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Assistant Professor

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Education:

Ph.D. at Seoul National University, Republic of Korea **2009 – 2014**
- Major in Bioengineering (Biomaterials and Drug-Delivery)
- Thesis advisor: **Prof. Young Bin Choy**

B.S. at Hanyang University, Republic of Korea **2005 – 2009**
- Major in Media Communications Engineering (Electrical Engineering)

Professional Appointments

Assistant Professor **2018 – Present**
- Department of Biomedical Engineering, SKKU Institute for Convergence, Sungkyunkwan University (SKKU), Suwon, 16419, Republic of Korea

Research Fellow **2015 – 2018**
- Department of Immunology and Virology, Dana Farber Cancer Institute, Boston, MA, USA
- Department of Microbiology and Immunobiology, Harvard Medical School, Boston, MA, USA

Senior Researcher **2014 – 2015**
- Medical Research Center, Seoul National University, Seoul, Republic of Korea

Honors and Awards

- **Research Fellow of the Carney Family Charitable Foundation** (2016-2017)
- **Best Presentation Award/Grants – Second runner-up in Visual Sciences**, The 3rd Li Ka Shing Foundation International Ophthalmic Research Student Forum, Hong Kong (2014)
- **Best Presentation Award/Grants**, Young Scientist Award Session in Korea Society for Biomaterials, Republic of Korea (2014)
- **Best Paper Award/Grants**, Biomedical Research Institute, Seoul National University Hospital, Republic of Korea (2014)
- **Best Presentation Award/Grants**, The Korean Ophthalmological Society, Republic of Korea (2014)
- **Best Paper Award/Grants**, Biomedical Research Institute, Seoul National University Hospital, Republic of Korea (2012)

Publications

1. Lee, Y. Y., Park, H. H., Park, W., Kim, K., Jang, J. G., Hong, K. S., Lee, J. -Y., Seo, H. S., Na, D. H., Kim, T. - H., Choy, Y. B., Ahn, J. H., * Lee, W., * **Park, C. G.**, Long-acting Nanoparticulate DNase-1 for Effective Suppression of SAR-CoV-2-mediated Neutrophil Activities and Cytokine Storm, *Biomaterials*, 267:120389, 2020
2. Park, H. H., Park, W., Lee, Y. Y., Kim, H., Seo, H. S., Choi, D. W., Kwon, H.-K., Na, D. H., Kim, T.-H., Choy, Y. B., Ahn, J. H., * Lee, W., * **Park, C. G.**, Bioinspired DNase-I-coated melanin-like nanospheres for modulation of infection-associated NETosis dysregulation, *Advanced Science*, 7(23): 2001940, 2020
3. Seo, Y.- K., Park, H. H., Kim, H. N., Kim, H., Yoo, Y., Shin, H., Hong, K. S., Jang, J. G., **Park, C. G.**, Ahn, J. H., Choi E. Y., * Bae, J.- S., * Lee, W., * COVID-19-activated SREBP2 disturbs cholesterol biosynthesis and leads to cytokine storm, *Signal Transduction and Targeted Therapy*, 5(1), 186, 2020
4. **Park, C. G.**, Choi, G., Kim, M. H., Kim, S.-N., Lee, H., Lee, N. K., Choy, Y. B., * Choy, J.-H., * Brimonidine–Montmorillonite Hybrid Formulation for Topical Drug Delivery to the Eye, *Journal of Materials Chemistry B*, 8(35), 7914-7920, 2020
5. Hong, S., Choi, D. W., Kim, H. N., **Park, C. G.**, * **Lee, W.**, * **Park, H. H.**, * Protein-based Nanoparticles as Drug Delivery Systems, *Pharmaceutics*, 12(7), 604, 2020
6. **Park, H. W.**, †, **Park, C. G.**, †, Park, M., Lee, S. H., Park, H. R., Lim, J., Paek, S. H., * Choy, Y. B., * Intrastriatal administration of coenzyme Q10 enhances neuroprotection in a Parkinson’s disease rat model, *Scientific Reports*, 10(1), 9572, 2020 (†These authors contributed equally to this work.)
7. Park, W., Song, K. H., Lim, J., **Park, C. G.**, Doh, J., * Han, D. K., * Biomaterial-based strategies to prime dendritic cell-mediated anti-cancer immune responses, *International Materials Reviews*, 1-18, 2020
8. Angeline, N., Suhito, I. R., Kim, C.-H., Hong, G.-P., **Park, C.G.**, Bhang, S. H., Luo, Z., Kim, T.-H., * *Analyst*, 145(2), 675-684, 2020
9. Lee, S. H., Piao, H., Cho, Y. C., Kim, S.-N., Choi, G., Kim, C. R., Ji, H. B., **Park, C. G.**, Lee, C., Shin, C. I., Koh, W.-K., Choy, Y. B., * Choy, J.-H., * Implantable multireservoir device with stimulusresponsive membrane for on-demand and pulsatile delivery of growth hormone, *Proceedings of the National Academy of Sciences of the United States of America*, 116(24), 11664-11672, 2019
10. Albregues, J., Shields, M., Ng, M., **Park, C. G.**, Ambrico, A., Poindexter, M., Upadhyay P., Uyeminami, D., Pommier, A., Küttner, V., Bružas, E., Maiorino, L., Bautista, C., Carmona, E. M., Gimotty, P. A., Fearon, D., Chang, K., Lyons, S. K., Pinkerton, K., Trotman, L. C., Goldberg, M. S., Yeh, J T.- H., Egeblad, M., * Neutrophil extracellular traps produced during inflammation awaken dormant cancer cells in mice, *Science*, 361(6409), eaar4227, 2018
11. **Kim, S.- N.**, †, **Park, C. G.**, †, Huh, B. K., Lee, S. H., Min, C. H., Lee, Y. Y., Kim, Y. K., Park, K. H., Choy, Y. B., * Metal-organic Frameworks, NH₂-MIL-88(Fe), as Carriers for Ophthalmic Delivery of Brimonidine, *Acta Biomaterialia*, 79:344-353, 2018 (†These authors contributed equally to this work.)
12. **Park, C. G.**, Hartl, C. A., Schmid, D., Carmona, E. M., Kim, H.- J., Goldberg, M. S., * Extended Release of Perioperative Immunotherapy Prevents Tumor Recurrence and Eliminates Metastases, *Science Translational Medicine*, 10 (433), eaar1916, 2018
13. Lee, S. H., Kim, B. H., **Park, C. G.**, Lee, C., Lim, B. Y., Choy, Y. B., * Implantable Small Device enabled with Magnetic Actuation for On-demand and Pulsatile Drug Delivery, *Journal of Controlled Release*, 286 (28), 224-230, 2018

