

About the Contributors

Anne V. D. M. Kayem is currently a Senior Lecturer at the University of Cape Town's Department of Computer Science and head of the Information Security Laboratory. Since January 2013, she is coordinator of the Hasso-Plattner-Institute's PhD Research School in Information and Communication Technologies for Development at the University of Cape Town, South Africa. She holds a PhD degree in Computer Science obtained from Queen's University, Kingston, Ontario, Canada. Her PhD thesis was on Adaptive Cryptographic Access Control in Dynamic Data Sharing Environments and her current research interests lie in the areas of Cryptographic Key Management, Data Anonymization, Autonomic Computing, Access Control, and Unconventional Security Methodologies for resource constrained environments. She is a member of ACM and IEEE, and a member of the editorial board of Parallel Processing Letters. In addition, she is on the reviewing board of a couple of local (South African) and International Conferences and Journals. She co-chairs the INTRICATE-SEC (Theories and Intricacies of Information Security Problems) workshop.

Christoph Meinel is a professor and CEO of the Hasso-Plattner-Institut affiliated with the University of Potsdam, where he leads the Internet Technologies and Systems research group. His research interests include security and trust engineering, Web 3.0, and eLearning. Meinel has a PhD in computer science from the Humboldt-University in Berlin.

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Jonathan Abramson is a faculty lead for information systems at Stratford University and faculty member for Everest University. He holds a Doctorate of Computer Science (DCS) from Colorado Technical University. His research focus is mobile learning and E-learning. Prior to entering academia Abramson served in the United States Army. He has taught at Northwestern Connecticut Community College, Post University, Capital Community College, and Education Connection. He is most recognized for his skills in adult education, distance learning, E-learning, and instructional design. His recent scholarly work was with the Academic Business World International Conference as a coauthor on the topics of cyber security.

Abdulrahman Al-Mutairi holds a BSc in Information Technology and Computing and a MSc in Information Security (with Distinction) from Royal Holloway College-University of London. Abdulrahman also is a GIAC Certified Digital Forensic Analyst. He is a third year doctoral student in information security group at Royal Holloway College-University of London. His research interest includes network security, digital forensics, cloud computing security, cyber crime, distributed systems, critical infrastructure and electronic commerce security. Currently, his research is about the security of real-time networks and the associated mechanisms including differentiated services, traffic engineering and policy routing, under the supervision of Dr. Stephen Wolthusen.

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George Alphy received his Bachelor in Technology from SCMS School of Engineering and Technology, Ernakulam, Kerala, India in 2013. His area of Interest is information and system security, information forensics, and open source architecture.

R. Balasubramanian is associated as an Associate Professor in the Department of Computer Science and Engineering at the Indian Institute of Technology Roorkee. He has obtained his BSc and MSc degree in Mathematics from the University of Madras in 1994 and 1996, respectively. He obtained his PhD Degree from the Indian Institute of Technology Madras in 2001. He was a Post Doctoral Fellow at the University of Missouri Columbia, USA in 2001-02 and a Post Doctoral Associate at Rutgers, the State University of New Jersey, USA in 2002-03. He has been associated with the Indian Institute of Technology Roorkee since 2004. He was a Visiting Professor and a member of Computer Vision and Sensing Systems Laboratory in the Department of Electrical and Computer Engineering at the University of Windsor, CANADA during May - August 2009. Balasubramanian has guided 6 Doctoral and 64 Master's theses, has published three book chapters in Springer Verlag, and has more than 135 research publications in reputed journals and conference proceedings. He has also successfully completed a number of research projects of national importance. His area of Research includes Vision Geometry, Digital Watermarking using Mathematical Transformations, Image Fusion, Biometrics, Secure Image Transmission over Wireless Channel, Content Based Image Retrieval and Hyperspectral Imaging.

Anirban Basu is a Senior Researcher at KDDI R&D Laboratories in Japan. Prior to that, he worked as a Post-doctoral Researcher at Tokai University. He is also a Visiting Research Fellow at the University of Sussex. He holds a PhD in Computer Science and a Bachelor of Engineering (Hons.) in Computer Systems Engineering from the University of Sussex. His research interests are in computational trust, privacy and security and peer-to-peer networks. He is particularly active within the IFIPTM computational trust management community.

