Rex Brynen is Professor of Political Science at McGill University, and co-editor of the conflict simulation and serious games website PAXsims (http://www.paxsims.org). He is author, co-author, or editor of eleven books on various aspects of politics, development, and security in the contemporary Middle East. In addition to his academic work, he has served as a member of the policy staff of the Canadian Department of Foreign Affairs, an intelligence analyst for the Privy Council (cabinet) Office, and as a consultant to various governments, UN agencies, and the World Bank. His recently published game AFTERSHOCK: A Humanitarian Crisis Game is based on ideas from the 2012 Connections (US) 'game lab'.

Matthew B. Caffrey Jr. is the Air Force Research Laboratory (AFRL) Liaison to Air Force Material Command (AFMC) for Wargaming. His prior position was Lead, Future Warfare Analysis Team, Directorate of Plans and Programs, HQ AFRL. He has previously served as the Professor of Wargaming and Campaign Planning at the Air Command and Staff College (ACSC), Research Associate at the School of Advanced Airpower Studies, and Senior Analyst for the SYSCON Corporation, serving at the Air Force Wargaming Institute, all at Air University, Maxwell AFB, Alabama. A retired Colonel in the Air Force Reserve, his final assignment was as Senior Reservist, Information Directorate, AFRL. His previous military assignments include; Chief, Wargaming Strategy Development, with the Air Staff's Checkmate Division, the Pentagon, Washington DC and assignments at the major air command, wing, group and squadron levels. He is the developer of the 3rd Generation Wargame concept, the Strategy/Innovation Cycle (sometimes called the Caffrey Loop) and the Caffrey Triangle. In 1993 he helped found the Connections interdisciplinary wargame conference and in 2013 helped found Connections UK. He created the ACSC Wargame Elective, the AFRL Wargame Course and the AFMC Wargame Course. Matt is the designer of AFMC's Agile Combat Support – Science and Technology Wargame, the AFMC/Royal Air Force Agile Combat Support – Science and Technology wargame, the Air Force Research Laboratory (AFRL) Wargame, the Engineer/Strategist Exercise, Joint Resource Allocation Exercise (JRAX), the Joint Deployment Employment Exercise (JDEX), and several other wargames. He co-authored the *Gulf War Fact Book*, and has written several chapters and many articles on wargaming, airpower, and defense issues. He has spoken on wargaming at the German War College, the United Kingdom's Defense Research Establishment, and in the US from The Pentagon to Silicon Valley. A former member of the Air University Red Team, he has served on Blue, Red or White teams for Air Force, Navy and Army Title 10 Wargames. His latest book, On Wargaming, how wargames have shaped the past and may shape the future, is on track to be published by the Naval War College Press in 2016.

Amanda Coleman joined the MoD in 1989 as an apprentice engineer. After serving her apprenticeship she was promoted and became a technical author at the Land Systems Technical Publications Agency, then joining the Army Technical Support Agency as a Reliability Engineer, leading the Reliability and Maintainability Section. Amanda was selected to join the MoD's Fast Track Scheme, which led to a series of high profile postings including Strike Command secretariat and MoD Main Building. In 2000 Amanda was posted to the newly formed Defence Science and Technology Laboratory (Dstl), where she remained for the next 7 years undertaking a variety of senior analytical roles. Her work at Dstl culminated in her becoming Principal Analyst for the Policy and Capability Studies Department.

John Curry is an academic based in Bath, UK. He specialises in gaming conflict situations in higher education and defence related projects. He is the editor of the History of Wargaming Project, www.wargaming.co, which aims to capture and make available key material in the development of the hobby and professional wargaming. This wargaming archaeology has included a number of wargames that have never been in the public domain. He has edited or written over sixty books including new works that aim to capture current applications of wargaming type methods as used for training, analysis and decision support.

