

# Dr. Samrina Sahir

IPFP Fellow (Department of Materials Science and Engineering)  
PAF-IAST, Mang (Haripur)

[samreenasahir@gmail.com](mailto:samreenasahir@gmail.com),

Contact # Dept Official: | Personal (Optional) +92-347-9866834

<https://www.researchgate.net/profile/Samrina-Sahir>

<https://scholar.google.com/citations?user=jhMedn8AAAAJ&hl=en>



## Education

- PhD (2022): Materials Science & Chemical Engineering, Hanyang University (HYU), South Korea. Thesis title: Interaction of ceria particles with oxide and PVA brush during CMP process.
- MS (2019): Materials Science & Chemical Engineering, Hanyang University (HYU), South Korea.
- BSc (2014): Metallurgical and Materials Engineering, University of Engineering and Technology (UET), Lahore. Thesis title: Design and development of Plasma Coating Gun.

## Professional Experience

### Industrial Experience:

- **Assistant Manager** in the Technology Department, Heavy Mechanical Complex (HMC), Taxila (**June 2015 to August 2017**).

## Research Publications

08 International Publications in ISI indexed journals, impact factor of **32**, citations **86**, *h*-index **5**:

- **Effect of slurry particles on PVA brush contamination during post CMP cleaning.** Samrina Sahir, H. W. Cho, P. Jalalzai, S. Samanta, S. Hamada, T.-G. Kim, and J. G. Park. *Materials Science in Semiconductor Processing*, 151 (2022) 107043. <https://doi.org/10.1016/j.mssp.2022.107043> (Impact: 4.64).
- **Effect of Skin Layer on Brush Loading, Cross Contamination, and Cleaning Performance during Post CMP Cleaning.** Samrina Sahir, H W. Cho, P. Jalalzai, P. Jerome, R. Singh, S. Hamada, T.-G. Kim, and J. G. Park. *ECS Journal of Solid State Science and Technology*, 11 (2022) 054003. DOI: 10.1149/2162-8777/ac6979 (Impact: 2.483).
- **Study on PVA Brush Loading and Conditioning during Shallow Trench Isolation Post CMP Cleaning Process.** Samrina Sahir, H. W. Cho, N. P. Yerriboina, T.-G. Kim, S. Hamada and J. G. Park. *ECS Journal of Solid State Science and Technology*, 11 (2022) 024004. DOI: 10.1149/2162-8777/ac5166 (Impact: 2.483)
- **Effect of Slurry Additives on Co BTA Complex Stability and Inhibition Property During Co CMP Process.** P. Jalalzai, H. Y. Ryu, Samrina Sahir, R. P. Meethal, S. Hamada, T.-G. Kim and J. G. Park. *ECS Journal of Solid State Science and Technology*, 11 (2022) 084006. DOI: 10.1149/2162-8777/ac8833 (Impact: 2.483)
- **Investigation of the effect of different cleaning forces on Ce O Si bonding during oxide post CMP cleaning.** Samrina Sahir, N. P. Yerriboina, S. Y. Han, K. M. Han, T.-G Kim, N. Mahadev, J. G. Park. *Applied Surface Science*, 545 (2021) 149035. <https://doi.org/10.1016/j.apsusc.2021.149035> (Impact: 7.392)
- **Mechanisms of colloidal ceria contamination and cleaning during oxide post CMP cleaning.** Samrina Sahir, N. P. Yerriboina, S.-Y. Han, T.-G Kim, N. Mahadev, J. G. Park. *Microelectronic Engineering*, 241 (2021) 111544. <https://doi.org/10.1016/j.mee.2021.111544> (Impact: 2.662)
- **Tungsten passivation layer (WO<sub>3</sub>) formation mechanisms during chemical mechanical planarization in the presence of oxidizers.** M. K. Poddar, P. Jalalzai, Samrina Sahir, N. P. Yerriboina, T.-G. Kim and J. G. Park. *Applied Surface Science*, 537 (2021) 147862. <https://doi.org/10.1016/j.apsusc.2020.147862> (Impact: 7.392)
- **Contamination Mechanism of Ceria Particles on the Oxide Surface after the CMP Process,** K.-M. Han, S.-Y. Han, Samrina Sahir, N. P. Yerriboina, T.-G. Kim, N. Mahadev and J. G. Park. *ECS Journal of Solid State Science and Technology*, 9 (2020) 124004. DOI: 10.1149/2162-8777/abcf13 (Impact: 2.483)