six questions to ask the suspect. These questions were rated by the first author and five independent raters. Participants were also asked to chose six questions from an Interrogation Questions Checklist (IQC), a pre-set list of pairs of questions where one of the questions was natural and the other was guilt-presumptive. Depending on which questions they chose, they got a score from 0-6 points with higher scores indicating higher guilt-presumptiveness. Furthermore, subjects rated the reliability of the suspects’ denial or confession on a scale from 1 to 7. Also, subjects completed a short-version of the Marlowe-Crowne Social Desirability Scale (M-C SDS) in order to assess response bias. Finally, they were asked to state what they thought was the purpose of the study in order to examine whether the perceived purpose
significantly influenced their responses.

Data collection in the main study is in progress but at the time of the conference both data collection and analysis are likely to be completed. Results from pilot testing on law students (N = 12) indicate that overall, apprehended suspects were interrogated in a more guilt-presumptive manner. Both freely generated questions and questions chosen from the IQC were significantly more guilt-presumptive when it came to apprehended suspects than suspects whom had not been apprehended, F (1,11) = 6.414, p = .028, r = .61 and F (1,11) = 7.675 p = .018, r = .64 respectively. There were no significant effects of decision maker and no interaction effects. Looking at subjects’ reliability ratings, there was a significant interaction effect between decision maker and decision, F = 3.81 p = .042. When subjects themselves decided about apprehension, they rated denying apprehended suspects as less reliable than denying non-apprehended suspects. However, when a police colleague had decided about apprehension the trend was reversed so that denying apprehended suspects were rated as more reliable than denying non-apprehended suspects. This reversed pattern suggests some success of changing the decision maker as a potential debiasing technique.

Stop and Frisk Redux: Analysis of Racial Bias in New York City
Abraham Gutman, Hunter College, USA

With the rise of violent crime in the 1990s, the New York Police Department (NYPD) turned to proactive policing practices. Perhaps the best known of these practices is the program Stop, Question, and Frisk, known commonly as Stop and Frisk. Stop and Frisk has had a disproportionate impact on the black and Hispanic communities of New York. More than 80 percent of all stops involve black and Hispanic individuals. Some academics have argued that this distribution of stops does not reflect bias. These academics have used hit rate analysis to show that black and Hispanic pedestrians are arrested at a rate similar to that of white pedestrians. In this paper I challenge that conclusion and argue that there is heterogeneity amongst stops that masks lower arrest rates of black and Hispanic pedestrians. When the sample of all stops is restricted to stops that involved a frisk or stops that were required to be reported, black and Hispanic pedestrians are arrested at a lower rate that is both statistically and economically significant. This results supports the conclusion that Stop and Frisk is an uneven policing practice that carries racial bias.

Redefining the Psychological Autopsy: A Proposal for Collaboration Between Forensic Pathology and Investigative Psychology
Nadia Solomon, St. George’s University School of Medicine & Windward Islands Research and Education Foundation, Grenada

Excepting psychiatry, psychology and medicine remain largely separate disciplines. In forensic inquiries, the psychologist assesses the mind while the pathologist examines the body. Both fields, however, actively participate in the same investigations, albeit from different standpoints, contributing to explorations of crime scene dynamics, identification of offenders, and legal proceedings. In recent years, peer review has become a staple of research, since subjecting work to scrutiny by other experts promotes accuracy. Forensic pathologists would benefit from the insights provided by investigative psychology, particularly if asked to apply psychology to their testimony; and integration with forensic pathology may increase the acceptance of empirical profiling evidence in the courtroom. Additionally, incorporation of medical findings—such as wound patterns, evidence of range of fire, and cause of death determinations—could add another level of detail to techniques like smallest space analysis. This presentation proposes the incorporation of forensic pathological findings into investigative psychology research, and the application of investigative psychology to forensic pathology practice. Cooperation has the potential to extend the scope of knowledge in both disciplines, to increase their applicability to and acceptance in legal contexts, and to maximize the probative value of evidence provided in the court of law.

