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Meritförteckning

Dr. Shiqi Wang is a Docent (Adjunct Professor) and Principal Investigator at the Faculty of Pharmacy, University of Helsinki. Her research focuses on the **fundamental understanding and development of nanoparticles for intracellular drug delivery** (<http://www.helsinki.fi/intracellular-drug-delivery>).

Short Biography

Dr. Wang obtained her BSc and MSc in chemistry from the Department of Chemistry Tsinghua University (China). In 2018, she obtained her PhD from Imperial College London (UK) with exceptional merits, and then joined the University of Helsinki, Faculty of Pharmacy as a Postdoctoral Fellow in Prof. Hélder Santos' group. In 2022, Dr. Wang got the Title of Docent in Pharmaceutical Nanotechnology, and in 2023, the Faculty of Pharmacy appointed her as the Principal Investigator.

Dr. Shiqi Wang has several ongoing projects funded by the Research Council of Finland (former Academy of Finland), Sigrid Jusélius Foundation, Finnish Red Cross Blood Service Research Fund, and Jane and Aatos Erkkö Foundation. **In 2023, Dr. Wang received the ERC starting grant of 1.5 M€**, to develop innovative solutions for intracellular drug delivery quantification.

Education

Anställning

Handledare för doktorandprogram

Doctoral Programme in Drug Research
Helsingfors universitet
Finland
1 jan. 2021 → present

Titeln docent

Farmaceutiska fakultetens avdelningar
Helsingfors universitet
Finland
31 okt. 2022 → present

akademiforskare

Avdelningen för farmaceutisk kemi och teknologi
Helsingfors universitet
Finland
1 sep. 2023 → present

Drug Research Program

Helsingfors universitet
Finland
31 mars 2023 → present

Nanomedicines and Biomedical Engineering

Helsingfors universitet

Helsinki, Finland

1 nov. 2022 → present

Projekt

Awards and Fellowships

2019 Lorem ipsum dolor sit amet
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Publikationer

Cell-mediated nanoparticle delivery systems: towards precision nanomedicine

Cheng, R. & Wang, S., 2024, I: Drug Delivery and Translational Research.

Implantable patch of oxidized nanofibrillated cellulose and lysozyme amyloid nanofibrils for the regeneration of infarcted myocardium tissue and local delivery of RNA-loaded nanoparticles

Carvalho, T., Bártolo, R., Correia, A., Vilela, C., Wang, S., Santos, H. A. & Freire, C. S. R., 2024, I: Macromolecular Rapid Communications. n/a, n/a, 13 s.

Developments for collagen hydrolysates as a multifunctional antioxidant in biomedical domains

Deng, G., Huang, K., Jiang, X., Wang, K., Song, Z., Su, Y., Li, C., Zhang, S., Wang, S. & Huang, Y., dec. 2023, I: Collagen and leather. 5, 1, 26.

Enhancing Apoptosome Assembly via Mito-Biomimetic Lipid Nanocarrier for Cancer Therapy

Han, H., Chen, J., Li, J., Correia, A., Bártolo, R., Shahbazi, M-A., Teesalu, T., Wang, S., Cui, W. & Santos, H. A., nov. 2023, I: Advanced Functional Materials. 33, 46, 11 s., 2305316.

Mycophenolic Acid-loaded Naïve Macrophage-derived Extracellular Vesicles Rescue Cardiac Myoblast after Inflammatory Injury

Gao, H., Wang, S., Liu, Z., Hirvonen, J. & Santos, H. A., 16 okt. 2023, I: ACS Applied Bio Materials. 6, 10, s. 4269-4276 8 s.

Identification of novel antioxidant collagen peptides for preventing and treating H₂O₂-induced oxidative stress in HepG2 cells through in vitro and in silico approaches

Du, B., Zhang, C., Deng, G., Zhang, S., Wang, S., Guan, Y. & Huang, Y., 12 okt. 2023, I: Journal of the Science of Food and Agriculture. 104, 2, s. 849-859 11 s.

Evaluation of cell membrane-derived nanoparticles as therapeutic carriers for pancreatic ductal adenocarcinoma using an *in vitro* tumour stroma model

Tapeinos, C., Torrieri, G., Wang, S., Martins, J. P. & Santos, H. A., okt. 2023, I: Journal of Controlled Release. 362, s. 225-242 18 s.