14. Kim, S. N., Ko, S. A., Park, C. G., Lee, S. H., Huh, B. K., Park, Y. H., Kim, Y. K., Ha, A., Park, K. H., Choy, Y. B., * Amino-functionalized Mesoporous Silica Particles for Ocular Delivery of Brimonidine, *Molecular Pharmaceutics*, 15(8), 3143-3152, 2018
15. Lee, S. H., Cho, Y. C., Nam, D. Y., Huh, B. K., Kim, S. -N., Lee, D. H., Park, C. G., Choy, Y. B., * Designing Minimally Invasive Preocular Contact Tips for Potential Application in Tear Collection, *Cornea*, 37(9), 1163-1168, 2018
16. Schmid, D., Park, C. G.,[†] Hartl, C. A., Subedi, N., Cartwright A. N., Puerto, R. B., Zheng, Y., Maiarana, J., Freeman G. J., Wucherpennig, K. W., Irvine, D. J., Goldberg, M. S., * T cell-targeting Nanoparticles Focus Delivery of Immunotherapy to Improve Antitumor Immunity, *Nature Communications*, 1747, 2017 ([†]These authors contributed equally to this work.)
17. Park, C. G.,[†] Huh, B. K.,[†] Kim, S. N., Lee, S. H., Hong, H. R., Choy, Y. B., * Nanostructured Mucoadhesive Microparticles to Enhance Oral Drug Bioavailability, *Journal of Industrial and Engineering Chemistry*, 54 (25), 262-269, 2017 ([†]These authors contributed equally to this work.)
18. Huh, H. K., Kim, B. H., Kim, S. N., Park, C. G., Lee, S. H., Kim, K. R., Heo, C. Y. *, Choy, Y. B. *, Surgical Suture Braided with a Diclofenac-loaded Strand of Poly (lactic-co-glycolic acid) for Local, Sustained Pain Mitigation, *Materials Science and Engineering: C*, 79(1), 209-215, 2017
19. Lee, E. J., Huh, B. K., Kim, S. N., Lee, J. Y., Park, C. G., Mikos, A. G., * Choy, Y. B., * Application of Materials as Medical Devices with Localized Drug Delivery Capabilities for Enhanced Wound Repair, *Progress in Materials Science*, 89, 392-410, 2017 (*Impact Factor* = 31.083)
20. Park, C. G.,[†] Park, M.,[†] Kim, B. W., Lee, S. H., Park, J. Y., Park H. H., Lee, K., Seok, H. -K., Choy, Y. B., * Pattern-coated Titanium Bone Fixation Plate for Dual Delivery of Vancomycin and Alendronate, *Macromolecular Research*, 25(7), 756-762, 2017 ([†]These authors contributed equally to this work.)
21. Lee, S. H., Lee, Y. B., Kim, B. H., Lee, C., Cho, Y. M., Kim, S.- N., Park, C. G., Cho, Y.- C., Choy, Y. B. *, Implantable Batteryless Device for On-demand and Pulsatile Insulin Administration, *Nature Communications*, 15032, 2017 (*Impact Factor* = 11.329)
22. Park, C. G., Kim, Y. K., Kim, S.- N., Lee, S. H., Huh, B. K., Park, M.- A., Won, H., Park, K. H., Choy, Y. B. *, Enhanced Ocular Efficacy of Topically-delivered Dorzolamide with Nanostructured Mucoadhesive Microparticles, *International Journal of Pharmaceutics*, 522 (1-2), 66-73, 2017
23. Kim, B. H., Park, M., Park, H. J., Lee, S. H., Choi, S. Y., Park, C. G., Han, S. M., Heo, C. Y. *, Choy, Y., B. *, Prolonged, Acute Suppression of Cysteinyl Leukotriene to Reduce Capsular Contracture around Silicone Implants, *Acta Biomaterialia*, 51 (15), 209-219, 2017
24. Lee, M.,[†] Park, C. G.,[†] Huh, B. K., Kim, S. -N., Lee, S. H., Khalmuratoval, R., Park, J. -W., Shin, H. -W., * Choy, Y. B., * Sinonasal Delivery of Resveratrol via Mucoadhesive Nanostructured Microparticles in a Nasal Polyp Mouse Model, *Scientific Reports*, 7:40249, 2017 ([†]These authors contributed equally to this work.)
25. Cho, I. S.,[†] Park, C. G.,[†] Huh, B. K., Cho, M. O., Khatun, Z., Li, Z., Kang, S. -W., Choy, Y. B. *, Huh, K. M. *. Thermosensitive Hexanoyl Glycol Chitosan-based Ocular Delivery System for Glaucoma Therapy, *Acta Biomaterialia*, 39 (15), 124-132, 2016([†]These authors contributed equally to this work.)
26. Park, C. G.,[†] Choi, K.,[†] Kim, Y. K., Park, K. H., Kim, S. *, Choy, Y. B. *, Mathematical Modelling of Brimonidine Absorption via Topical Delivery of Microparticle Formulations to the Eye, *Journal of Industrial and Engineering Chemistry*, 39(25), 194-202, 2016 ([†]These authors contributed equally to this work.)
27. Lee, W. S., Park, M., Kim, M. H., Park, C. G., Huh, B. K., Seok, H. K., Choy, Y. B. *, Nanoparticle Coating on the Silane-modified Surface of Magnesium for Local Drug Delivery and Controlled Corrosion, *Journal of Biomaterials Applications*, 30 (6), 651-661, 2016

