Minerva China Scholars Conference: 
Research on Chinese Security and Technology By Emerging Scholars and Analysts

University of California Washington D.C. Center

January 27, 2012

This conference showcases the work of an emerging generation of predominantly U.S. but also a few foreign scholars and policy analysts who are focusing on the important but understudied theme of technology policy, innovation, political economy, and national security in China. Presenters will discuss research projects that they are currently engaged in and explain how this helps to advance understanding of the evolving nature of the relationship between national security, technology, and innovation from both academic and policy perspectives.

Many of the presenters have participated in our summer training course and associated conferences on Chinese security and technology organized by the University of California Institute on Global Conflict and Cooperation’s Project on the Study of Innovation and Technology in China (SITC) that is primarily funded by the Minerva Initiative of the U.S. Defense Department.

Instructions to Presenters
Presentations should be no longer than 15 minutes. Presenters are also requested to submit a 4-6 page summary of their research project by no later than January 20.

Conference Agenda

Friday, January 27

Welcome: 8:30 - 8:45 am
Tai Ming Cheung (UC San Diego & IGCC)

Session 1: 8:45 -10:30 am
Moderator: Tom Mahnken (Naval War College)

Technology, Security, and Economics: China's Challenges in Cyberspace
(Jon Lindsay, UC San Diego and IGCC)

The Role of PLAN Submarines for Network Centric Warfare in the Asia-Pacific
(Amy Chang & Russell Hsiao, DGI & Project 2049)

Technology and Policy, Ambitions and Capabilities: China’s Military Modernization and Foreign Policy Objectives (Brian C. Chao & Joseph McReynolds, DGI)

Coffee Break: 10:30 – 10:45 am

Session 2: 10:45 am -12:30 pm
Moderator: Pete Suttmeier (University of Oregon)
The Role of Top Level Leadership Attention in China’s S&T Policy Making and Implementation – Wen Jiabao and S&T Development
(Hanlu Lu, UC San Diego and IGCC)

Examining the Current State and Long-Term Prospects for Civil-Military Integration
(Daniel Alderman & Aaron Shraberg, DGI)

A Chinese Perspective on Civil-Military Integration
(Zhang Yunzhuang, China National University of Defense Technology & University of Maryland)

The State and Science & Technology Policy: A Comparison of the Aerospace Industry in China, Indonesia and Singapore
(Amy Przybyla, UC San Diego and IGCC)

Lunch: 12:30 – 1:30 pm

Session 3: 1:30 – 3:30 pm
Moderator: Barry Naughton (UC San Diego)

State Funding for Science and Technology in China
(Will Norris, Texas A&M University)

A Richer Nation Builds a Stronger Army: China's Defense Expenditures, Economic Basis, and Implications (Adam Liff, Princeton University)

The Transnational Integration of China’s High-Tech Sectors: Variation in China-U.S. Integration Across the Aircraft and Space Technology Sectors
(Alanna Krolikowski, University of Toronto)

Patterns of Governance in the Aerospace and Defense Sector and China’s Re-Emergence: Implications for Western Firms’ Behavior in Asia
(Sorin Lungu, National Defense University)

Concluding Remarks: 3:30 - 4:00pm
Speaker bios

Daniel Alderman is a Research Associate at DGI’s Center for Intelligence and Research Analysis. His research interests include China’s defense industry reforms and civil-military relations. Previously, he served as an assistant director at the National Bureau of Asian Research. He completed an MA in Asian Studies with a concentration on security at The George Washington University’s Elliott School of International Affairs.

Amy Chang is a Research Associate at Defense Group Inc.’s (DGI) Center for Intelligence Research and Analysis. Prior to joining DGI, she was the Research Fellow in Military & Security Affairs at the U.S.-China Economic and Security Review Commission (USCC). Ms. Chang has also worked at various think tanks, including the Project 2049 Institute and the Council on Foreign Relations. Ms. Chang was a 2008-09 U.S. Fulbright research scholar, based at the Chinese Academy of Social Sciences in Beijing. Ms. Chang graduated from Brown University with a B.A. (Honors) in International Relations. Ms. Chang's research focuses on Chinese national security policy and strategy, Chinese military hardware and technology, and Asian-Pacific regional politics. She has written on a variety of topics, including articles for the USCC on Chinese weapons development and Sino-U.S. military relations.

Brian C. Chao is Research Associate, China, in the Center for Intelligence Research and Analysis at Defense Group Inc. He was graduated cum laude from Dartmouth College in 2009, receiving his A.B. in Government with High Honors and the Department of Government’s Rockefeller Prize for outstanding thesis in international relations. Brian also studied international relations at the London School of Economics and Political Science and, before coming to DGI, spent two years studying Mandarin Chinese in Beijing, China, and Taipei, Taiwan. He is a member of the International Institute for Strategic Studies. Brian is a native of the San Francisco Bay Area.”