Development of siRNA and Budesonide Dual-Loaded Hybrid Lipid-Polymer Nanoparticles by Microfluidics Technology as a Platform for Dual Drug Delivery to Macrophages: An In Vitro Mechanistic Study

Cerda, S. L., Fontana, F., Wang, S., Correia, A., Molinaro, G., Tello, R. P., Hirvonen, J., Celia, C., Barreto, G. & Santos, H. A., aug. 2023, I: Advanced Therapeutics. 6, 8, 16 s., 2300048.

Fabrication of hydrogel microspheres via microfluidics using inverse electron demand Diels-Alder click chemistry-based tetrazine-norbornene for drug delivery and cell encapsulation applications

Tello, R. P., Wang, S., Fontana, F., Correia, A., Molinaro, G., Cerda, S. L., Hietala, S., Hirvonen, J., Barreto, G. & Santos, H. A., 12 juli 2023, I: Biomaterials Science. 11, 14, s. 4972-4984 13 s.

In Vitro Study of the Anti-inflammatory and Antifibrotic Activity of Tannic Acid-Coated Curcumin-Loaded Nanoparticles in Human Tenocytes

Molinaro, G., Fontana, F., Pareja Tello, R., Wang, S., López Cerdá, S., Torrieri, G., Rebelo Correia, A. M., Waris, E. M., Hirvonen, J. T., Barreto, G. & Santos, H. A., 2 maj 2023, I: ACS Applied Materials & Interfaces. 15, 19, s. 23012-23023 12 s.

Nanoparticles-based phototherapy systems for cancer treatment: Current status and clinical potential

Li, J., Wang, S., Fontana, F., Tapeinos, C., Shahbazi, M. -A., Han, H. & Santos, H. A., maj 2023, I: Bioactive Materials. 23, s. 471-507 37 s.

Acid-labile chemical bonds-based nanoparticles for endosome escape and intracellular delivery

Cheng, R., Wang, S. & Santos, H. A., 2023, I: Biomedical technology. 3, s. 52-58 7 s.

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Rational design of a polysaccharide-based viral mimicry nanocomplex for potent gene silencing in inflammatory tissues

Gao, H., Wang, S., Long, Q., Cheng, R., Lian, W., Koivuniemi, A., Ma, M., Zhang, B., Hirvonen, J., Deng, X., Liu, Z., Ye, X. & Santos, H. A., 2023, I: Journal of Controlled Release. 357, s. 120-132 13 s.

A pH-Responsive Cluster Metal-Organic Framework Nanoparticle for Enhanced Tumor Accumulation and Antitumor Effect

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Quantitative Analysis of Porous Silicon Nanoparticles Functionalization by ¹H NMR

Cheng, R., Wang, S., Moslova, K., Mäkilä, E., Salonen, J., Li, J., Hirvonen, J., Xia, B. & Santos, H. A., 10 okt. 2022, I: Acs Biomaterials Science & Engineering. 8, 10, s. 4132-4139 8 s.

Microfluidics Fabrication of Micrometer-Sized Hydrogels with Precisely Controlled Geometries for Biomedical Applications

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Multifunctional Biomimetic Nanovaccines Based on Photothermal and Weak-Immunostimulatory Nanoparticulate Cores for the Immunotherapy of Solid Tumors

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Neonatal Fc receptor-targeted lignin-encapsulated porous silicon nanoparticles for enhanced cellular interactions and insulin permeation across the intestinal epithelium

Martins, J. P., Figueiredo, P., Wang, S., Espo, E., Celi, E., Martins, B., Kemell, M., Moslova, K., Mäkilä, E., Salonen, J., Kostainen, M., Celia, C., Cerullo, V., Viitala, T., Sarmiento, B., Hirvonen, J. & Santos, H. A., mars 2022, I: Bioactive Materials. 9, s. 299-315 17 s.

Dual-Crosslinked Dynamic Hydrogel Incorporating {Mo-154} with pH and NIR Responsiveness for Chemo-Photothermal Therapy

Guedes, G., Wang, S., Fontana, F., Figueiredo, P., Linden, J., Correia, A., Pinto, R. J. B., Hietala, S., Sousa, F. L. & Santos, H. A., 7 okt. 2021, I: Advanced Materials. 33, 40, 10 s., 2007761.

