Accelerating EUV Success

SPIE Advanced Lithography

San Jose Convention Center
San Jose, California, USA

February 25 – March 1, 2018

Tuesday, February 27, 2018	
8:00 a.m. – 10:00 a.m., Room 220A	
10583-10	**Defect detection strategies and process partitioning for single expose EUV patterning** Luciana Meli, Karen Petrillo, Anuja De Silva, John Arnold, Nelson M. Felix, Richard Johnson, Chris Robinson, Benjamin Briggs, Yann Mignot, Ashim Dutta, Jeffrey Shearer, Bassem Hamieh, Jing Guo, Ravi Bonam, IBM Corp.; Koichi Hontake, Lior Huli, Corey Lemley, Dave Hetzer, Shinichiro Kawakami, Takeshi Shimoaoki, Yusaku Hashimoto, Hiroshi Ichinomiya, Akiko Kai, Koichiro Tanaka, Tokyo Electron Ltd.; Ankit Jain, Barry Saville, Chet Lenox, KLA-Tencor Corporation
10:30 a.m. – 12:10 p.m., Room 220A	
10583-16	**Comparative stochastic process variation bands for N5, N3 at EUV** Alessandro Vaglio Pret, Trey Graves, David Blankenship, Kunlun Bai, Stewart Robertson, John J. Biafore, KLA-Tencor Corporation; Peter De Bisschop, IMEC
3:40 p.m. – 5:20 p.m., Room 220B	
10585-27	**Spectral tunability for accuracy, robustness, and resilience** Einat Peled, Eran Amit, Yuval Lamhot, Alexander Svizher, Dana Klein, Anat Marchelli, Roie Volkovich, Tal Yaziv, Aaron Cheng, KLA-Tencor Corporation; Honggoo Lee, Sangjun Han, Minhyung Hong, Seungyoung Kim, Jieun Lee, Dongyoung Lee, Eungryong Oh, Ahlin Choi, SK Hynix, Inc.; DongSub Choi, Do-Hwa Lee, Sanghuck Jeon, Jungtae Lee, Seong Jae Lee, Zephyr Liu, Jeongpyo Lee, KLA-Tencor Corporation
10585-29	**Overlay and stitching metrology for massively parallel electron-beam lithography** Guido Rademaker, Jonathan Pradelles, Stéfan Landis, Stephane Rey, CEA-LETI; Anna Golotsvan, Tal Itzkovich, Tetyana Shapoval, Ronny Haupt, KLA-Tencor Corporation; Erwin Slot, Guido de Boer, Dhara Dave, Marco Wieland, MAPPER Lithography; Laurent Pain, CEA-LETI

Tuesday, February 27, 2018

5:30 p.m. – 7:30 p.m., Hall 2

10585-80	**Clean focus, dose and CD metrology for CD uniformity improvement** Honggoo Lee, Sangjoon Han, Minhyung Hong, Seungyoung Kim, Jieun Lee, DongYoung Lee, Eungryong Oh, Ahlin Choi, SK Hynix, Inc.; Nakyoon Kim, Andrei Shchegrov, Markus Mengel, Mark D. Smith, John C. Robinson, Pablo Rovira, Sungchul Yoo, Junwan Kim, Raphael Getin, Dongsub Choi, Sanghuck Jeon, KLA-Tencor Corporation
10585-81	**A study of process quality monitoring metrics leveraging diffraction based overlay technology** KyoungHwan Lee, YoungHo Kwon, Younghoon Sohn, SangMin Kim, Yusin Yang, Chihoon Lee, Samsung Electronics Co., Ltd.; HyeongKeun Kim, Changkyoun Kwak, SangHyun Han, Difei Xu, Tal Yaziv, Michael Faeyrman, Eitan Herzel, Tal Marciano, Eran Amit, Einat Peled, Tzahi Grunzweig, Wayne Zhou, KLA-Tencor Corporation

Wednesday, February 28, 2018

8:00 a.m. – 10:00 a.m., Room 220C

10584-19	**Studying the effects of chemistry and geometry on DSA hole-shrink process in three dimensions** Chun Zhou, The Univ. of Chicago; Tsuyoshi Kurosawa, Tokyo Ohka Kogyo Co., Ltd.; Jiaxing Ren, Cody Bezik, The Univ. of Chicago; Jan Doise, IMEC; Tamar Segal-Peretz, Technion-Israel Institute of Technology; Takahiro Dazai, Tokyo Ohka Kogyo Co., Ltd.; Roel Gronheid, KLA-Tencor Corporation; Paulina Rincon-Delgadillo, IMEC; Juan de Pablo, Paul F. Nealey, The Univ. of Chicago

