



Contents lists available at ScienceDirect

Journal of Controlled Release

journal homepage: www.elsevier.com/locate/jconrel

Editorial

The Fifth Symposium on Innovative Polymers for Controlled Delivery (SIPCD 2018), September 14–17, 2018, Suzhou, China



An ideal scientific meeting provides a unique platform that not only facilitates discussion on the cutting-edge technologies and new findings, but also stimulates open and honest debate on critical challenges in the field as well as potential solutions and strategies. Thus, it can guide the future research directions, enlighten and inspire young students and scientists in the community, and provide an avenue and atmosphere for social networking with peers and colleagues. Since its first symposium held in 2010, under the strong and continuous support of our participants and sponsors, the Symposium on Innovative Polymers for Controlled Delivery (SIPCD), also simply known as the Suzhou meeting, has become one of the most prestigious drug delivery meetings. It has grown significantly in the number of participants, and more importantly, in the quality of presentations.

SIPCD aims to becoming a high-level conference on biomedical polymers and controlled release technology. As for our previous four symposia, all 29 invited lectures in SIPCD 2018 were given by selected top scientists including editors and associate editors of over 10 prestigious journals. The names of invited speakers and their lecture titles are listed in Table 1. In addition, Maarten van Twisk, the executive publisher in pharmacology and pharmaceutical science of Elsevier, was invited to give an author workshop on “How to write a great paper”. Besides invited lectures, SIPCD 2018 has also introduced a *Biomacromolecules* Forum in which 9 prominent researchers have been selected by the committee to give a short oral presentation (Table 2). As our previous four symposia, we have published a SIPCD 2018 special issue in the *Journal of Controlled Release*, which contains contributions exclusively from our invited speakers and distinguished guests. Unlike previous special issues, to guarantee their fast publication, 24 papers of SIPCD 2018 special issue have been published in different regular issues [1–24]. The readers might sense the flavor of SIPCD 2018 from those papers.

In SIPCD 2018, we had 560 registered participants and 353 poster presentations (due to limit of space in the venue). As our previous

symposia, eight posters have been presented the prestigious *Biomacromolecules* Poster Awards sponsored by the American Chemical Society during the banquet. Here, we like to thank the Best Poster Awards Selection Committee (Professors Yong-Hee Kim, Haeshin Lee, Hai-Quan Mao, Julien Nicolas, Mingdong Dong, Patrick S. Stayton, Richard Hoogenboom, and Yi Yan Yang) for their kind support.

SIPCD 2018 was co-organized by Soochow University Biomedical Polymers Laboratory and BrightGene Biomedical Technology Co., Ltd. We are thankful to our international organizing/advisory committee members, in particular Professors Sung Wan Kim, Wim E. Hennink, Xuesi Chen, Maarten van Twisk, Yong-Hee Kim, Kazunori Kataoka, Rainer Haag, Harm-Anton Klok, and Kinam Park, for their valuable contributions. We are grateful to Professor Wim E. Hennink for handling all the submissions for the SIPCD 2018 special issue in the *Journal of Controlled Release*. Last but not the least, we like to thank the executive organizing committee (in particular Professors Chao Deng, Huanli Sun and Ru Cheng) for taking care of the administration and graduate students for volunteer work.

In spite of our efforts and devotion, SIPCD has ample room to grow. Here, we are pleased to announce that Professor Kinam Park has agreed to be a co-chairman for the Sixth Symposium on Innovative Polymers for Controlled Delivery (SIPCD 2020), which will be held in September 18–21, 2020 in Suzhou, China. Kinam has come up with many good ideas to make our symposium a best drug delivery conference, from both scientific and social points of view. We plan to have new interesting “experiments” in scientific contents and social interactions. SIPCD 2020 is special because it also marks the 10-year anniversary. We also kindly ask your enthusiastic support and active participation to make SIPCD 2020 reach its goal of becoming a preeminent drug delivery symposium. Please check out the symposium website (<http://www.sipcd.com>) for updates on SIPCD 2020. We look forward to having you in SIPCD 2020.

<https://doi.org/10.1016/j.jconrel.2019.06.039>

Available online 29 June 2019

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Table 1

List of invited speakers and the titles of lectures presented in SIPCD 2018.