L.C. Russell Hsiao is a Senior Research Fellow at the Project 2049 Institute. He was the Editor of China Brief at The Jamestown Foundation from October 2007-July 2011. Previously, he served as a Special Associate/Program Officer in the International Cooperation Department at the Taiwan Foundation for Democracy in Taipei, and a Researcher at The Heritage Foundation. Mr. Hsiao received his B.A in International Studies from the American University’s School of International Service and the University Honors Program. He is a member of the Young Leaders’ Program of the Honolulu-based think tank Pacific Forum CSIS. Mr. Hsiao is proficient in Mandarin Chinese.

Alanna Krolikowski is a PhD candidate in political science at the University of Toronto. In 2010-2011, she was a visiting scholar in the Space Policy Institute of The George Washington University in Washington, DC. While there, she conducted research for her doctoral dissertation on China-U.S. relations in the civil-commercial air and space sectors with the support of a Fulbright Foundation award. Before going to GWU, Alanna conducted research in Beijing and at several other sites across China in affiliation with the Chinese Academy of Social Sciences. Alanna has presented at international conferences, written articles and book chapters, and testified for the congressional record before the U.S.-China Economic and Security Review Commission. She graduated with a Bachelor of Arts with First Class Honours from McGill University and has a Master's degree from the University of Toronto.
Adam P. Liff is a PhD candidate in the Department of Politics at Princeton University. His general areas of academic inquiry are international relations theory and security studies. Specific research interests include the military policies of rising powers; political and security affairs in Northeast Asia; and Chinese, Japanese, and U.S. defense policy. Before entering the PhD program in 2009, Adam lived and worked in mainland China and Japan for over three years. Past work affiliations include the RAND Corporation, the University of Tokyo, and the Japan Center for International Exchange. Adam holds a B.A. (with Honors) from Stanford University, where he graduated with Distinction and Phi Beta Kappa, and an M.A. (Politics) from Princeton University. He speaks, reads, and writes Mandarin Chinese and Japanese and has recently begun to study Korean. He can be reached by email at apl@princeton.edu.

Jon Lindsay is a postdoctoral scholar with the University of California Institute on Global Conflict and Cooperation (IGCC). He received his Ph.D. in political science from the Massachusetts Institute of Technology, M.S. in computer science and B.S. in cognitive science from Stanford University, and has served as an intelligence officer in the U.S. Navy. His research focuses broadly on the problems of knowledge in complex systems, with particular emphasis on the role of information technology in international security. Specific research topics include the strategic problems posed by emerging cyberwarfare capabilities, the capacity for "user innovation" as a component of military power, and the operational challenges of irregular warfare under conditions of high technology and complexity. His dissertation, "Information Friction: Information Technology and Military Performance," draws on fieldwork with a U.S. special operations unit in Iraq and historical casework to explain the social conditions under which uncertainty-reducing technologies can themselves generate additional uncertainty. He is presently working to broaden the information friction framework in order to understand how emerging information technologies affect Chinese military power.

Hanlu Lu is a Research Analyst for the IGCC Study of Innovation and Technology in China (SITC). She is responsible for conducting research on issues related to the contemporary Chinese science and technology policy, with a special emphasis on national security, trade and political economy. Ms. Lu also manages SITC’s Chinese-language resources and databases and provides work direction to SITC’s graduate student research team. She holds a Master’s degree in Pacific and International Affairs (MPIA) from the University of California, San Diego.

Dr. Sorin Lungu joined the Industrial College of Armed Forces -- ICAF (National Defense University) in October 2006 as an Assistant Professor in the Department of Military Strategy and Logistics. He is the lead of the Aircraft Industry Study program and directs the Long-Term Strategy electives concentration (where he teaches courses in net assessment, strategic planning, and crisis management and analytical frameworks in JLASS). He also lectures on the future security environment at the NATO Staff Officer Course (NDU). Previously he taught at the U.S. Air War College in the Department of Joint Military Operations (July 2005-October 2006). A naturalized U.S. citizen, he earned his PhD in International Affairs from the Fletcher School of Law and Diplomacy at Tufts University (1999-2005) with a dissertation titled "European Defense Market Integration: The Aerospace Sector in 1987-1999." He holds an MA in National Security Affairs (Western Europe concentration) from the U.S. Naval Postgraduate School at Monterey (1997-98) and a BS/MS in Mathematics from the University of Bucharest, Romania (1987-92). He attended the Vienna-based Austrian Diplomatic Academy (1994-95) and was awarded research fellowships by the WEU Security Studies Institute (Paris, France - 2001) and the Konrad Adenauer Foundation (Germany, 2001-02). He was a fellow in MIT’s Seminar XXI program (Sept. 2007 -- May 2008). Since February 2006 he is a Member of the London-based International Institute for Strategic Studies. His articles appeared in The RUSI Journal, Comparative Strategy,
Joseph McReynolds is a Research Associate at the Center for Intelligence Research and Analysis. His research interests primarily center on Chinese cyber-warfare capabilities and science & technology development. He has traveled widely across East Asia and has lived in Nagoya, Guilin, and Beijing.