Dustin Bessette is a doctoral candidate at The National Graduate School of Quality Management. He is completing a Doctor of Business Administration with a concentration in quality systems management. He completed his undergraduate degree in real estate studies from Marylhurst University. Additional graduate coursework was completed in green development and renewable energy. Currently, he is employed with the Oregon Parks and Recreation Department (OPRD) as a park ranger. Previously he was employed with the New York State Parks and Recreation Historic Preservation (NYSOPRHP) as a regional water safety coordinator. He served as the associate editor for *The International Journal of Environmental Sustainability*.

Mehmet Vefa Bicakci graduated from Carleton University with a bachelor's degree in computer systems engineering and a master of applied science degree in electrical and computer engineering in 2011 and 2013, respectively. His masters thesis title was "Anomaly Detection for Mobile Device Comfort." Vefa's research interests are broad, and they include security, operating systems, and machine learning and data mining.

Madeleine A. Bihina Bella is currently pursuing a PhD in Computer Science, specialising in digital forensics, at the University of Pretoria in South Africa. She has received several local and international awards for her doctorate research. Notable ones include the 2011 L'Oréal-UNESCO Regional Fellowship for Women in Science in Sub-Saharan Africa, the 2013 Google Anita Borg Memorial Scholarship Europe, Middle East and Africa and the 2013 Tata Africa PhD scholarship for women in science, engineering and technology as part of the national South African Women in Science Awards. She is currently appointed as a Research Associate at SAP Innovation Center Pretoria and worked previously as a business analyst and an IT auditor in the private sector, where she obtained a CISA (Certified Information Systems Auditor) certification. Her research interests include digital forensics, computer fraud detection and intrusion detection systems.

Mark John Burke holds two bachelor's degrees from Potchefstroom University, South Africa, in both Computer Science and Language Technology. He graduated from the University of Cape Town with an MSc in Computer Science and he is currently studying at Cambridge University. His master's thesis title was "Enabling anonymous crime reporting on mobile phones in the developing world." His research experience and interests are varied, and include cryptography, security, privacy, artificial intelligence, machine learning and the policies surrounding these aspects

Maurice Dawson serves as an Assistant Professor of Information Systems at University of Missouri-St. Louis, Visiting Assistant Professor (Honorary) of Industrial and Systems Engineering at The University of Tennessee Space Institute, Visiting Professor at University of Gambia, and Fulbright at South Ural State University, Russia. Dawson is recognized as an Information Assurance System Architect and Engineer Level 1 and 2 by the U.S. Department of Defense. His research focus area is cyber security, systems security engineering, open source software (OSS), mobile security, and engineering management.

Moses T. Dlamini has a BSc in Computer Science and Mathematics from the University of Swaziland. He received his BSc-Honours and MSc in CS from the University of Pretoria. He has written and presented a number of research papers. His research interest lies in cloud security.

Natasha Dwyer is a Senior Lecturer in Digital Media at Victoria University in Australia. She is a design researcher exploring the dynamics of trust in digital environments, an area she worked in as a Research Fellow at British Telecom. For ten years, she worked as a public servant in the capacity of 'Interactive Designer' for the Australian Centre for the Moving Image (ACMI), a cultural institution at Federation Square, Melbourne. Her role was to facilitate public access to ACMI's collections. Projects she designed included the Memory Grid (2003), a touch-screen interface that provided a video-on-demand service to ACMI's visitors. The work was available across multiple access points on ACMI's ground floor for five years. The MAP (memory and place) project (2007) invited visitors to submit films about locations in Victoria to an interactive map. Natasha has also been involved in the not-for-profit arts organization bigHart (www.bighart.org.au). In this capacity, she created interactive documentaries to support television programmes broadcast on Australian national television.

About the Contributors

Jan H. P. Eloff is currently appointed as a Research Expert at SAP P&I Mobile Empowerment in Pretoria. His main expertise is in the area of Software Innovation and Information Security. Under his leadership, a number of innovative software prototypes were developed for industry related use cases. He is the co-inventor of a number of patent registrations and filings in the U.S.A. From 2009 – 2012 he was appointed as Research Director of SAP Meraka UTD, a private public partnership between the South African government and SAP. He is currently appointed as an Extraordinary Professor in Computer Science at the University of Pretoria. He worked on and managed many industry related projects and served as an expert advisor on ICT to industry.

Mariki M. Eloff received a PhD Computer Science degree in 2000, from the then Rand Afrikaans University, South Africa, now known as the University of Johannesburg. In October 2002, she was appointed as an associate professor in the School of Computing at UNISA. In July 2009, she was promoted to full professor. She joined the Institute of Corporate Citizenship at Unisa as chief researcher in August 2012. In 2010, she received the Unisa Women in Research award for Research Leadership. She participated in many information security management research projects. She has presented research papers at international and national conferences mostly focusing on information security. She has assisted in the organisation and management of international conferences in information security. She served as the South African representative on ISO (the International Standards Organisation) from 2005 to 2007 and contributed to the development of computer and information security standards on an international level.