Dr Stephen Downes-Martin is a Research Fellow at the US Naval War College, an independent scholar, and provides for-fee consulting services researching wargaming (theory and practice), systems thinking, decision analysis, deception and assessments methods applied to problems at the strategic, operational and tactical levels of warfare. A research focus is on how to manipulate decision support, analysis and assessment methods to deceive decision makers, how decision makers misuse such methods to deceive themselves, how to detect such attempts and protect decision makers from them. He has over 30 years of successful experience working with and for a wide variety of government, military, aerospace, and commercial organizations in the US and abroad. His full bio and list of papers is available at https://sites.google.com/site/stephendownesmartin/

David England completed a full military career in the British Army as an Infantry Officer. He joined the Royal Anglian Regiment in December 1986 and served multiple operational tours in Northern Ireland, served in Gibraltar, UK, Germany, Bosnia, Iraq and Afghanistan. He spent two years with the US Army, training and mentoring US Ranger, Airborne and Air Assault company commanders prior to their operational deployment. During his military career he gained a Masters Degree in Military Technology and studied at the Advanced Command and Staff College. David retired in July 2014 and is now self employed, providing Force Development experimentation support to Army HQ and specialist equipment design and trial support to industry.

Devin Hayes Ellis is a faculty research associate in the Department of Government and Politics at the University of Maryland, and the Policy & Research Program Director for the ICONS Project as well as the lead simulation developer. Ellis is a policy analyst by training. His expertise is in the use of simulations for training and policy research, crisis management, U.S. national security and intelligence policy, and Chinese national security policy. He has published research on crisis communication, and has an active interest in understanding and improving the way governments and non-governmental actors understand and manage conflict. Mr. Ellis's academic background is in U.S.-China security policy, and he has lived and studied in China. Over the past decade he has been privileged to participate in several groundbreaking Track II dialogues on U.S.-China crisis management. Mr. Ellis has designed or consulted on successful crisis management and negotiation simulations for a range of clients including: the National Security Agency, USAID, the World Bank, the Carnegie Endowment for International Peace, the Brookings Institution, the Center for Strategic and International Studies, the U.S. Office of Personnel Management, the National Defense University Af&Pak Fellows program, the U.S. Department of Homeland Security, the National Consortium for the Study of Terrorism and Responses to Terrorism, Ford Motor Co., ABInBev, the Fletcher School of Diplomacy, and the Kennedy School of Government.

Ed Farren is a postgraduate of Aberystwyth University (BScEcon International Politics & Strategic Studies) and Kings College London (MA War Studies) studied conflict simulation under Prof Phil Sabin. He spent 3 years at UOTC, 2 years Army Reserve and 5 years so far in the Regular Army. He has been a Rifle Platoon Commander, Anti Tank Platoon Commander, Intelligence Officer and Adjutant all in the 2nd Battalion, The Princess of Wales's Royal Regiment from 2010 to the present. A miniatures wargamer in his youth, Ed only recently started using board wargames. He also uses computer-based simulation.

Graham Longley-Brown has wargamed since he was eight. He always preferred umpiring and creating scenarios to playing (and generally losing). He delights in wargame rules and has been known to laugh out loud at particularly clever mechanisms. A British Army Officer since 1986 (and still in the Reserves), he has used wargaming for professional purposes wherever fellow officers have been willing to listen. He was the UK Joint Services Command and Staff College Directing Staff Subject Matter Expert for wargaming from 2000-2002. Since leaving the Regular Army in 2003,

Graham has made a living as a self-employed consultant in all-matters professional wargaming. He has designed and delivered wargames at UK, European and Gulf Staff Colleges, the NATO Joint Warfare Centre, the UK Future Force Development programme, Dstl, the American, British, Canadian and Australian Armies Programme, the Royal Brunei Armed Forces, the Pakistan National Defence University, the US Army in Europe and many others. He is the leading developer of the Dstl/Cranfield manual simulation the Rapid Campaign Analysis Toolset (RCAT). He is a published author on professional wargaming and wrote the current Course of Action Wargaming section for the UK Army's Staff Officer's Handbook. The purpose of his website, www.lbsconsultancy.co.uk, is to spread wargaming best practice.