DRAGNET K – Package
David Canter, The University of Huddersfield, UK

DragnetK is a version of the widely cited and used Geographical Offender Profiling software developed by David Canter and Malcolm Huntley. The software allows easy entry of locations at which crimes have occurred then provides instant indication of the probabilities of the offender’s home location in the form of a coloured probability surface. It also allows precise indication of the most likely home location through the existence of a p value.

Although the software has been used by many police forces throughout the world as a decision support tool, it has also been widely used as a research tool. This is facilitated by its great flexibility. The decay functions can take any form and Euclidian or Manhattan metric distances can be used. Different forms of normalisation are also possible. The software also allows the calculation of regression lines to indicate strong axes to point locations, as well as a number of other useful outputs. A number of academic publications have utilised this flexibility.
Because of the value of Dragnet as a research tool, DragnetK was developed to allow batch processing so that a number of crime series can be input at one time. The software then generates a table with results on all the main outputs for each series.

As a special opportunity for the IP conference in New York the software is being made available together with:
- A complete user manual
- Background notes and references
- PowerPoint presentation on Geographical Offender Profiling
- Example data

The software has been found to work on all versions of Windows. It was developed for use on PC's but users have been able to use it on some Apple devices, although that cannot be guaranteed. It is a very elegant piece of software being less than 1mb.

Illustration of output (N.B. the underlying map is not part of the software, but is drawn from other sources and combined with the Dragnet output).

The software and all supporting files is being made available at the conference for the special price of $125.00 (£90.00)

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**Deception Detection**

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**Three’s Company: Exploring Group Versus Individual Observer Performance in Lie Detection**

Tiaanna Dilley, University of British Columbia Okanagan, Canada
Katherine Rose, University of British Columbia Okanagan, Canada
Sydney Rine, University of British Columbia Okanagan, Canada
Brianna Verigin, University of British Columbia Okanagan, Canada
Stephen Porter, University of British Columbia Okanagan, Canada

Research demonstrates that individual observers detect lies at or slightly above chance-level (e.g., Bond & DePaulo, 2006). However, a recent study indicated that small groups of observers may be more accurate than individuals at detecting low-stakes lies (Klein & Epley, 2015). In the current study, we compare the ability of individual (n = 50) versus “teams” of three (n = 50 groups) observers to assess the honesty of six targets (three lying, three truthful) from a library of high-stakes “public pleaders” pleading for the return of a missing relative (ten Brinke & Porter, 2012). Through discussion, half of the participants (or groups) will be asked to decide whether the target is being honest. The other half will be asked to reach a consensus on the deception-associated traits of the speaker (e.g., likeableness). Accuracy will be compared between groups and individuals. The results of the study will highlight the role of group dialogue in detecting honest and deceptive high-stakes liars via multiple strategies. Findings have implications for group work within the criminal justice system, such as credibility assessments (e.g., parole board hearings) and jury deliberations, guiding future research and practice in the field of investigative psychology.

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**Teenage Offenders’ Ability to Detect Deception in Their Peers**

Louise Marie Jupe, University of Portsmouth, UK
Lucy Akehurst, University of Portsmouth, UK
Zarah Vernham, University of Portsmouth, UK
James Allen, University of Portsmouth, UK

This study investigated the deception detection abilities of young offenders and young non-offenders who made veracity judgments about 12 videotaped interviewees. It also explored the behavioural characteristics of adolescent liars and truth tellers and the way these were used by young offenders and young non-offenders in their veracity judgments.
The findings revealed that young offenders were significantly more accurate in their credibility judgments (67%) than young non-offenders (50%). However, the offenders’ impressive accuracy rates were not as a consequence of using valid cues to deceit. The feedback hypothesis helps to explain why young offenders are more accurate in their decisions: Operating within a criminal environment suggests that young offenders frequently lie and are lied to. Consequently, offenders receive more feedback than non-offenders regarding the effectiveness of their lies as well as how successful they are in detecting lies. As a result, their lie detection ability improves. The current study suggests moving away from individual deceptive cues as predictors of deceit towards a more intuitive and holistic approach to lie detection, such as the Brunswick Lens Model.

