**Proposal for Special Issue  
Securing Information in Smart Grid Communications and Systems**

**Background and Motivation:**

The smart grid is an electronically controlled electrical grid that connects power generation, transmission, distribution, and consumers using information and communication technologies. One of the key characteristics of the smart grid is its support for bi-directional information flow between the consumer of electricity and the utility provider. With a critical twist in currently used electrical grid system, this kind of two-way interaction would allow electricity to be generated in real-time based on consumers’ demands and power requests. While the system would allow the users to get more control over the electricity use and its supply, many security issues are raised to ensure information privacy of the users as well as authorization procedure for electricity use. Integrity of the information from billing and accounting perspectives is also a major concern. Security loopholes in the system would in fact aggravate the electricity supply system instead of improving it. With this Special Issue, we open the door to encourage researchers to discuss the issues related to information security and security services in smart grid, particularly from the communication point of view to construct energy, control, and information processing systems for the smart grid.

**Technical Scope of the Proposal:**

Any topic related to information security and security services in smart grid, particularly from the communication point of view is to be considered. The topics include but not limited to:

* Smart grid security architectures, database, and models
* Secure smart metering
* Secure Advanced Metering Infrastructure (AMI) communication and management
* Privacy protection in smart grid
* Cyber security issues in smart grid
* Security services for smart grid
* User authentication, access control for smart grid
* Hardware design for information protection in smart grid
* Simulation and performance analysis of smart grid security operations

**Significance and Relevance to this Journal:**

The proposal’s main target is information security in smart grid with some networking/communication flavor. Based on the number of submissions, which often could be high, a primary scrutiny could be done to consider papers that only focus on information security or those that keep information security as the main subject topic. Thus, the issue should be related to this journal.

**A Plan for Attracting Quality Papers:**

Several forums used by researchers would be used to publicize the call for papers (CFP). These forums are public or private forums that the guest editors have access to like: TCCC-ANNOUNCE, TCCN, Mycolleagues, CIS-TC, WikiCFP, etc. Also, the guest editors would post the CFP on their websites and link with the main call shown on the journal website (possibly).

A recent experience has shown that such method attracted 44 papers for one special issue which allowed us to select only the best quality papers properly fit for the journal and the special issue.

**A Plan for Manuscript Review Process:**

The timeline of the review process is to be strictly maintained. The early rejections would be notified immediately. For any case of dispute, the EiC(s) should be contacted to resolve the problems. Each manuscript is to be reviewed at least by 2 external reviewers. In case of a tie in recommendations, the handling guest editor may use exclusive editorial decision; or, would refer to a third reviewer. In case no reviewer is found for any paper, the guest editors would do the reviews by themselves as each of the proposed editors are qualified to comment on works on the issues. However, this method is only applicable in case of unavailability of any other alternative, with EiC’s permission and if the time of review deadline is very near.

If the journal has a specific review policy to follow, guest editors would follow that and if the electronic submission system is used, that would be easier to track the process of review.

**Tentative Schedule:**

Manuscript submission due: March 15, 2014

First round review notification: May 31, 2014

Revised paper due: June 20, 2014

Notification of acceptance/rejection: June 30, 2014

Submission of final manuscript: July 15, 2014

**Potential Overlapping with Published Issues:**

Currently, there is no such special issue in our view that focuses on security issues in smart grid.

**A List of Guest Editors and Their Short Biographies:**

**Guest Editors**

***Lead Editor***

**Al-Sakib Khan Pathan (*Corresponding Editor*)**

Al-Sakib Khan Pathan received Ph.D. degree in Computer Engineering in 2009 from Kyung Hee University, South Korea. He received B.Sc. degree in Computer Science and Information Technology from Islamic University of Technology (IUT), Bangladesh in 2003. He is currently an Assistant Professor at Computer Science department in International Islamic University Malaysia (IIUM), Malaysia. Till June 2010, he served as an Assistant Professor at Computer Science and Engineering department in BRAC University, Bangladesh. Prior to holding this position, he worked as a Researcher at Networking Lab, Kyung Hee University, South Korea till August 2009. His research interest includes wireless sensor networks, network security, and e-services technologies. He is a recipient of several awards/best paper awards and has several publications in these areas. He has served as a Chair, Organizing Committee Member, and Technical Program Committee member in numerous international conferences/workshops like GLOBECOM, GreenCom, HPCS, ICA3PP, IWCMC, VTC, HPCC, IDCS, etc. He was awarded the IEEE Outstanding Leadership Award and Certificate of Appreciation for his role in IEEE GreenCom’13 conference. He is currently serving as the Editor-in-Chief of IJIDS, an Area Editor of IJCNIS, Editor of IJCSE, Inderscience, Associate Editor of IASTED/ACTA Press IJCA and CCS, Guest Editor of some special issues of top-ranked journals, and Editor/Author of 10 books. One of his books has been included in Intel Corporation's Recommended Reading List for Developers, 2nd half 2013; 3 other books are included in IEEE Communications Society's (IEEE ComSoc) Best Readings in Communications and Information Systems Security, 2013, and a fifth book is in process of being translated to simplified Chinese language from English version. Also, 2 of his journal papers and 1 conference paper are included under different categories in IEEE Communications Society's (IEEE ComSoc) Best Readings Topics on Communications and Information Systems Security, 2013. He also serves as a referee of some renowned journals. He is a member of Institute of Electrical and Electronics Engineers (IEEE), USA; IEEE Communications Society, USA; IEEE ComSoc Bangladesh Chapter, and several other international professional organizations.