ED McGrady is currently a Research Team Leader at CNA where he directs a team devoted to research on games and how they can be used to enhance decision-making.   He develops games and conducts studies on a wide range of topics from force structure and planning to operational deployment of medical forces. He is currently working on projects related to Naval logistics, future amphibious concepts, and gaming cyber operations. Dr. McGrady has written and presented on the topic of games and their use in organizational and individual learning. He has designed and run games for many different clients ranging from the White House to the Department of Agriculture. He has also designed games that examine naval issues surrounding command and control and force planning, as well as combined operations between United States and other nation's forces during consequence management events. Among his recent games have included one examining U.S. government decision-making on climate change, a game on medical casualty management in a chemical and biological environment, and games on operational concepts. Prior to becoming a Research Team Leader, Dr. McGrady led analyses on the evolving role of naval forces and mission areas. These included a deployment with US Forces in Haiti, as well as projects examining the Navy's role in such diverse areas as disaster response, Complex Humanitarian Emergencies, command ship operations, continental defense, and information operations. He led analytical reconstructions of force protection and information operations for both Desert Fox and Desert Thunder, and deployed onboard *USS Nimitz* for Desert Storm and with E-2C squadrons for counter-narcotics operations. Dr. McGrady holds a B.A. in Chemical Engineering from the University of Florida and a Ph.D. in Chemical Engineering from the University of Michigan. He has published extensively in the Chemical Engineering, physics, and national security literature.

Tom Mouat is a serving officer currently working at the Defence Academy of the UK where he is the Directing Staff Officer for Simulation and Modelling. He has over 30 years of experience in training, military exercise planning, simulation systems and wargaming. He has a Masters Degree in Defence Simulation and Modelling. He has experience in a wide range of military training systems from the lower tactical level to the higher strategic level, as well as the procurement of these systems. In addition, he lectures on simulation and modelling, has designed games for education and facilitated Wargame events for diverse audiences.

Paul Nanson was born in Ormskirk, Lancashire, and educated at Merchant Taylor's School in Crosby. Forgoing a university education, he joined 3rd Battalion, The Royal Regiment of Fusiliers in 1986 and spent the next 8 years at Regimental Duty as a rifle and reconnaissance platoon commander and Adjutant, including tours in Northern Ireland, the Gulf, Bosnia, Germany and Zimbabwe. In 1996 he was fortunate enough to be seconded to 2nd Battalion the Royal Anglian Regiment as a company commander both in Warminster and Cyprus. In 1998 he attended ACSC 3 at Bracknell, followed by a 'black bag' job as Chief of Staff 102 Logistic Brigade during which time he took part in Exercise SAIF SAREERA and was deployed op Operation VERITAS. In 2002 he was posted to First Fusiliers in command of Y Company for a 2 year tour that included Operation TELIC 1. Promoted Lieutenant Colonel in 2004, he was posted to the Joint Services Command and Staff College as a member of the Directing Staff, where he taught on the inaugural Intermediate Command and Staff Course (Land). In

2006 he returned to 7th Armoured Brigade and took command of First Fusiliers on Operation TELIC 7, and then saw the Battalion through a brigade training year and operation TELIC 12. On promotion to colonel he was posted to Herford as Chief of Staff 1st (UK) Armoured Division from where he attended HCSC. He assumed command of 7th Armoured Brigade in January 2011. Promoted Major General, he has just been appointed Commandant of the Royal Military Academy Sandhurst. He was awarded a QCVS in 1996 for service in Bosnia and appointed MBE in 2002 for his time as Chief of Staff 102 Logistic Brigade.