28. Hur W. J., Park M., Lee J. Y., Kim M. H., Lee S. H., **Park C. G.**, Kim S. N., Min H. S., Min H.J., Chai J. H., Lee S. J., Kim S., Choi T. H.* , Choy Y. B.* , Bioabsorbable Bone Plates Enabled with Local, Sustained Delivery of Alendronate for Bone Regeneration, *Journal of Controlled Release*, 222, 97-106, 2016
29. **Park, C. G.**, Kim, Y. K., Kim, M. J., Park, M., Kim, M. H., Lee, S. H., Choi, S. Y., Lee, Y. S., Chung, Y. J., Jung, Y. E.* , Park, K. H., Choy, Y. B.* , Mucoadhesive Microparticles with a Nanostructured Surface for Enhanced Bioavailability of Glaucoma Drug, *Journal of Controlled Release*, 220, Part A, 180-188, 2015
30. **Park, C. G.**, Shasteen, C., Amoozgar, Z., Park, J., Kim, S. N., Lee, J. E., Lee, M. J., Suh, Y., Seok, H. K., Yeo, Y.* , Choy, Y. B.* , Photo-crosslinkable Chitosan Hydrogel as a Bioadhesive for Esophageal Stents, *Macromolecular Research*, 23(9), 882-884, 2015
31. Park, S. B., Park, M., Kim, B. H., Lee, J. E., Park, H. J., Lee, S. H., **Park, C. G.**, Kim, M. H., Kim, R., Kim, E. H., Heo, C. Y.* , Choy, Y. B.* , Acute Suppression of TGF- β with Local, Sustained Release of Tranilast against the Formation of Fibrous Capsules around Silicone Implants, *Journal of Controlled Release*, 200(28), 125-137, 2015
32. Lee, S. H., Park, M., **Park, C. G.**, Kim, B. H., Lee, J. E., Choi, S. Y., Nam, S. R., Park, S. H., Choy, Y. B.* , Implantable Micro-chip for Controlled Delivery of Diclofenac Sodium, *Journal of Controlled Release*, 196(28), 52-59, 2014
33. Choi, S. Y., Hur, W. J., Kim, B. K., Shasteen, C., Kim, M. H., Choi, L. M., Lee, S. H., **Park, C. G.**, Park, M., Min, H. S., Kim, S.W., Choi, T. H.* , Choy, Y. B.* , Bioabsorbable Bone Fixation Plates for X-ray Imaging Diagnosis by a Radiopaque Layer of Barium Sulfate and poly (lactic-co-glycolic acid), *Journal of Biomedical Materials Research: Part B - Applied Biomaterials*, 103(3), 596-607, 2015
34. **Park, C. G.**, Kim, M. J., Park, M., Choi, S. Y., Lee, S. H., Lee, J. E., Shin, G. -S., Park, K. H., Choy, Y. B.* , Nanostructured Mucoadhesive Microparticles for Enhanced Preocular Retention, *Acta Biomaterialia*, 10(1), 77-86, 2014
35. Park, M., Lee, J. E., **Park, C. G.**, Lee, S. H., Seok, H. -K., Choy, Y. B.* , Polycaprolactone Coating with Varying Thicknesses for Controlled Corrosion of Magnesium, *Journal of Coatings Technology and Research*, 10(5), 695-706, 2013
36. Lee, J. E.⁺, Park, S.⁺, Park, M., Kim, M. H., **Park, C. G.**, Lee, S. H., Choi, S. Y., Kim, B. H., Park, H. J., Park, J. -H., Heo, C. Y.* , Choy, Y. B.* , Surgical Suture Assembled with Polymeric Drug-delivery Sheet for Sustained, Local Pain-relief, *Acta Biomaterialia*, 9(9), 8318-8327, 2013
37. Shasteen, C., Kwon, S. M., Park, K. Y., Jung, S. Y., Lee, S. H., **Park, C. G.**, Kim, M. H., Kim, S., Son, W. - C., Choi, T. H.* , Choy, Y. B.* , Biodegradable Polymer Fixation Plates Enabled with X-ray Visibility, *Journal of Biomedical Materials Research: Part B - Applied Biomaterials*, 101(2), 320-329, 2013
38. Park, M., **Park, C. G.**, Lee, S. H., Lee, J. E., Cho, E., Prausnitz, M. R., Choy, Y. B.* , Polymeric Tube-shaped Devices with Controlled Geometry for Programmed Drug Delivery, *Macromolecular Research*, 20(9), 960-967, 2012
39. **Lee, J. E.[†], Park, C. G.[†]**, An, B. M., Kim, M. H., Park, M., Lee, S. H., Choy, Y. B.* , Linear Delivery of Verapamil via Nanofibrous Sheet-based System, *Pharmaceutical Research*, 29(7), 1787-1796, 2012 ([†]These authors contributed equally to this work.)
40. Lee, S. H., Park, M., **Park, C. G.**, Lee, J. E., Prausnitz, M. R., Choy, Y. B.* , Microchip for Sustained Drug Delivery by Diffusion through Microchannels, *AAPS PharmSciTech*, 13(1), 211-217, 2012
41. **Park, C. G.**, Kim, M. H., Park, M., Lee, J. E., Lee, S. H., Park, J. -H., Yoon, K. -H., Choy, Y. B.* , Polymeric Nanofiber Coated Esophageal Stent for Sustained Delivery of an Anticancer Drug, *Macromolecular Research*, 19(11), 1210-1216, 2011