Given the frequency and consequences of high-stakes lies occurring in forensic settings, it essential that law enforcement and legal decision-makers accurately assess credibility. However, research demonstrates that – as with laypersons – these professionals detect lies at or slightly above the level of chance. Therefore, research on high-stakes lies and the development of valid strategies to detect them are needed. The current study is examining whether approaches other than direct lie detection (i.e. “is this person telling the truth”) may enhance the ability to detect high-stakes lies. Observers were randomly assigned to one of four experimental conditions: (1) standard direct lie detection (2) “thinking out loud” condition, in which participants verbally deliberate the target’s credibility (3) “critical thinking” condition, in which participants provide reasons for and against the speaker’s honesty before reaching a verdict or (4) “indirect lie detection” condition, in which participants rate the target on characteristics associated with deception (e.g., likeableness). All observers viewed six targets (three lying, three truthful), all of which were extremely high-stakes “public pleaders”, pleading for the return of a missing relative (Porter and ten Brinke, 2009). Accuracy levels across all four conditions will be compared to determine which, if any, method elicited improvement in lie-detection.
Research has examined how more nefarious personality traits such as psychopathy are related to deception in face-to-face and computer-mediated contexts. However, less is known about the relationship between deception and universal personality traits such as the Big Five, altruism, and self-esteem, and how communication mediums influence the ability to successfully deceive. In this study, a mock job hiring paradigm was implemented with dyads of psychology and management undergraduates. One participant was given the opportunity to engage in deceitful behaviour to increase their odds of winning a $500 raffle while subsequently lowering the other participants’ chances of winning. Participants then completed measures for the Big Five, altruism, and self-esteem. We investigated if extraverts would increase their odds of winning a $500 raffle while subsequently lowering the other participants’ chances of winning. We investigated if extraverts would have increased success face-to-face, as well as if altruism and self-esteem would moderate the relationship between success and the Big Five. Results suggest that personality may influence successful deception in varying ways across communication mediums. Examining more general personality characteristics within this context enhances our knowledge by potentially refining our understanding of the impact of personality on detecting deceit across face-to-face and computer-mediated settings. The current research project will also facilitate the knowledge of professionals in the legal system regarding personality, communication, and ability to successfully deceive.

**Tackling the Offender Profiling Challenge**

The main scientific challenge of offender profiling is to establish the link between subgroups of crime scene actions and subgroups of offender background characteristics in order to make predictions about an offender based on their criminal actions at the crime scene. Few research studies to date have been fully successful in identifying either the features of the crime scene that can be reliably used as predictors in the profiling endeavor or the characteristics of the offender that can be reliably predicted. The present panel will focus on devising novel approaches to identifying the salient behaviors as well as the salient offender characteristics in a range of serious violent crime types.

**Serial Sex Offending and its Crime Timeline: Who Does What When?**

Kimberley Schanz, John Jay College of Criminal Justice/The Graduate Center CUNY, USA

C. Gabrielle Salfati, John Jay College of Criminal Justice, USA

Behavioral linkage analysis is the process through which crimes are linked to each other and a common offender using behavioral information. Linkage analysis is based on the theory of behavioral consistency, or the idea that offenders engage in similar patterns of behaviors across multiple crimes over time (Salfati, 2008). The first aspect of linkage analysis specifically addresses the “A” or actions in the A → C equation (Canter, 2000). While some research has found consistency in an offender’s behaviors across crime series in behavioral subgroups, other research has also found consistency in individual behaviors. However, evidence of behavioral consistency has only been partially supported in the literature, with most studies finding both consistency and behavioral change (i.e., a lack of behavioral consistency) across a series of crimes.

The second aspect of linkage analysis addresses the “C” or offender characteristics in the A -> C equation, by examining the consistency between an offender’s actions and characteristics. However, this empirical principle remains to be a challenge in the field of behavioral consistency analysis (Mokros & Alsion, 2002). Most of the research in the field has focused on using police records as data, and therefore examining the characteristic most likely to be found in police records: criminal history. The findings from this research, however, have shown that only a small portion of offenders tend to have theme consistency between their actions at the crime scene (A) and their characteristics (C). With these findings still very tentative in nature, it is possible that a salient element of offending has not yet been addressed that might explain this issue.