Erik Nordstrand is Research Director at the Swedish Defence Research Agency (FOI). He has a Ph.D. in Analytical chemistry and has worked full-time at FOI with analytical gaming for more than ten years. Starting as an Operational researcher eighteen years ago for the AF Headquarters he worked in that role both with long and short term defence planning and studies of different weapon systems. Involved early in gaming activities he gradually made that his full-time occupation at FOI. Erik has a broad experience of using seminar games for both the military and the civilian field as well as the experience of games on a wide range of problems in these contexts. Erik has among other things been responsible for and conducted small and large seminar games including: TTP:s for helicopters in Afghanistan, long and short term defence planning, the reorganisation of peace time organisations of the AF headquarter and different services, the need to change the present laws in order to better respond to terrorist attacks (Department of Justice) and bi-nationally; looking at the need of research in order to better handle the effects of terrorist attacks (the Swedish Civil Contingencies Agency (present name) with the U.S. Department of Homeland Security). Erik has written several manuals (in Swedish) on seminar games for analytical purposes and held courses at the FOI Division of Defence Analysis in this field and on long term defence planning for the Baltic Defence College. He is also responsible for the computer war gaming club at FOI and an active participant in the Swedish Defence College's board (war) gaming club.

Peter Perla has more than 35 years of experience in operations research and analysis, research leadership, organizational assessment, and systems simulation and gaming for Government and commercial clients. He has given numerous invited speeches and received several awards from his peers. He is a world-recognized leader in the field of serious games, particularly in the use of wargaming to explore issues and teach concepts. He has produced and analyzed games for the U.S. Department of Education, Department of Health and Human Services, Department of Agriculture, and the Centers for Disease Control and Prevention; for the departments of health of Washington D.C. and New York City; and for courses at George Washington University and Syracuse University. Dr. Perla has published several articles in both the gaming and professional military press, and his papers have won both a Hugh Nott award from the *Naval War College Review* and the Walker Award from the Military Operations Research Society. He is the author of *The Art of Wargaming* (Naval Institute Press and John Curry's History of Wargaming series), and the designer of three commercially published wargames. He is working currently to develop new wargaming techniques for exploring potential warfare in the 21st Century.

Philip Sabin is Professor of Strategic Studies in the Department of War Studies at King's College London. He has worked closely with the UK military for many years, especially through the University of London Military Education Committee, the Chief of the Air Staff's Air Power Workshop, and KCL's academic links with the Defence Academy and the Royal College of Defence Studies. Professor Sabin's current research and teaching involves strategic and tactical analysis of conflict dynamics, with a particular focus on ancient warfare and modern air power. He makes extensive use of conflict simulation techniques to model the dynamics of various conflicts, and for twelve years he has taught a highly innovative MA option module in which students design their own simulations of past conflicts. He has written or edited 15 books and monographs and several dozen chapters and articles on a wide variety of military topics. His recent books Lost Battles (2007) and Simulating War (2012)

both make major contributions to the scholarly application of conflict simulation techniques. He is currently contracted by the British Army's new Centre for Historical Analysis and Conflict Research to design a Camberley Kriegsspiel with which officers may practise battlegroup tactics. Professor Sabin has appeared frequently on radio and television, and has given many lectures and conference addresses around the world.

Andrew Sharpe served 34 years of military service, including nine operational tours. He commanded on operations in all ranks from second-lieutenant to brigadier. In addition to his service in the Field Army, he has held posts that have required the leading of operational and strategic planning, both nationally and in international coalitions, forming strategic concepts and turning them into effective operational and tactical execution. He was the Deputy Commandant of the UK Joint Services Command and Staff College and the Director of the UK Higher Command and Staff Course ('the Generalship Course'). He left the British Army as a Major General, completing his military career as the Director of the UK MoD's independent think-tank: the DCDC. For three years he ran the UK Chief of Defence Staff's Strategic Advisory Panel. Andrew Sharpe is the Director of the Army's Centre for Historical Analysis and Conflict Research. In addition, as an independent consultant and with companies such as Beechwood, Sovereign Global, The DRPM Group and HRobotics, IOTA Global, and NSC, he partners with governments, international organisations and businesses to provide strategic and operational advice, support and mentoring. He is a Visiting Senior Research Fellow of King's College London; an Honorary Fellow of the Strategic Studies Institute of the University of Exeter; a Senior Research Officer with the Cambridge Security Analysis Institute; an Expert Panel member of the Cambridge Governance Labs; and he lectures and advises widely and internationally on strategy, leadership and operational art. He is a member of the Board of Trustees of The Poppy Factory. He has an MA in International Studies from King's College London, and is completing a PhD in the strategic leadership of international intervention at Trinity College Cambridge.