Invited speaker (affiliation)	Title of the lecture
Kinam Park (Purdue University, USA)	PLGA microparticles: Very well-known but unexplored formulations
Jeroen J.L.M. Cornelissen (University of Twente, The Netherlands)	Protein cages as new tools for nanomedicine
Yi Yan Yang (Institute of Bioengineering and Nanotechnology, Singapore)	Macromolecular chemotherapeutics that mitigate resistance in cancer and prevent metastasis
Patrick S. Stayton (University of Washington, USA)	Engineering intracellular drug therapies
Benzhong Tang (Hong Kong University of Science and Technology, Hong Kong)	Theranostics based on AIEgens
Theresa M. Reineke (University of Minnesota, USA)	Controlled polymer synthesis and assembly to promote drug delivery and cellular gene editing
Andreas Lendlein (Helmholtz-Zentrum Geesthacht, Germany)	Multifunctional polymer systems for controlled drug release and transport
Shaoyi Jiang (University of Washington, USA)	Anti-PEG antibodies: Current issues and beyond PEGylation
Kazunori Kataoka (University of Tokyo, Japan)	Self-assembled supramolecular nanosystems for smart diagnosis and targeted therapy of intractable diseases
Bin Liu (National University of Singapore, Singapore)	Organic nanoparticles for sensing, imaging and therapy
Julien Nicolas (Université Paris-Sud, France)	Drug-initiated synthesis of polymer prodrug nanocarriers for anticancer therapy
Jianmin Fang (Tongji University, China)	Antibody-drug conjugates for targeted delivery of high potency payloads
Youngro Byun (Seoul National University, Korea)	Polymeric nano-shielding of transplanted pancreatic islets for the prevention of immune reactions
Mingdong Dong (Aarhus University, Denmark)	Understanding of abnormal protein aggregation
Ick Chan Kwon (Korea Institute of Science and Technology, Korea)	Activatable molecular probes for drug delivery
Jinming Gao (University of Texas Southwestern Medical Center, USA)	Exploiting molecular cooperativity for precision medicine
Wim E. Hennink (Utrecht University, The Netherlands)	Modular core-shell polymeric nanoparticles mimicking viral structures for vaccination
Zhiyong Qian (Sichuan University, China)	Redox/pH dual-stimuli responsive camptothecin prodrug nanogels for “on-demand” drug delivery
Frank Caruso (The University of Melbourne, Australia)	Hybrid functional materials from metal-phenolic networks
Guanghui Ma (Institute of Process Engineering, CAS, China)	Preparation of uniform particles and employed as chassis for constructing composite virus-like particles by assembling antigen on it
Haeshin Lee (Korea Advanced Institute of Science and Technology, Korea)	Polydopamine coating and TANNylation: Mussel and plant-inspired biomaterial studies
Timothy J. Deming (University of California, Los Angeles, USA)	Multifunctional diblock copolypeptide hydrogels for biological studies
Hai-Quan Mao (Johns Hopkins University, USA)	Controlled polyelectrolyte assembly and therapeutic delivery
Rainer Haag (Freie Universität Berlin, Germany)	Multifunctional graphene-based nanosystems for virus capture and tumor therapy
David Kaplan (Tufts University, USA)	Engineering silk protein delivery systems
Xuesi Chen (Changchun Institute of Applied Chemistry, CAS, China)	Tumor selective hypoxia induced by vascular disrupting agents: Towards highly enhanced hypoxia-activated prodrug therapy in metastatic breast carcinoma
Richard Hoogenboom (Ghent University, Belgium)	Poly(2-oxazoline)s as potent(ial) biomaterials
Giuseppe Battaglia (University College London, UK)	Precision targeting nanomedicines: principles and applications

Table 2List of speakers and the titles of lectures presented in the *Biomacromolecules* Forum.

Speaker (affiliation)	Title of the lecture
Huabing Chen (Soochow University, China)	Photoactive nanoparticles for cooperative cancer phototherapy
Christian Wischke (Helmholtz-Zentrum Geesthacht, Germany)	Polymer network carriers that switch their shape
Jianzhong Du (Tongji University, China)	Polymer vesicles for biomedical applications
Jing Sun (Qingdao University of Science and Technology, China)	Functional bioinspired polypeptide/peptoid-based polymers
Jianshu Li (Sichuan University, China)	Controlled delivery systems of calcitonin for anti-osteoporosis therapy
Chuanliang Feng (Shanghai Jiao Tong University, China)	Bioinspired chiral supramolecular hydrogels
Haijun Yu (Shanghai Institute of Materia Medica, CAS, China)	Stimuli-responsive nanoparticles for cancer immunotherapy
Edgar H. H. Wong (University of New South Wales, Australia)	Novel formulations of antimicrobial polymers and small molecule compounds for synergistic action against (multidrug-resistant) bacteria
Wei Li (The Second Military Medical University, China)	Nano physical pharmaceuticals (NPP): the overlooked powerful tool for promoting in vivo performance of nano formulations