Babak Esfandiari is an Associate Professor in the Department of Systems and Computer Engineering at Carleton University. He obtained his PhD in Computer Science in 1998 (University of Montpellier, France), then worked for two years at Mitel Corporation as a software engineer before joining Carleton in 2000. His research interests include agent technology, network computing and object-oriented design.

Nidhi Goel is working as an Assistant Professor in Department of Electronics and Communication Engineering Department at Delhi Technical University, New Delhi. She received her BE degree in Electronics and Communication and M.Tech. Degree in Digital Communication in 2001 and 2006, respectively. She pursued her research interest and completed her PhD from Department of Electrical Engineering at the Indian Institute of Technology Roorkee, India. She has several research papers in reputed journals and International Conferences. She has guided several Masters theses and published a book chapter in Springer Verlag. Her area of interest includes wireless communication, multimedia transmission over packet networks, image encryption and visual cryptography.

Indra Gupta received her B.Tech. degree in electrical engineering from HBTI, Kanpur, in 1984. She completed her ME and PhD degrees from the University of Roorkee, India. She is currently an associate professor in the Department of Electrical Engineering, Indian Institute of Technology Roorkee, India. Her areas of interest includes advanced microprocessor applications, information security, multimedia processing, process control applications, biomedical imaging, content based image retrieval and online computer applications.

Gregory L. Harding graduated from the University of Cape Town with a Bachelors and Masters degrees in Computer Science in 2007 and 2013 respectively. His Masters thesis title was “A Practical Key Management and Distribution system for IPTV Conditional Access.” Greg’s interests include distributed systems, networking, and security. He has previously worked as a software engineer developing digital receivers in the pay-television industry, and currently works in the field of cloud computing.

Barry Irwin has a PhD in Computer Science, and holds the CISSP certification. He is an Associate Professor in the Department of Computer Science at Rhodes University, South Africa. He leads the Security and Networks Research Group (SNRG), having founded it in 2003. This group serves as a home for postgraduate students conducting research in the fields of information security and IP networking. His primary research interests are network traffic analysis, information security data analysis and visualisation, cyber conflict and botnets identification and mitigation. He has presented at a number of academic and industry conferences, including BruCon and CyCon.

Donovan Isherwood born in South Africa, is an IT-consultant, software developer, and masters graduate. He graduated with a MSc IT degree from the University of Johannesburg, South Africa in 2014. The research for his masters dissertation considered the role of trust and reputation in different cultures. He consequently proposed a new trust model, known as Trust_{CV}, to support reputation-based trust for collectivist cultures in digital business ecosystems. Apart from his academic involvement, Donovan was also a researcher at SAP Research in Pretoria, South Africa from 2011 until 2013. He participated in several research and development projects aimed at addressing economic and social challenges in emerging regions, particularly in Africa. Currently, Donovan lives and works in Berlin, Germany at the company SD&C (Solutions Development & Consulting). There, he provides his IT-knowledge and development skills for innovative business software solutions.

Sanele Macanda graduated from the University of The Western Cape with a BSc majoring in Computer Science and an Information System and BSc (Hons) in Computer Science from the University of Cape Town in 2011 and 2012 respectively. His Honours thesis title was “Threat Modeling in Social Networks using The Sense Post threat modeling tool.” His research interests are Information security and trading on the financial market. He is currently working as a Front Arena Developer/Analyst at Absa Capital (Barclays Africa Group) and planning to continue studying towards becoming a Chartered Financial Analyst (CFA)

Molulaqhoob Linda Maoyi graduated from the University of Cape with a BSc majoring in Computer Science, Ocean and Atmospheric science and a BSc (Hons) in Computer Science in 2011 and 2012 respectively. His Honours thesis title was “Threat Modeling in Social Networks using attack centric Model.” His research interests are Information security, High Performance Computing, Weather and Climate Modeling. He is currently working as a Weather Anchor at an International TV station (eNews Channel Africa) and pursuing an MSc in Atmospheric Science (Climate Modeling) with the University of Cape Town.