Non-viral nanoparticles for RNA interference: Principles of design and practical guidelines

Liu, Z., Wang, S., Tapeinos, C., Torrieri, G., Känkänen, V., Ibrahim, N. E. A. A., Python, A., Hirvonen, J. & Santos, H. A., juli 2021, I: *Advanced Drug Delivery Reviews*. 174, s. 576-612 37 s.

Acetalated dextran based nano- and microparticles: synthesis, fabrication, and therapeutic applications

Wang, S., Fontana, F., Shahbazi, M-A. & Santos, H. A., 2 maj 2021, I: *Chemical Communications*. 57, 35, s. 4212-4229 18 s.

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Intracellular delivery of budesonide and polydopamine co-loaded in endosomolytic poly(butyl methacrylate-co-methacrylic acid) grafted acetalated dextran for macrophage phenotype switch from M1 to M2

Wang, S., Wannasarit, S., Figueiredo, P., Molinaro, G., Ding, Y., Correia, A., Casettari, L., Wiwattanapatapee, R., Hirvonen, J., Liu, D., Li, W. & Santos, H. A., jan. 2021, I: *Advanced Therapeutics*. 4, 1, 11 s., 2000058.

Investigation of silicon nanoparticles produced by centrifuge chemical vapor deposition for applications in therapy and diagnostics

Lumen, D., Wang, S., Mäkilä, E., Imlimthan, S., Sarparanta, M., Rebelo Correia, A. M., Haug, C. W., Hirvonen, J., Santos, H. A., Airaksinen, A., Filtvedt, W. & Salonen, J., jan. 2021, I: *European Journal of Pharmaceutics and Biopharmaceutics*. 158, s. 254-265 12 s.

Recombination Monophosphoryl Lipid A-Derived Vacosome for the Development of Preventive Cancer Vaccines

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Guedes, G., Wang, S., Santos, H. A. & Sousa, F. L., 16 juni 2020, I: *European Journal of Inorganic Chemistry*. 2020, 22, s. 2121-2132 12 s.

Superfast and controllable microfluidic inking of anti-inflammatory melanin-like nanoparticles inspired by cephalopods

Wang, S., Wannasarit, S., Figueiredo, P., Li, J., Rebelo Correia, A. M., Xia, B., Wiwattanapatapee, R., Hirvonen, J., Liu, D., Li, W. & Santos, H. A., 1 juni 2020, I: *Materials Horizons*. 7, 6, s. 1573-1580 8 s.

Intracellular co-delivery of melanin-like nanoparticle and budesonide by endosomolytic polymeric materials for anti-inflammatory therapy

Wang, S., Wannasarit, S., Figueiredo, P., Li, J., Rebelo Correia, A. M., Xia, B., Wiwattanapatapee, R., Hirvonen, J., Liu, D., Santos, H. A. & Li, W., 2020, (Insänt) *47th Controlled Release Society Annual Meeting & Exposition*.

Antitumor Therapeutics: A Virus-Mimicking pH-Responsive Acetalated Dextran-Based Membrane-Active Polymeric Nanoparticle for Intracellular Delivery of Antitumor Therapeutics (Adv. Funct. Mater. 51/2019)

Wannasarit, S., Wang, S., Figueiredo, P., Trujillo Olvera, C. X., Eburnea, F., Simón-Gracia, L., Correia, A., Ding, Y., Teesalu, T., Liu, D., Wiwattanapatapee, R., Santos, H. A. & Li, W., 19 dec. 2019, I: *Advanced Functional Materials*. 29, 51, s. 1970351 1 s.

A Virus-Mimicking pH-Responsive Acetalated Dextran-Based Membrane-Active Polymeric Nanoparticle for Intracellular Delivery of Antitumor Therapeutics

Wannasarit, S., Wang, S., Figueiredo, P., Trujillo Olvera, C. X., Eburnea, F., Simón-Gracia, L., Correia, A., Ding, Y., Teesalu, T., Liu, D., Wiwattanapatapee, R., Santos, H. A. & Li, W., 19 dec. 2019, I: *Advanced Functional Materials*. 29, 51, 14 s., 1905352.

