

## Session Topic 9 -- Spintronics, Nanomagnetism, and Quantum Computing

**Chairs:** Supriyo Bandopadhyay, Virginia Commonwealth University  
 Vladimir Privman, Clarkson University  
 Dmitri Litvinov, University of Houston

### WEDNESDAY, Room M5

| Paper ID                 | Time                | Title   | Authors & Affiliations  |
|--------------------------|---------------------|---|---|
| PID596414                | 2:15 - 2:45         | <i>Magnetic Logic Based on Field-Coupled Nanomagnets: Clocking Structures and Power Analysis</i>                                  | Wolfgang Porod, University of Notre Dame, USA   |
|                          | <b>2:45 - 3:00</b>  | <b>Break</b>  |   |
| PID596389                | 3:00 - 3:45         | <i>Heat Assisted Magnetic Recording on High Anisotropy Nanocomposite Media</i>  | Yingguo Peng, Seagate Technology, USA; Tim Klemmer, Seagate Technology, USA; Ganping Ju, Seagate Technology, USA; Ed Gage, Seagate Technology, USA; Mike Seigler, Seagate Technology, USA; William Challener, Seagate Technology, USA; Duane Karns, Seagate Technology, USA; Xiaobin Zhu, Seagate Technology, USA; Nils Gokemeijer, Seagate Technology, USA; Chubing Peng, Seagate Technology, USA; Kalman Pelhos, Seagate Technology, USA; Bin Lu, Seagate Technology, USA; Tim Rausch, Seagate Technology, USA; Xiaowei Wu, Seagate Technology, USA; Lei Li, Seagate Technology, USA; Yiao-tee Hsia, Seagate Technology, USA; Dorothea Buechel, Seagate Technology, USA; Robert Hempstead, Seagate Technology, USA; and Robert Rottmayer, Seagate Technology, USA |
| PID552312                | 3:45 - 4:30         | <i>Correlating microstructure with switching field distribution in nanomagnetic systems with transmission electron microscopy</i> | June Lau, National Institute of Standards and Technology, US  |
| PID596228                | 4:30 - 5:00         | <i>Error-Model Driven Analysis of Quantum Circuits Reliability</i>  | Oana Boncalo, University Politehnica of Timisoara, Romania; Mihai Udrescu, University Politehnica of Timisoara, Romania; Mircea Vladutiu, University Politehnica of Timisoara, Romania; Lucian Prodan, University Politehnica of Timisoara, Romania; and Alexandru Amaricai, University Politehnica of Timisoara, Romania   |
| PID654267                | 5:00 - 5:30         | <i>Fabrication of Large-area Nanostructure Arrays using Aperture Array Lithography</i>  | Paul Ruchhoeft, University of Houston, USA  |
| <b>THURSDAY, Room M3</b> |                     |   |   |
| PID594225                | 9:00 - 9:45         | <i>Towards antiferromagnetic metal spintronics</i>  | Maxim Tsoi, University of Texas at Austin, USA  |
|                          | <b>9:45 - 10:00</b> | <b>Break</b>  |   |
| PID595740                | 10:00 - 10:45       | <i>Functional Properties of Barium Hexaferrite Magnets Sintered by using Nanostructured Particles</i>                             | Karen Martirosyan, University of Houston, USA; and Dmitri Litvinov, University of Houston, USA  |
| PID621864                | 10:45 - 11:30       | <i>Electrochemical Synthesis and Nanofabrication of Materials for Magnetic and Ultrasound Sensors Application</i>                 | Stanko Brankovic, University of Houston, USA; Atif Shamsi, University of Houston, USA; Sang Bae, University of Houston, USA; Goran Majkic, University of Houston, USA; and Dmitri Litvinov, University of Houston, USA  |
| PID570207                | 11:30 - 12:00       | <i>Magnetic hardening in isolated FePt nanoparticles</i>  | Chuanbing Rong, University of Texas at Arlington, USA; Vikas Nandwana, University of Texas at Arlington, USA; Narayan Poudyal, University of Texas at Arlington, USA; Girija S Chaubey, University of Texas at Arlington, USA; and J. Ping Liu, University of Texas at Arlington, USA   |
|                          | <b>12:00 - 2:00</b> | <b>Lunch</b>  |   |
|                          | 2:00 - 2:15         | <i>Poster Session</i>   |   |
| PID593822                | 2:15 - 2:45         | <i>Improving Boolean Circuit Testing by Quantum Search</i>  | Yao-Hsin Chou, National Taiwan University, Taiwan; and Sy-Yen Kuo, National Taiwan University, Taiwan   |
|                          | <b>2:45 - 3:00</b>  | <b>Break</b>  |   |

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| PID595617                                     | 3:00 - 3:30 | <i>High-Frequency Properties of Permalloy Nanowire Arrays for RF Devices</i>   | Hanqiao Zhang, Clemson University; Chunrong Song, Clemson University; Ralu Divan, Argonne National Laboratory; Axel Hoffmann, Argonne National Laboratory; and Pingshan Wang, Clemson University  |
| PID596361                                     | 3:30 - 4:00 | <i>Multilayered magnetic nanodisks for biosensing</i>  | Punnapob Punnakitikashem, University of Texas at Arlington, USA; Shih-Hsin Chang, University of Texas at Arlington, USA; J. Ping Liu, University of Texas at Arlington, USA; and Yaowu Hao, University of Texas at Arlington, USA   |
| PID596446                                     | 4:00 - 4:30 | <i>Magnetic Annular Nanostructure Fabrication Using Ion Beam Proximity Lithography</i>   | Ariel Ruiz, University of Houston, US; Vishal Parekh, University of Houston, US; James Rantschler, University of Houston, US; Paul Ruchhoeft, University of Houston, US; Sakhrat Khizroev, University of California - Riverside, US; and Dmitri Litvinov, University of Houston, US |
| PID554101                                     | 4:30 - 5:00 | <i>CMOS integrated single electron transistor electrometry (CMOS-SET) circuit design for GHz quantum-bit read-out in an error corrected logical qubit quantum computing architecture</i> | T.M. Gurrieri, Sandia National Laboratories, USA; M.S. Carroll, Sandia National Laboratories, USA; M.P. Lilly, Sandia National Laboratories, USA; and J.E. Levy, Sandia National Laboratories, USA  |
| <b>Poster Session (Thursday, 2:00 - 2:15)</b> |             |  |   |
| PID593555                                     | Poster      | <i>The Effect of Size Distribution on the Switching Field Distribution of Co/Pd Multilayered Nanostructure Arrays</i>  | Darren Smith, University of Houston; James Rantschler, University of Houston; Paul Ruchhoeft, University of Houston; Sakhrat Khizroev, University of California - Riverside; and Dmitri Litvinov, University of Houston   |
| PID593653                                     | Poster      | <i>A Micromagnetic Study of Signal Propagations along MCA Data Channels</i>  | Chunsheng E, University of Houston, US; James Rantschler, University of Houston, US; Sakhrat Khizroev, University of California - Riverside, US; and Dmitri Litvinov, University of Houston, US   |