This study suggests that a possible salient element of offending might be time. Previous literature has shown that what happens before, during, and/or after one crime may influence what happens in the next crime and more generally in the social psychological literature, that temporality impacts behavior. Therefore, this study aims to examine the relationship between an offender’s consistency of actions performed before, during, and after sexual assaults and the offender’s characteristics. This was done on a dataset of approximately 60 serial sexual assaults that took place within the US. Four Smallest Space Analyses (SSAs) were conducted to examine the relationship between behaviors that occur before, during, and after a crime, as well as the characteristics of offenders. Themes were determined from these SSAs and then a consistency analysis was conducted to determine both the within crime and between crime consistency. Results will be presented in the context of assisting the linkage process by completing the A → C equation.
Consistency vs. Inconsistency in Victim Choice:
Using Victim Selection Patterns to Predict Offender Characteristics in Series With & Without Prostitutes Victims
Marina Sorochinski, John Jay College of Criminal Justice, USA
C. Gabrielle Salfati, John Jay College of Criminal Justice, USA

Sex workers as a group, are one of the more common targets in serial homicide with 35% of these victims being part of a series. The investigative efforts in these crimes are often complicated by delayed reporting, lack of physical evidence and lack of witnesses. The exclusive focus on sex worker victims in some of the most prolific homicide series has led many to believe that offenders who target this group of vulnerable victims are highly consistent in their victim selection across series. However, recent studies show that many offenders who kill prostitute victims may exhibit substantial variability in their victim selection, thus creating additional issues for the investigation of their crimes. The present study aimed to further examine differences between offenders whose victims were exclusively sex workers and those with mixed (i.e., sex workers and non-sex workers) victims. Data were collected through a large-scale review of media sources to identify all serial homicide cases reported worldwide (1970s-2015) that have included at least one sex worker. The dataset for the present study included 67 offenders and 474 victims (only solved series where the victims were conclusively linked to the offenders were used in this portion of the project). Of those, in less than half (45%) of the series offenders remained consistent in targeting only prostitute victims. A detailed examination of the differences between offenders (and their respective series) where victims were prostitutes only vs. mixed revealed several distinct patterns. Specifically, it was found not only that those offenders who exclusively target prostitutes exhibit a range of different characteristics from those who have mixed victims, but also, within the mixed series, two additional patterns of victimization emerged. These patterns can be distinguished based on whether the offender started off with victims who were not prostitutes only and then moved on to prostitutes only or the offender targeted prostitute and non-prostitutes throughout the series, as well as based on the offender’s behavior toward the prostitute vs. non-prostitute victims (e.g., killing the prostitutes while sexually assaulting the non-prostitutes). Using these patterns can help differentiate between offenders and link their behavioral patterns to background characteristics (e.g., history of prior violence and criminal history). Results will be presented in the context of current behavioral profiling and linkage research, particularly, with regard to the different challenges that these subtypes of series present for investigators. Implications for both the theoretical understanding and the investigative efforts for these violent crimes will be discussed.

Offender Profiling & Risk Assessment:
Combining Forces to Strengthen the Validity of Behavioral Analysis of Serial Sexual Offending
C. Gabrielle Salfati, John Jay College of Criminal Justice, USA
Christopher Kunkle, New York State Bureau of Institutional Sex Offender Treatment, USA

Behavioral Crime Scene Analysis aims to identify the most likely offender characteristics based on the examination of the behavioral actions an offender engages in at the crime scene to prioritize the most likely characteristics of the suspect in criminal investigations. Although the actions part of this equation has been thoroughly looked at, and models of behavior developed, the scientific challenge of linking the crime scene to a specific subset of offender characteristics has remained. In order to more fully understand the psychology of the offender, a much needed new addition are psychological factors, more commonly focused on in clinical work, especially in the sub-field of risk assessment.