Dr. Will Norris was born and raised in Ohio and is currently a tenure-track assistant professor of Chinese foreign policy and security policy at the George Bush School of Government and Public Service at Texas A&M University where he teaches graduate-level courses in Chinese domestic politics, East Asian security, and Chinese foreign policy. At MIT he was also an instructor in the subjects of Chinese Foreign Policy and U.S. Military Power. Last year, Dr. Norris was a postdoctoral research associate at the Woodrow Wilson School for Public and International Affairs and a fellow in the Princeton-Harvard China and the World Program, a joint program created by two universities to foster the study of China’s foreign relations. He did his doctoral work in the Security Studies Program in the Department of Political Science at Massachusetts Institute of Technology where he specialized in the confluence of economics and security with a particular focus on the role of economics in contemporary Chinese grand strategy.

Amy Przybyla is a graduate student researcher at the Institute on Global Conflict and Cooperation’s (IGCC) project on the Study of Innovation and Technology in China. At IGCC Amy conducts research on the development, management structure, and subsidiary holdings of state-owned enterprises, in particular, firms that are administered by the Supervision and Administration Commission of the State Council. In addition, Amy’s research focuses on security and economic implications of science and technology policy and national innovation strategies of China and select Southeast Asian countries. She is currently a master’s degree candidate at UCSD’s School of International Relations and Pacific Studies. Her specialization is International Economics and International Politics, with a regional focus on China. Amy received her AB in International Relations and East Asian Studies from Brown University in 2008.

Aaron Shraberg is a Research Associate at DGI’s Center for Intelligence and Research Analysis. His research interests focus on China’s science and technology policies, research and development. Aaron completed his MA in Asian Studies at The George Washington University's Elliott School of International Affairs.

Yunzhuang Zhang is a Research Staff specializing in defense economics at the Center for Affordable Armament at the National University of Defense Technology, China and a Visiting Scholar at the Center for Public Policy and Private Enterprise at the University of Maryland. He got his master degree on defense economics at the National University of Defense Technology in 2007. In 2010, his master thesis paper Research on War Cost...
and the National Economy to Support it is awarded as the one of the best in Hunan Province. At present, He is also a PhD Candidate majoring on New Political Economics at Renmin University of China. He used to serve as Director of Research & Development at the School of Humanities and Social Science at the National University of Defense Technology. His research lies mainly on the defense acquisition and civil-military integration.

**Panel Moderators**

**Tai Ming Cheung** is senior research fellow at the University of California system-wide Institute on Global Conflict and Cooperation, is in charge of the Institute’s Minerva project "The Evolving Relationship Between Technology and National Security in China: Innovation, Defense Transformation, and China’s Place in the Global Technology Order" and is Associate Professor at the School of International Relations and Pacific Studies at UC San Diego. He is a long-time analyst of Chinese and East Asian defense and national security affairs. Cheung was based in Asia from the mid-1980s to 2002 covering political, economic and strategic developments in greater China. He was also a journalist and political and business risk consultant in northeast Asia. Cheung received his Ph.D. from the War Studies Department at King's College, London University in 2006. His latest book, *Fortifying China: The Struggle to Build a Modern Defense Economy*, was published by Cornell University Press in 2009.

**Thomas G. Mahnken** is currently the Jerome E. Levy Chair of Economic Geography and National Security at the U.S. Naval War College and a Visiting Scholar at the Philip Merrill Center for Strategic Studies at The Johns Hopkins University’s Paul H. Nitze School of Advanced International Studies (SAIS). Dr. Mahnken served as the Deputy Assistant Secretary of Defense for Policy Planning from 2006-2009. He was the primary author of the 2008 *National Defense Strategy* and contributing author of the 2006 *Quadrennial Defense Review*. Prior to joining the Defense Department, he served as a Professor of Strategy at the U.S. Naval War College. From 2004 to 2006 he was a Visiting Fellow at the Merrill Center at SAIS. His areas of primary expertise are strategy, intelligence, and special operations forces.

**Barry Naughton**’s most recent book is *The Chinese Economy: Transitions and Growth*, a comprehensive survey of the Chinese economy that was published by MIT Press at the beginning of 2007. Naughton is an economist and professor at the University of California, San Diego, who was named the So Kuanlok Professor of Chinese and International Affairs at the Graduate School of International Relations and Pacific Studies in 1998. Naughton has published extensively on the Chinese economy, with a focus on four interrelated areas: economic transition; industry and technology; foreign trade; and Chinese political economy. Naughton’s research on economic interactions among China, Taiwan and Hong Kong, focusing on the electronics industry, led to the edited volume *The China Circle: Economics and Technology in the PRC, Taiwan and Hong Kong* (Brooking Institution, 1997). Since then, Naughton has continued to follow the electronics industry and technology policy in China and Taiwan, and has published several solo and co-authored articles on related subjects. Naughton publishes quarterly analysis of China’s economic policy online at *China Leadership Monitor*.

**Richard P. Suttmeier** is Professor of Political Science, Emeritus, at the University of Oregon. He has written widely on science and technology development issues in China. His current research includes a study of China’s intellectual property strategy and an examination of the changing nature of China’s innovation system. His interests in the role of science and technology in China-US relations, the role of technical standards in China's technology policy, and Chinese approaches to the management of technological risks have led to the following recent