Acknowledgments

We like to acknowledge the enthusiastic cooperation and support from the National Natural Science Foundation of China (NSFC 51561135010, 51633005, 5171101337 and 51861145310), Samyang Biopharmaceuticals Corporation, State Key Laboratory of Radiation Medicine and Protection (Soochow University), Advanced Academic Exchange Activities of Suzhou, Priority Academic Program Development of Jiangsu Higher Education Institutions, Jiangsu Key Laboratory of Advanced Functional Polymer Design and Application (Soochow University), BrightGene Biomedical Technology Co., Ltd., *Journal of Controlled Release* (Elsevier), *Biomacromolecules* (ACS), and *Polymers*.

References

- [1] Y. Dong, B. Liu, Y. Yuan, Aiegen based drug delivery systems for cancer therapy, *J. Control. Release* 290 (2018) 129–137.
- [2] Y. Shi, Y. Jiang, J. Cao, W. Yang, J. Zhang, F. Meng, Z. Zhong, Boosting RNAi therapy for orthotopic glioblastoma with nontoxic brain-targeting chimaeric polymersomes, *J. Control. Release* 292 (2018) 163–171.
- [3] B. Lou, A. De Beuckelaer, E. Boonstra, D. Li, B.G. De Geest, S. De Koker, E. Mastrobattista, W.E. Hennink, Modular core-shell polymeric nanoparticles mimicking viral structures for vaccination, *J. Control. Release* 293 (2019) 48–62.
- [4] C. Yang, A. Lee, S. Gao, S. Liu, J.L. Hedrick, Y.Y. Yang, Hydrogels with prolonged release of therapeutic antibody: block junction chemistry modification of ‘ABA’ copolymers provides superior anticancer efficacy, *J. Control. Release* 293 (2019) 193–200.
- [5] C. Xu, Y. Wang, Z. Guo, J. Chen, L. Lin, J. Wu, H. Tian, X. Chen, Pulmonary delivery by exploiting doxorubicin and cisplatin co-loaded nanoparticles for metastatic lung cancer therapy, *J. Control. Release* 295 (2019) 153–163.
- [6] D. Vinciguerra, M. Jacobs, S. Denis, J. Mouglin, Y. Guillaneuf, G. Lazzari, C. Zhu, S. Mura, P. Couvreur, J. Nicolas, Heterotelechelic polymer prodrug nanoparticles: adaptability to different drug combinations and influence of the dual