Clinical risk assessment is a process that aims to determine, based on specific psychological measurements, the likelihood that an offender is going to commit a crime. The field of risk assessment has focused on which offender characteristics are predictive of reoffending. An additive process is used to determine which of these factors increase the risk level of reoffending. As a result of this process, offenders that have more risk-related characteristics are placed into a higher risk level category than those who have fewer of these characteristics. Recent research has however shown that there is variability in offenders who receive similar scores in terms of whether they go on to re-offend or not. Adding a more detailed understanding of an offender’s behaviors at the crime scene may help refine and increase the reliability of risk predictions.

These two fields have to date been separate. Yet both bring important pieces to the same equation, of linking actions to characteristics. By leveraging knowledge from both fields, it would offer a more complete, thorough understanding of sexual offenders in terms of how they act, and their individual characteristics.

The project is a collaboration between the Investigative Psychology Research Unit at John Jay College of Criminal Justice and the Bureau of Institutional Sex Offender Treatment (BISOT) at the New York State Office of Mental Health.
The Homicide Profiling Index – Revised to include Rape and Sexual Offenses (HPI-R©) is an extensively validated coding dictionary designed to be used as a tool for collecting behavioural data via police case files. In addition to the variables included in the HPI-R, a Clinical Addendum has been specifically developed for the current study, using the current Risk Assessment literature and in consultation with, and with approval of, the New York State Office of Mental Health (OMH).

New Paradigms and Investigative Tools in Investigative Psychology

Symposium outlines new paradigms and investigative tools in Investigative Psychology. Focusing on developing inferences about the characteristics of criminals from their actions within Narrative Investigative Psychology, whereby recent development of systematic research instruments is presented. Also introducing the Suspect Prioritisation, Elicitation and Linking (SPEL) Project, an interactive support system developed by integration of known offender actions, geographical locations, criminal history and co-offending patterns. The SPEL system aims to provide both a research framework and a decision support tool for live police enquiries.

The SPEL Project
David Canter, International Academy for Investigative Psychology, UK

Building on the earlier decision support systems of Dragnet and iOPS, the Suspect Prioritisation, Elicitation and Linking (SPEL) system combines information drawn directly from existing police databases that record crime location as well as temporal information together with features of the crime. This creates an interactive system designed to support investigative decision making. Information on known offenders is integrated into the system, including their criminal history, offence actions, residential location and co-offenders.

The SPEL model uses behavioural and linkage analysis to prioritise offenders in three main phases.

- Phase one identifies whether or not a crime is likely to be committed by a known offender drawing on information gathered from the crime scene.
- Phase two then compares the likely known offender's crime to all other known offenders in the system. The known offender crimes are prioritised based on distance, temporal proximity, activity space, crime type similarity and location similarity to the crime in question.
- Phase three then ranks the linked probability scores from phase two in order to provide a list of prioritised offenders.

The analysis on which the system is based draws on the cleaning and combination of very large, existing police databases. So that although SPEL acts on actual police data a unique organisation of that data is the foundation of the system. Currently the system utilises all criminal activity for the most recent four years of solved and unsolved offences.

A crucial aspect of the system is close liaison with potential users within the police to ensure SPEL has operational utility as well as a firm empirical base. SPEL has therefore been developed through close interaction with the police officers who will utilise it. This has enabled the system to be developed in ways that accord directly with the actual investigative processes. This has given rise to a unique aspect of the system. Its interactive capability integrated with Google maps/earth.

