ABSTRACT

Data mining of network data often focuses on classification methods from machine learning, statistics, and pattern recognition perspectives. These techniques have been described by many, but many of these researchers are unaware of the rich history of classification and clustering techniques originating in social network analysis.

The growth of rich social media, on-line communities, and collectively produced knowledge resources has greatly increased the need for good analytic techniques for social networks. We now have the opportunity to analyze social network data at unprecedented levels of scale and temporal resolution; this has led to a growing body of research at the intersection of the computing, statistics, and the social and behavioral sciences.

This talk discusses some of the current challenges in the analysis of large-scale social network data, focusing on the inference of social processes from data. The invasion of network science by computer scientists has produced much interesting, both good and bad, research.

BIBIOGRAPHICAL NOTE

Stan Wasserman, an applied statistician, joined the Departments of Sociology and Psychology at Indiana University in Bloomington in Fall 2004, as Rudy Professor of Statistics, Psychology, and Sociology. He also has an appointment in the Karl F. Schuessler Institute for Social Research. Prior to moving to Indiana, he held faculty positions at Carnegie-Mellon University, University of Minnesota, and University of Illinois, in the disciplines of Statistics, Psychology, and Sociology; in addition, at Illinois, he was a part-time faculty member in the Beckman Institute of Advanced Science and Technology, and has had visiting appointments at Columbia University and the University of Melbourne. In 2005, he helped create the new Department of Statistics in Bloomington, and became its first chair in 2006.

Wasserman is best known for his work on statistical models for social networks and for his text, co-authored with Katherine Faust, Social Network Analysis: Methods and Applications. His other books have been published by Sage Publications and Cambridge University Press. He has published widely in sociology, psychology, and statistics journals, and has been elected to a variety of leadership positions in the Classification Society of North America and the American Statistical Association. He teaches courses on applied statistics.

He is a fellow of the Royal Statistical Society, and an honorary fellow of the American Statistical Association and the American Association for the Advancement of Science. He has been an Associate Editor of a variety of statistics and methodological journals (Psychometrika, Journal of the American Statistical Association, Sociological Methodology, to name a few), as well as the Book Review Editor of Chance. His research has been supported over the years by NSF, ONR, ARL, and NIMH.

Wasserman was also Chief Scientist of Visible Path Corporation in Foster City, California, a software firm engaged in developing social network analysis for corporate settings. He currently blogs at http://www.iq.harvard.edu/blog/netgov/. He was educated at the University of Pennsylvania (receiving two degrees in 1973) and Harvard University (Ph.D., in Statistics, 1977).
Keynote
Enhancing Early Warning with Open Source Intelligence
Johnny Engell-Hansen
Head of Operations Unit
Council of the European Union
General Secretariat / EU Situation Centre
Rue de la Loi 175
BE 1048 Brussels

ABSTRACT
Open Source Intelligence can play an important role in producing early warnings about developing international crises. A timely and relevant warning buys time to involve international policy makers in creating the needed policy action to mitigate possible effects of a crisis.

The European Union relies on its own Situation Centre (EU SITCEN) to produce early warnings based on, among other things, intelligence derived from open sources. First, the talk gives an overview about the exact role and responsibility of the EU SITCEN. Secondly, the process it uses to acquire and process information from all kind of sources is described. Finally, the talk explains how OSINT contributes to create early warnings. The nature of OSINT contributions and its relation with other kinds of sources, e.g. Intelligence, will be discussed.

BIBIOGRAPHICAL NOTE
Johnny Engell-Hansen joined the General Secretariat of the Council of the European Union in 1994 and is currently Head of Operations Unit in the EU Situation Centre. The Unit's areas of responsibility include; monitoring and assessing world-wide events on a 24/7 basis and alerting senior EU officials and EU Member States to politically significant events; Open Sources Intelligence capability; deployable teams to ensure strategic information in a crisis situation; provision of core infrastructures (human and material) to support EU decision-making in case the EU Emergency and Crisis Coordination Arrangements are triggered; and implementation of IT platforms to optimise information exchange between the EU Situation Centre and its customers/partners in EU institutions, EU Member States and other international organisations.

Johnny Engell-Hansen has participated in work in support of the development of African Union early warning capabilities, e.g. its Situation Room, its Open Sources information system and its "Continental Early Warning System". He has served as an adviser to the EU border management agency FRONTEX on the setting up of its own Situation Centre.

Johnny Engell-Hansen has been a co-initiator in the creation of a forum for cooperation and information exchange between bodies within International Organisations responsible for "early warning" and "crisis response".

Other professional activities include participation in fora aiming to enhance the exploitation of Open Sources information (e.g. the Budapest Club, an informal gathering of EU government officials). He is also a frequent speaker/participant in conferences and workshops dealing with "early warning" and "crisis response".