Jeremy Smith is Head of the Centre for Simulation and Analytics, Cranfield University, UK Defence Academy. He has 13 years' experience in academia with Cranfield University at the UK Defence Academy. He previously worked in BAE Systems and for EASAMS Ltdon weapons development and assessment. He is head of the Centre for Simulation and Analytics at Cranfield which includes all of the Operational Analysis, Modelling and Simulation and Mathematical Analysis activities. This role involves teaching management and project management and consultancy and research. He lectures in systems engineering, defence acquisition, technology management and operational analysis/research topics. He leads research and consultancy activities including wargaming and other operational analysis/research developments, dismounted close combat systems, vehicle system developments, infantry training system simulations and technology trend analysis.

Rob Solly has over 23 years of experience in operational research and decision support for the UK Ministry of Defence. After an engineering degree in Aeronautics & Astronautics, Rob conducted research to assess and improve the effectiveness of aircraft, ships, communications and surveillance systems. His teams' analysis informed the UK Government's decisions to invest in the Joint Strike Fighter and Queen Elizabeth class aircraft carrier, unmanned combat air vehicles, and defensive aids for aircraft. In 2005, Rob was made a Fellow of the Operational Research Society. Rob then spent six years leading the analysis of alternative strategies, planning assumptions and force structures for the MOD, culminating in the 2010 UK Strategic Defence and Security Review and the 2011 Defence Reform Review; including a one year secondment to the Pentagon leading the US DOD's force structure analysis for the 2009 Quadrennial Defense Review. From 2011 to 2014, Rob led an initiative to improve the use of analysis and evidence across the MOD, building an analytical community from different professions and forging links with MOD's policy community. Rob now engages on these issues more widely as chair of the OR Society's special interest group on public policy design. Until March 2015, as a Level 9 Senior Principal Analyst, Rob was the technical lead for

Dstl's Strategy and Capability research programme and the co-ordinator of Dstl's preparatory work for the 2015 Strategic Defence and Security Review. In April 2015, Rob was appointed as Dstl's Division Head for Defence and Security Analysis.

Swen Stoop is the co-organizer of Connection NL 2015, which in the Netherlands is sub group of the Simulation and Gaming Association the Netherlands (SAGANET). Before Connections NL 2015 he has been a member of the board and secretary of SAGANET. In this role he co-organized five seminars a year on various aspect of simulation games in the Netherlands. He stepped down as board member to focus on Connections NL. Currently he is employed at the Ministry of Finance where he models the information landscape in support of information management. He has been an information analyst at KPN telecommunications and the leader of a simulation-games team at Thales (NL). At Thales he has designed and conducted several simulation-games for government and business sponsors. He has a PhD from Twente University in C4ISR development & innovation. During this period he was also part of the NATO RTO team SAS-026 improving the NATO Code of best practice for C2 assessment. His PhD was done in collaboration with TNO, the RNL Army and the Royal Military Academy. At Leyden University he received a M.Sc. in Political Science which he concluded with a master thesis on the employment of simulation-games in political science research and education. He has been a wargame consultant to the Royal Dutch Armed Forces, and designed a tactical wargame for the RNLA Engineer Corps. He is an avid and experienced wargamer developing and playing wargames since his youngest years. His personal interest is using wargaming as a means to study the evolution of modern and near future naval warfare. His professional interest is a common thread throughout his career, the information value of wargaming in support of decision makers and education.

Jim Wallman is the Director of Past Perspectives, and is a game designer and professional facilitator who has over 30 years experience of successfully developing games for a wide range of audiences, from young people in schools, to corporations, museums, the military and the senior civil service. He has combined his management experience at a senior level in the public and voluntary sector with an appreciation of the psychological dimension in game design and facilitation processes to ensure that Past Perspectives events are able to deliver educational, team building or management development goals time and again.