***Co-Editors (Tentative List)***

**Zubair Muhammad Fadlullah**

Zubair Md. Fadlullah is an assistant professor at the Graduate School of Information Sciences (GSIS), Tohoku University, Japan. He also served as a computer science faculty member at the prestigious international Islamic University of Technology (IUT) in Bangladesh. He is a member of the IEEE and ComSoc. He is also a member of the Japanese team involved with the prestigious A3 Foresight Project supported by Japan Society for the Promotion of Science (JSPS), NSFC of China, and NRF of Korea, which comprises prominent researchers in the field of networking and communications from the mentioned countries. Dr. Fadlullah holds a PhD in applied information sciences, which he obtained in March 2011 from Tohoku University. He has a noteworthy contribution toward research community through his technical papers in scholarly journals, magazines, and international conferences in various areas of networking and communications. Dr. Fadlullah has been serving as a technical committee member for several IEEE GC, ICC, PIMRC, WCNC, and WCSP conferences for a number of years. He is an associate editor of the International Journal of Internet and Distributed Systems (IJIDS) and a co-editor of the Special Issue (SI) on Wireless Networks Intrusion in Journal of Computer and System Sciences (Elsevier). He was a co-chair of the invited session on Smart Grid in WCSP’11. Furthermore, he has also been actively engaged in helping editorial members of prestigious IEEE transactions (including TVT, TPDS, TSG) to manage and delegate reviews in an efficient manner. His research interests are in the areas of smart grid, network security, intrusion detection, game theory, and quality of security service provisioning mechanisms. Dr. Fadlullah was a recipient of the prestigious Deans and Presidents awards from Tohoku University in March 2011 for his outstanding research contributions.

**Mostafa M. Fouda**

Mostafa M. Fouda: received the B.Sc. degree with honors in Electrical Engineering (Electronics & Telecommunications), and the M.Sc. degree in Electrical Communications from the Faculty of Engineering at Shoubra, Benha University, Egypt, in 2002 and 2007, respectively, and the Ph.D. degree in Information sciences from the Graduate School of Information Sciences, Tohoku University, Japan, in 2011. He received the prestigious First Place Award from the Faculty of Engineering at Shoubra in 2002. Dr. Fouda is currently serving as an Assistant Professor at the Graduate School of Information Sciences, Tohoku University, Japan. He also holds the position of an Assistant Professor at the Electrical Engineering Department, Faculty of Engineering at Shoubra, Benha University, Egypt. His research interests include cognitive radio networks, disaster-resilient networks, smart grid communications, network security, Peer-to-Peer (P2P) applications, and multimedia streaming.

**Muhammad Mostafa Monowar**

Muhammad Mostafa Monowar is an assistant professor at the Department of Information Technology in King Abdulaziz University, Kingdom of Saudi Arabia. He is also an associate professor (on leave) at the Department of Computer Science and Engineering in the University of Chittagong, Bangladesh. He received the PhD degree in computer engineering from Kyung Hee University, South Korea, in 2011 and the BSc degree in computer science and information technology from the Islamic University of Technology (IUT), Bangladesh, in 2003. His research interests include wireless networks, especially ad hoc, sensor, and mesh networks, including routing protocols, MAC mechanisms, IP and transport layer issues, cross-layer design, and QoS provisioning. He has served as a program committee member in several international conferences/workshops like IADIS, DNC, IDCS, etc. He is currently serving as an associate editor of the International Journal of Internet and Distributed Systems (IJIDS) and a guest editor of some special issues of IJCSE.

**Sherali Zeadally**

Sherali Zeadally received his bachelor’s in computer science from the University of Cambridge, England, and doctorate in computer science from the University of Buckingham, England, in 1996. He is currently an associate professor in University of Kentucky, USA. Previously he was an associate professor in the Department of Computer Science and Information Technology at the University of the District of Columbia, Washington, DC. He currently serves on the editorial boards of over 18 peer-reviewed international journals. He has been serving as a guest editor for over 20 special issues of various peer-reviewed scholarly journals. He has served as a technical program committee member for over 180 refereed conferences/symposia/workshops. He is a Fellow of the British Computer Society and a Fellow of the Institution of Engineering Technology, UK. For more information, kindly visit: www.uky.edu/~sze223/

**CFP: Special Issue on Securing Information in Smart Grid Communications and Systems**

The smart grid is an electronically controlled electrical grid that connects power generation, transmission, distribution, and consumers using information and communication technologies. One of the key characteristics of the smart grid is its support for bi-directional information flow between the consumer of electricity and the utility provider. With a critical twist in currently used electrical grid system, this kind of two-way interaction would allow electricity to be generated in real-time based on consumers’ demands and power requests. While the system would allow the users to get more control over the electricity use and its supply, many security issues are raised to ensure information privacy of the users as well as authorization procedure for electricity use. Integrity of the information from billing and accounting perspectives is also a major concern. Security loopholes in the system would in fact aggravate the electricity supply system instead of improving it. With this Special Issue, we open the door to encourage researchers to discuss the issues related to information security and security services in smart grid, particularly from the communication point of view to construct energy, control, and information processing systems for the smart grid.

**Topics of Interest:**

Any topic related to information security and security services in smart grid, particularly from the communication point of view is to be considered. The topics include but not limited to:

* Smart grid security architectures, database, and models
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**Submission Guidelines and Review Process:**

* Each submission must be original, unpublished, and must not be under review elsewhere.
* All papers should be submitted via email to the Guest Editors OR, journal’s electronic submission system. (*whichever is applicable*)
* Each paper will be reviewed by experts on the relevant areas.

**Guest Editors (*Tentative list*)**

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