Within the EU General Secretariat of the Council Johnny Engell-Hansen has previously held positions in departments dealing with Energy Policy and Organisational Development. In the framework of an exchange programme he was seconded to the German Federal Ministry of Foreign Affairs and the German Federal Ministry of Defence in 2002.

Prior to joining the EU General Secretariat of the Council Johnny Engell-Hansen had a career as an officer in the Danish Armed Forces. During this career he was, among other things, seconded to the EU Monitoring Mission in ex-Yugoslavia in 1993 where he served in Croatia, Bosnia-Herzegovina and Albania.
Keynote
Operating Risk Intelligence in an Age of Information Abundance
Andrew Chester
Juno Risk Solutions
Annapolis, Maryland

ABSTRACT
Intelligence is what business refers to as risk assessment. While financial risk management has matured in recent decades – along with a solid discipline based upon quantitative measures of risk – other non-financial operating risks have not been systematically treated with the predictive analytics, data mining or knowledge management tools that have been emerging. This corporate need can draw its intellectual lineage from government and military intelligence doctrines developed over the last 60 years; the requirements of the corporate risk intelligence community are richer, more quantitative and heavily reliant upon open sources for their information solutions. This presentation will define the relationship and highlight the distinctions between government and corporate risk intelligence needs. It will argue that the exacting needs of business decisions require a quantification of risk to a much greater extent than the typical intelligence consumer. The focus for solution development should be on discovering, vetting and exploiting unique data and open information sources for quantifiable decision-making in a scalable and repeatable fashion. It will conclude with a framework for approaching the development of operating risk solutions using technology to exploit a dynamic interaction between risk takers and risk modelers.

BIBIOGRAPHICAL NOTE
Chester worked for two decades in Canadian naval intelligence, where he pioneered the application of open sources of information to a broad range of intelligence problems. He was the principal architect of the Canadian Maritime Network, a command and control system that coordinated all Canadian federal maritime surveillance efforts. On behalf of NATO, Chester developed and directed its Open Source Intelligence (OSINT) Initiative. In this role, he spearheaded a groundbreaking innovation to integrate commercial information sources with classified intelligence. Chester authored several prominent monographs on analytic techniques and international trade, including a piece titled "Intelligence Exploitation of the Internet," and co-authored "The NATO Open Source Intelligence Handbook."

Following his naval career, he has continued his work fusing intelligence, business and legal concepts into information solutions for governments and corporations. He has created intelligence solutions for corporate risk, border security and trade-based risk assessment. Chester serves as a principal in Juno Risk Solutions, an international provider of products and services that enables companies to embed transaction risk quantification into their business processes. He is a graduate of the Royal Military College of Canada and the U.S. Naval War College. Chester also earned a master’s degree from the Norman Patterson School of International Affairs at Carleton University, and holds a J.D. from the College of William & Mary School of Law. He is a member of the Virginia State Bar.
Keynote
Bridging the "Two Cultures" of Open Source Intelligence
Chris Pallaris
Director and Principal Consultant
i-intelligence

ABSTRACT
Fifty years ago, the physicist C. P. Snow coined the "two cultures" to describe the failure of communication between the sciences and the humanities. Snow argued that mutual ignorance and incomprehension were a hindrance to tackling the challenges of his day. For all its flaws, Snow's thesis remains worryingly relevant, no less to OSINT professionals. Our discipline is increasingly divided between analysts and technologists: the former struggle to grasp technology's potential, while the latter often fail to appreciate the human challenges associated with OSINT collection and analysis. Mutual incomprehension extends to all aspects of our work: analysts are tasked with anticipating the future; technologists with building it. Analysts grapple with the messiness and uncertainty of global affairs and the limits of human cognition; technologists are expected to answer the most complex questions using binary truths. Bridging these cultures is essential to making OSINT the dominant intelligence paradigm of the 21st century. This talk will explore what effect these cultures are having on the business of open source intelligence and how the resulting problems can be alleviated. Further, it will explore whether OSINT professionals can work towards the much-discussed "third culture", one founded on a mutual understanding of how information - as both a physical entity and theoretical construct - can help tackle the challenges of our day.

BIBIOGRAPHICAL NOTE
Chris Pallaris is the Director and Principal Consultant of i-intelligence. He leads and coordinates the company’s training and consulting activities in Switzerland and beyond. Previous to this, Chris served as Executive Editor and Head of Strategy and Open Source Intelligence at the International Relations and Security Network (ISN), ETH Zurich. He established the ISN’s OSINT unit and coordinated its intelligence-related projects with Swiss and European stakeholders. Earlier, he served as the ISN’s Executive Editor where he led the development of the organization’s news and information services and its global network of partners and correspondents. His professional experience also includes competitive intelligence, journalism, information and knowledge management, network building, strategy consulting, and organizational development. A graduate of the London School of Economics and Political Science, Chris serves on the board of the European Open Source Intelligence (EUROSINT) Forum, where he also chairs a working group on best practices in OSINT.