- functionalization on the cytotoxicity, *J. Control. Release* 295 (2019) 223–236.
- [7] Y. Qu, B. Chu, X. Wei, M. Lei, D. Hu, R. Zha, L. Zhong, M. Wang, F. Wang, Z. Qian, Redox/pH dual-stimuli responsive camptothecin prodrug nanogels for “on-demand” drug delivery, *J. Control. Release* 296 (2019) 93–106.
- [8] L. Luo, Q. Zhang, Y. Luo, Z. He, X. Tian, G. Battaglia, Thermosensitive nano-composite gel for intra-tumoral two-photon photodynamic therapy, *J. Control. Release* 298 (2019) 99–109.
- [9] H. Deng, A. Dong, J. Song, X. Chen, Injectable thermosensitive hydrogel systems based on functional PEG/PCL block polymer for local drug delivery, *J. Control. Release* 297 (2019) 60–70.
- [10] N. Rades, K. Achazi, M. Qiu, C. Deng, R. Haag, Z. Zhong, K. Licha, Reductively cleavable polymer-drug conjugates based on dendritic polyglycerol sulfate and monomethyl auristatin E as anticancer drugs, *J. Control. Release* 300 (2019) 13–21.
- [11] L. Gao, F. Zabihi, S. Ehrmann, S. Hedtrich, R. Haag, Supramolecular nanogels fabricated via host–guest molecular recognition as penetration enhancer for dermal drug delivery, *J. Control. Release* 300 (2019) 64–72.
- [12] K. Suzuki, Y. Miura, Y. Mochida, T. Miyazaki, K. Toh, Y. Anraku, V. Melo, X. Liu, T. Ishii, O. Nagano, H. Saya, H. Cabral, K. Kataoka, Glucose transporter 1-mediated vascular translocation of nanomedicines enhances accumulation and efficacy in solid tumors, *J. Control. Release* 301 (2019) 28–41.
- [13] M. Luo, Z. Liu, X. Zhang, C. Han, L.Z. Samandi, C. Dong, B.D. Sumer, J. Lea, Y.-X. Fu, J. Gao, Synergistic sting activation by PC7A nanovaccine and ionizing radiation improves cancer immunotherapy, *J. Control. Release* 300 (2019) 154–160.
- [14] R. Xu, Z. Zhang, M.S. Toftdal, A.C. Møller, F. Dagnaes-Hansen, M. Dong, J.S. Thomsen, A. Brüel, M. Chen, Synchronous delivery of hydroxyapatite and connective tissue growth factor derived osteoinductive peptide enhanced osteogenesis, *J. Control. Release* 301 (2019) 129–139.
- [15] B. Yavuz, J.L. Morgan, C. Herrera, K. Harrington, B. Perez-Ramirez, P.J. LiWang, D.L. Kaplan, Sustained release silk fibroin discs: antibody and protein delivery for HIV prevention, *J. Control. Release* 301 (2019) 1–12.
- [16] S. Skidmore, J. Hadar, J. Garner, H. Park, K. Park, Y. Wang, X. Jiang, Complex sameness: separation of mixed poly(lactide-co-glycolide)s based on the lactide: glycolide ratio, *J. Control. Release* 300 (2019) 174–184.
- [17] N. Brunacci, A.T. Neffe, C. Wischke, T. Naolou, U. Nöchel, A. Lendlein, Oligodepsipeptide (nano)carriers: computational design and analysis of enhanced drug loading, *J. Control. Release* 301 (2019) 146–156.
- [18] X. Gu, Y. Wei, Q. Fan, H. Sun, R. Cheng, Z. Zhong, C. Deng, cRGD-decorated biodegradable polytyrosine nanoparticles for robust encapsulation and targeted delivery of doxorubicin to colorectal cancer in vivo, *J. Control. Release* 301 (2019) 110–118.
- [19] Z. He, Y. Hu, Z. Gui, Y. Zhou, T. Nie, J. Zhu, Z. Liu, K. Chen, L. Liu, K.W. Leong, P. Cao, Y. Chen, H.-Q. Mao, Sustained release of exendin-4 from tannic acid/Fe (III) nanoparticles prolongs blood glycemic control in a mouse model of type II diabetes, *J. Control. Release* 301 (2019) 119–128.
- [20] J. Wu, G. Ma, Imitation of nature: bionic design in the study of particle adjuvants, *J. Control. Release* 303 (2019) 101–108.
- [21] Y.J. Ko, W.J. Kim, K. Kim, I.C. Kwon, Advances in the strategies for designing receptor-targeted molecular imaging probes for cancer research, *J. Control. Release* (2019), <https://doi.org/10.1016/j.jconrel.2019.1004.1030>.
- [22] S. Pathak, T.T. Pham, J.-H. Jeong, Y. Byun, Immunoisolation of pancreatic islets via thin-layer surface modification, *J. Control. Release* (2019), <https://doi.org/10.1016/j.jconrel.2019.1004.1034>.
- [23] Y. Na, J.-P. Nam, J. Hong, E. Oh, H.C. Shin, H.S. Kim, S.W. Kim, C.-O. Yun, Systemic administration of human mesenchymal stromal cells infected with polymer-coated oncolytic adenovirus induces efficient pancreatic tumor homing and infiltration, *J. Control. Release* (2019), <https://doi.org/10.1016/j.jconrel.2019.1004.1040>.
- [24] M.V. de Ruyter, R.M. van der Hee, A.J.M. Driessen, E.D. Keurhorst, M. Hamid, J.J.L.M. Cornelissen, Polymorphic assembly of virus-capsid proteins around DNA and the cellular uptake of the resulting particles, *J. Control. Release* (2019), <https://doi.org/10.1016/j.jconrel.2019.1006.1019>.

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