42. **Park, C. G.**, Kim, E., Park, M., Park, J. -H., Choy, Y. B.* , A Nanofibrous Sheet-based System for Linear Delivery of Nifedipine, *Journal of Controlled Release*, 149(3), 250-257, 2011

Patents:

1. Michael Solomon Goldberg, Chun Gwon Park, “Drug delivery compositions and uses thereof,” PCT Application No. US17/49424 (August 30, 2017)
2. Young Bin Choy, **Chun Gwon Park**, “Mucoadhesive nanoform microparticles,” U.S. Patent Application No. 14/401398 (November 14, 2014)
3. Young Bin Choy, **Chun Gwon Park**, “Mucoadhesive nano-structured microparticles,” Korean Patent Registration No. 10-1511047 (April 6, 2015)
PCT Application No. 004252 (May 14, 2013)
4. Young Bin Choy, **Chun Gwon Park**, “Code-mark and manufacturing method, cognition system, cognition method thereof,” Korean Patent Registration No. 10-1384612 (April 7, 2014)
PCT Application No. 004649 (May 28, 2013)
5. Young Bin Choy, **Chun Gwon Park**, “An esophageal stent for controlled delivery of a drug and a preparation method thereof,” Korean Patent Registration No. 10-1324772 (October 28, 2013)
6. Young Bin Choy, **Chun Gwon Park**, Ji Eun Lee, “Nanofiber sheet-based systems for controlled delivery of oral drugs,” Korean Patent Registration No. 10-1284368 (July 3, 2013)