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Steve Marsh is a Trust Scientist and a thought leader in the phenomenon of trust for computational systems. He is an Assistant Professor of Information Systems in the Faculty of Business and Information Technology, University of Ontario Institute of Technology. His PhD (University of Stirling, 1994) was a seminal work that introduced the first formalisation of the phenomenon of trust (the concept of ‘Computational Trust’), and applied it to Multi Agent Systems. As a milestone in trust research, it brought together disparate disciplines and attempted to make sense of a vital phenomenon in human and artificial societies and is still widely referenced today, being in the top tenth of one percent of Citeseerx’s most cited articles in computer science. Steve’s current work builds extensively on this model, applying it to network security, Critical Infrastructure Protection, and mobile device security. His research interests include computational trust, trust management, regret and regret management, and socially adept technologies. He is the Canadian delegate to IFIP Technical Committee 11: Security and Privacy Protection in Information Processing Systems. He is an adjunct professor at UNB (Computer Science) and Carleton University (Systems and Computer Engineering and Cognitive Science). Steve’s Google Scholar page is at <http://scholar.google.co.uk/citations?user=Qz73wh4AAAAJ>. Steve lives in rural Ontario, Canada with dogs, cats, horses and people, all of which creatures that have their own things to teach us about trust.

Ernest Ketcha Ngassam is a Research Expert at SAP P&I BIT Mobile Empowerment, South Africa, Pretoria. He has lead a number of projects within SAP such as, Rustica, GaRO and CoSMoS. Ernest is currently appointed as a Professor Extraordinaire at the Tshwane University of Technology (Faculty of ICT) and the University of South Africa (School of Computing).

Sylvie Noël has a Ph.D. in cognitive psychology and an M.Sc. in cognitive ergonomics. After studying the impact of expertise on knowledge for her doctoral thesis, she moved to Perth, Australia where she worked for five years on a project to build a computer-supported learning system. After returning to Canada, she joined the federal government where she worked on a variety of human-computer interaction projects. These included working on the interface for a group videoconferencing tool, helping to develop a computer-supported collaborative editing tool, improving human-to-human interactions in a collaborative virtual world, exploring the impact of emotional avatars in virtual worlds, and improving trust and security in a mobile environment.

Martin Olivier is a professor in the Department of Computer Science in the School of Information Technology at the University of Pretoria. His current primary research interest is digital forensics. He is author or co-author of more than 200 academic publications. Thirty-two students obtained their doctorates or masters degrees under his (co-) supervision. He is a member of the editorial board of Data and Knowledge Engineering. He is a member of IFIP working group 11.9 on digital forensics, the ACM, the Suid-Afrikaanse Akademie vir Wetenskap en Kuns (South African Academy for Science and Art) and an associate member of the American Academy of Forensic Sciences. Prof Olivier holds a BSc degree in Mathematical Sciences, BSc (Honours), MSc and PhD degrees in Computer Science, a BA degree in Humanities, a BA (Honours) degree in Philosophy and an MPhil degree in Workplace Ethics. He is also a Certified Cyber Forensic Professional (CCFP).

Marwan Omar is a computer science faculty at Nawroz University. He holds a Doctor of Computer Science (DCS) from Colorado Technical University. Omar's research focus is mobile security, human factors security engineering for mobile security, and smartphone exploits. Prior to entering academia, he was a contractor to the United States military in Iraq and worked for a large communications company in Houston, Texas. He has published in the 2013 IEEE Third International Conference on Advanced Computing and Communication Technologies, and the *Journal of Information Systems Technology and Planning*. He is an active member of IEEE, ACM, and the Intellectbase International Consortium.

Sylvia Osborn is currently a professor in the Department of Computer Science at the University of Western Ontario, London, ON, Canada. She holds a PhD degree in Computer Science obtained from the University of Waterloo, Canada. Her research interests lie in the field of Database Management Systems and Database Security in particular

P. R. Rakesh received his Bachelor in Technology from SCMS School of Engineering and Technology, Ernakulam, Kerala, India in 2013. His area of Interest is computer security information forensics and software testing.

Rotondwa Ratshidaho graduated from the University Of Cape Town with a Bachelors degree in computer science specializing in computer engineering and an honours degree in computer science in the year 2011 and 2012 respectively. His Honours project was entitled "Threat models in social networks." In particular, his focus was on the Microsoft Security Development Lifecycle (SDL) threat modeling tool that he studied and compared to the SensePost Corporate Threat Modeling tool and the Microsoft Threat Analysis and Modeling tool. Rotondwa's interests include security, machine learning, performance management, and mobile development. He is also interested in learning about new technologies that can be used to enhance software development.