Testing the SPEL System and Investigating Different Types of Burglars
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The aim of the SPEL project, was to develop an investigative decision support system of relevance to crimes against students, volume crime and serious crime that assists with offender prioritisation, elicitation and crime linking. From the initial stages of the project burglary was highlighted as a priority crime and therefore the decision support system was aimed, in particular, at domestic burglary crimes. Domestic burglary is one of the most common offences across the world and yet also one of the most unsolvable. The first stages of offender prioritisation testing used behavioural (M.O.), geographical, temporal and co-offending behavioural information to test four closed cases of domestic burglary. Results showed a 25% hit rate on the suspects identified through the prioritisation process. The suspects that were prioritised and did not match the police records for the offence created further lines of enquiry.
Although the first stages of testing proved the system’s potential, in order to improve the decision support system, further investigation was needed based on an offender’s criminal history and demographics. A study conducted in a sparsely populated area of Florida displayed different types of burglars based on differing offender traits, criminal history and offence characteristics (Fox & Farrington, 2012). The current study aimed to test how deriving offender profiles of burglars, in a similar way, from a large densely populated city could compare. The data used was available only to the investigation, in contrast to the earlier study where not only was data for the investigation used but also assumptions of motive in police and victim reports. Four behavioural offending patterns were identified, labelled: Commercial (targets commercial properties, evidence of weapon and force), Forceful (untidy scene, steals low value items), Interpersonal (occupied insecure properties) and Planned (evidence of forethought, weapon used, alarm damaged). Each offender description, made up of the criminal history and personal traits of the individual, reflected the crime scene behaviours featured. Three of the four profiles could be closely related to the Floridian burglary profiles, a surprising resemblance between the small town American burglars to burglars in a dense major UK city. Developing the burglary profiles highlights the way the investigative information provided is used. It is important to note when working closely with the police that it is not just the impact of a study that is the focus, with potential Hawthorne effects in place, it is the use of the information provided. The value of the offender profiles identified from the analysis give possibility to improve detection of burglaries when used in investigations. The burglary profiles identified can also add additional support to the SPEL system in narrowing down the lists of likely suspects.

Crime Linkage Analysis and Diverse Offender Prioritization
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A primary goal of the SPEL project was to develop a decision support system to assist police investigators in generating lines of enquiry in instances where traditional investigative methods may be lacking, such as when physical evidence or eye-witness accounts are not present. The SPEL system achieves this through a multi-phase process which includes crime-linkage analysis, offender elicitation and ultimately offender prioritization. While domestic burglary was identified as a primary crime-type of focus for the SPEL system, the use of an offender’s entire diverse criminal history in the linkage process allowed for more holistic and actionable results.

The first step in SPEL’s linkage process involved constructing a predictive crime linkage model. Logistic regression was chosen for its flexibility in providing a probabilistic metric. For computational reasons, a case-control design was adopted for model creation. The trade-off, however, is this results in a loss in base-rate data for linked crimes, and can make intuitive interpretation of results more difficult. In this case, the probability output from the regression model corresponds to the similarity of a given crime pair to a linked crime pair within the data.

Linkage was assessed using temporal proximity, spatial proximity, location similarity and crime type association between crimes as predictors. A novel construct activity space was created to describe each offender’s unique spatial dispersion pattern. Activity space was described as the unique circle which encompassed an offender’s crime dispersion pattern. While models without activity space appeared to perform reasonably well ($R^2 = 0.465, AUC = 0.858, N = 25816$), models with activity space were much stronger ($R^2 = 0.730, AUC = 0.943, N = 25816$). AUC corresponds to the area under the curve score from ROC analysis.

Due to needs of the practitioners in the context of a major metropolitan area with a high burglary rate, for which SPEL is developed, the traditional binary classification of crime pairs as either linked or unlinked has only limited utility. For any given target crime, there could be hundreds of probable linked crimes present within the database. A more actionable output was to provide practitioners with the most probable offender(s) for any given target crime. This is achieved by averaging the individual crime scores for a given target crime by offender. This creates the final proportional scoring metric on which offenders are prioritized. The score is said to be proportional because as this score increases, the likelihood the given offender committed the target crime also increases.

This results in uniquely useful comparisons – for example, for a given unsolved burglary, being able to rank an offender who has never committed a burglary against a different offender who has a history of burglary, which to date has not been widely explored. Due to limited police resources, the relative utility of this approach was assessed by how often the system could successfully prioritize offenders into the top 4 to 10 ranks. It would be prohibitively expensive, in either man hours or cost, to investigate offenders who fell outside of this range. It was found that in 28.9% of trials of solved crimes ($N = 1,406$), the actual offender was in the top 10 ranks.