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### Education

Ph.D. (Packaging Technology), Yonsei University, South Korea

วศ.บ. (ปิโตรเคมีและวัสดุพอลิเมอร์) มหาวิทยาลัยศิลปากร

M.Eng. (Pulp & Paper Technology), Asian Institute of Technology, South Korea

### Expertise

Nano-Enabled Food Packaging and Safety, Cellulose-based nanocomposite, Cellulose Nanocrystal

### Selected Works

1. Bumbudsanpharoke, N., Kwon, S., Lee, W., Ko, S. 2019. Optical response of photonic cellulose nanocrystal film for a novel humidity indicator. *International Journal of Biological Macromolecules*140, pp. 91-97
2. Orsuwan, A., Kwon, S., Bumbudsanpharoke, N., Ko, S. 2019. Novel LDPE-riboflavin composite film with dual function of broad-spectrum light barrier and antimicrobial activity. *Food Control*100, pp. 176-182
3. Bumbudsanpharoke, N., Choi, J., Park, H.J., Ko, S. 2019. Zinc migration and its effect on the functionality of a low density polyethylene-ZnO nanocomposite film. *Food Packaging and Shelf Life*20,100301
4. Bumbudsanpharoke, N., Ko, S. 2019.
5. Nanomaterial-based optical indicators: Promise, opportunities, and challenges in the development of colorimetric systems for intelligent packaging. *Nano Research* 12(3), pp. 489-500
6. Bumbudsanpharoke, N., Ko, S. 2019. Nanoclays in food and beverage packaging. *Journal of Nanomaterials*2019,8927167
7. Bumbudsanpharoke, N., Lee, W., Ko, S. 2018. A comprehensive feasibility study on the properties of LDPE-Ag nanocomposites for food packaging applications. *Polymer Composites*39(9), pp. 3178-3186
8. Bumbudsanpharoke, N., Ko, S. 2018. The green fabrication, characterization and evaluation of catalytic antioxidation of gold nanoparticle-lignocellulose composite papers for active packaging. *International Journal of Biological Macromolecules*107, pp. 1782-1791

9. Bumbudsanpharoke, N., Lee, W., Chung, U., Ko, S. 2018. Study of humidity-responsive behavior in chiral nematic cellulose nanocrystal films for colorimetric response. *Cellulose*25(1), pp. 305-317
10. Bumbudsanpharoke, N., Lee, W., Choi, J.C., (...), Kim, M., Ko, S. 2017. Influence of montmorillonite nanoclay content on the optical, thermal, mechanical, and barrier properties of low-density polyethylene. *Clays and Clay Minerals*65(6), pp. 387-397
11. Bumbudsanpharoke, N., Ko, S. 2017. Investigation of iridescent behavior of chiral nematic cellulose nanocrystal film in response to controlled humidity and temperature. *International Conference on Nanotechnology for Renewable Materials 2017*1, pp. 153-164