Wednesday, February 28, 2018

3:40 p.m. – 5:20 p.m., Room 220B

10585-46	**Yield impact for wafer shape misregistration-based binning for overlay APC diagnostic enhancement** David Jayez, Kevin Jock, Yue Zhou, Venugopal Govindarajulu, GLOBALFOUNDRIES Inc.; Felipe Tijiwa-Birk, Zhen Zhang, Fatima Anis, KLA-Tencor Corporation
10585-48	**In cell OVL metrology by using optical metrology tool** Honggoo Lee, Sangjun Han, Minhyung Hong, Seungyoung Kim, Jieun Lee, Dongyoung Lee, Eungryong Oh, Ahlin Choi, SK Hynix, Inc.; Hyowon Park, Waley Liang, Sungchul Yoo, DongSub Choi, Nakyoon Kim, Jeongpyo Lee, Andrei Shchegrov, Rich Lee, Stilian Pandev, Alexander Kuznetov, Sanghuck Jeon, KLA-Tencor Corporation
10585-49	**Matching between simulations and measurements as a key driver for reliable overlay target design** Sergii A. Lozenko, GLOBALFOUNDRIES Dresden Module One LLC & Co. KG; Tetyana Shapoval, Guy Ben-Dov, KLA-Tencor Corporation; Laszlo Fuerst, Carsten Hartig, GLOBALFOUNDRIES Dresden Module One LLC & Co. KG; Ronny Haupt, KLA-Tencor Corporation; Matthias Ruhm, Bernd Schulz, GLOBALFOUNDRIES Dresden Module One LLC & Co. KG; Richard Wang, KLA-Tencor Corporation

Wednesday, February 28, 2018

5:30 p.m. – 7:30 p.m., Hall 2	
10585-102	**Tracking the defects and the band gap of ultra-thin HfO_2 using a multi-oscillator Cody Lorentz model** Dawei Hu, Aaron Rosenberg, Houssam Chouaib, Zhengquan Tan, KLA-Tencor Corporation
10585-105	**Determining doping concentration of Boron and Phosphorus in semiconductor materials using spectroscopic ellipsometry** Dawei Hu, Aaron Rosenberg, Houssam Chouaib, Zhengquan Tan, KLA-Tencor Corporation
10585-109	**Accuracy optimization with wavelength tunability in overlay imaging technology** Lee Honggoo, SK Hynix, Inc.; Eitan Hajaj, Sharon Aharon, Guy Ben-Dov, Anna Golotsvan, Dana Klein, Tal Marciano, Lilach Saltoun, KLA-Tencor Corporation; Han Sangjoon, SK Hynix, Inc.

Thursday, March 1, 2018

10:20 a.m. – 10:30 a.m., Room 220B	
Presentation of the 2018 Karel Urbanek Best Student Paper Award	
1:30 p.m. – 3:10 p.m., Room 220A	
10583-56	**Systematic assessment of the contributors of line-edge roughness in EUV lithography using computational simulations** Anindarupa Chunder, Azat Latypov, Harry J. Levinson, Todd Bailey, Yulu Chen, GLOBALFOUNDRIES Inc.; John J. Biafore, KLA-Tencor Corporation
1:30 p.m. – 3:10 p.m., Room 220B	
10585-60	**Correlation study of actual temperature profile and in-line metrology measurements for within-wafer uniformity improvement and wafer edge yield enhancement** Fang Fang, Alok Vaid, Alina Vinslava, Richard Casselberry, Shailendra Mishra, GLOBALFOUNDRIES Inc.; Da Song, Dinh Chu, KLA-Tencor Corporation
3:40 p.m. – 5:20 p.m., Room 220B	
10585-65	**LMS IPRO: Enabling local registration measurements for efficient e-beam writer correction** Hendrik Steigerwald, Runyuan Han, Frank Laske, Klaus-Dieter Roeth, KLA-Tencor Corporation