Hosnieh Rafiee is a researcher at Hasso-Plattner-Institut at the University of Potsdam. Her research interests are in network security including integration of privacy and security in IPv6 networks and the authentication problems that occur in the application layer services such as DNS and email and the deployment of SEcure Neighbor Discovery (SEND). Rafiee recently finished her PhD at the university of Potsdam and has a MSc in IT-Computer networks engineering from Amirkabir University of Technology in Tehran.

Karen Renaud is a Scottish Computer Scientist and Senior Lecturer at the University of Glasgow. She was educated at the Universities of Pretoria, South Africa and Glasgow. She has made contributions in the fields of usable security, technology adoption, email usage, electronic voting and design patterns and works with research collaborators in Germany, the US, South Africa and the UK.

Aderonke B. Sakpere is a second year PhD student at the University of Cape Town's Department of Computer Science. She holds a scholarship from the Hasso-Plattner-Institute and works in the field of information security. Her thesis is centred around data stream anonymization with an application to crime report datasets in the context of the developing world.

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Maxim Schnjakin studied computer science at the University of Trier and moved to Hasso-Plattner-Institute after graduation. Since 2008, he works as a scientific assistant at the chair of Professor Christoph Meinel. The main focus of his research is enforcement of high availability and security requirements in public clouds.

Tanveer J Siddiqui received her PhD degree from University of Allahabad, Allahabad (India) in 2006. She is currently an assistant professor with the Department of Electronics and Communication at University of Allahabad, Allahabad. Her current research interests cover Natural language Processing and Information Processing. She has co-authored / edited five books and published a number of publications in the scientific journals and leading International conferences.

Siddharth Singh obtained his B.Tech degree in Electronics Engineering from Purvanchal University, Jaunpur (India) and M.Tech in Electronics and Communication Engineering from Integral University, Lucknow in 2009. Currently, he is pursuing his PhD from University of Allahabad, Allahabad. His areas of interest are information security, steganography and digital image processing.

Richard Ssembatya graduated from Mbarara University of Science and Technology (MUST) with a bachelors degree in computer science and a Masters of Science degree in computer science in 2002 and 2006, respectively. His master's thesis title was "Towards a Decision Support system for Universal Primary Education in Uganda." He recently completed and submitted for examination, a PhD thesis on the topic of Securing Mobile Health Records in Rural Areas. Richard's research interests are broad, and they include usable security, Human Computer Interaction (HCI), Mobile design and applications and E-Health.

Tim Storer is a Lecturer in Software Engineering at the University of Glasgow. His research interests are in the dependability of software, and in particular of large scale complex software based systems. He is interested in both the design and management of the systems themselves, but also the engineering methods that need to be developed to support these activities in the future. This interest has taken him into a variety of problem domains in which a variety of heterogeneous software systems have become essential to the operation of wider socio-technical processes. These domains include critical infrastructure management, electronic voting, scientific programming and digital forensics.

P. Vinod completed his PhD in Computer Engineering from Malaviya National Institute of Technology, Jaipur, Rajasthan, India. He received his Masters of Technology in Information Technology as well as Bachelors of Engineering in Computer Science and Engineering from Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal, Madhya Pradesh. He has more than 30 publications to his credit in international conferences and journals to his credit. Also, he has executed a project entitled "PROSIM: Probabilistic Signature for Metamorphic Malware Detection," funded by the Department of Information Technology, MCIT, New Delhi. Presently, he is working as an Associate Professor in the Department of Computer Science and Engineering, SCMS School of Engineering and Technology, Ernakulam, Kerala, India. His research interest are desktop and mobile malware analysis, intrusion detection, cryptography, natural language processing and image analysis.

Stephen Wolthusen received his Dipl.-Inform. degree in computer science in 1999 and completed his PhD in theoretical computer science in 2003, both at TU Darmstadt. He was with the Security Technology Department at Fraunhofer-IGD from 1999-2005 serving as deputy division chief from 2003 onwards and as senior visiting scientist from 2005 onwards. He is currently a Reader in Mathematics with the ISG, having joined Royal Holloway in 2006. He also is Full Professor of Information Security (part-time) at Gjøvik University College, Norway, where he has held a position since 2005. His research focuses on models of adversaries and resilient networks, with applications in defense networks and particularly in critical infrastructure networks and control systems security. He has led a number of national and European projects, including the Internet of Energy project, is author and editor of several books as well as over 100 peer-reviewed publications. He has served as editor-in-chief of *Computers and Security* and as vice-chair of the IEEE Task Force on Information Assurance and is currently vice-chair of the IEEE Task Force on Network Science.