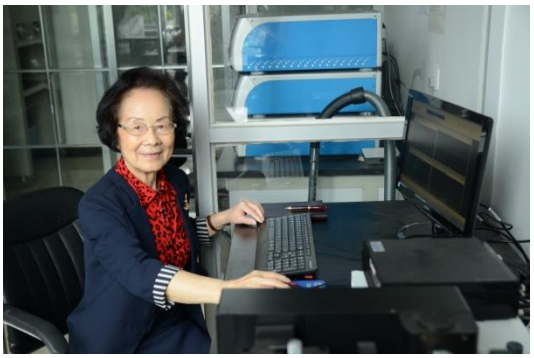
Self-Introduction of Plenary Speaker for ICBP 2017

Lina Zhang (female) is an Academician of Chinese Academy of Sciences, and Professor at College of Chemistry and Molecular Sciences in Wuhan University. She was graduated from Wuhan University in 1963. In 1985, she got JSPS research fellowship to study in Osaka University. She was elected Academician of Chinese Academy of Sciences in 2011, and Fellow of the Royal Society of Chemistry in 2014. She has been invited as editorial board members for journals of Cellulose，Bioactive Carbohydrates and Dietary Fibre，and Journal of Applied Polymer Science etc. Professor Zhang has established the Natural Polymers and Polymer Physics group at Wuhan University in 1993. Since then she has been devoting herself to the fundamental research and applications including the structure, molecular size and chain conformation of cellulose, chitin, starch, alginate and soy protein, as well as fungi polysaccharides, and the properties and functions of the new materials derived from natural polymers. Professor Zhang pioneered the development of low temperature technologies to dissolve the intransigent macromolecules such as cellulose, chitin, chitosan and polyaniline (PANI) in alkali/urea aqueous solvents that are non-toxic, low-cost and "green". A new mechanism of the polymer dissolution at low-temperature through hydrogen-bonding self-assembly among the macromolecules and solvent molecules was proposed. Moreover, a series of novel materials were constructed directly from the cellulose solution, chitin solution, chitosan solution or PANI/cellulose solution via physical regenerated "green" methods, and their relationship of structure to properties was revealed. She has published 16 books and more than 530 papers in international journals, and her work has been cited over 12000 times. Because of her profound research achievements and illuminating scientific discoveries she became the first Chinese scientist received Anselme Payen Award of the American Chemical Society in 2011. She has been also awarded Second-place National Nature Science Prize of China (2012). She obtained over 100 patents, and was awarded for National Excellent Woman Inventor (2002).

CV of Plenary Speaker for ICBP 2017

Lina Zhang



Personal Information

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Education: 1958 – 63 B.S., Wuhan University
1984 – 86 Japan Society for the Promotion of Science (JSPS) research fellowship in Osaka University

Professional Experience: 1963 – 73 Institute of Metal and Chemistry, Railroad Academy of Science, Beijing, Assistant researcher
1973 till present Department of Chemistry, Wuhan University, Professor

Awards / Honors:

2000 National Model Worker
2002 1st National excellent woman inventor
2004 Second-place Natural Science Prize of National Ministry of Education
2005 First-place Natural Science Prize of Hubei Province
2008 First-place Technology Invention Prize of Hubei Province
2011 The Anselme Payen award of the ACS
2012 Second-place the State Natural Science Award, China

Research Interests:

Novel solvents of cellulose and chitin dissolved at low temperature and dissolution mechanism;

New functional materials including fibers, membranes, hydrogels and films constructed from cellulose, chitin and protein;

Modifications of natural polymers and biomedical materials;

Second structure of fungal polysaccharides and the correlation of structure to bioactivities;

Polymer characterizations (LLS, LLS-SEC, DMTA, DSC, SEM. TEM, NMR, Rheometer, Tensile testing);

Developments of the cellulose and chotin products via "green" process

Publications: 530 scientific papers (citation times: over 12000), 16 books, and 100 awarded patents.

Representative Research Papers:

1. Gao S., Zhang L., Molecular weight effects on properties of polyurethane/nitrokonjac glucomannan semi-interpenetrating polymer networks, ***Macromolecules***, 2001, 34, 2202.
2. Lu Y., Weng L., Zhang L., Morphology and properties of soy protein isolate thermoplastics reinforced with chitin whiskers, ***Biomacromolecules***, 2004, 5, 1046.
3. Xu X., Zhang X., Zhang L., Wu C., Collapse and association of denatured lentinan in water/ dimethysulfoxide solutions, ***Biomacromolecules***, 2004, 5, 1893.
4. Weng L., Liang S., Zhang L., Zhang X., Xu J., Transport of glucose and poly(ethylene glycol)s in agarose gels studied by the refractive index method, ***Macromolecules***, 2005, 38, 5236.
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6. Cao X., Zhang L., Effects of molecular weight on miscibility and properties of polyurethane/benzyl starch semi-interpenetrating polymer networks, ***Biomacromolecules***, 2005, 6, 671.
7. Cai J., Zhang L., Unique gelation behavior of cellulose in NaOH/urea aqueous solution, ***Biomacromolecules***, 2006, 7, 183.
8. Chen P., Zhang L., Interaction and properties of highly exfoliated soy protein/ montmorillonite nanocomposites, ***Biomacromolecules***, 2006, 7, 1700.
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11. Peng X., Zhang L., Formation and morphologies of novel self-assembled micelles

from chitosan derivatives, ***Langmuir***, 2007, 23, 10493.
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15. Liu S., Zhang L., Zhou J., Xiang J., Sun J., Guan J., Fiberlike Fe_2O_3 Macroporous Nanomaterials Fabricated by Calcinating Regenerate Cellulose Composite Fibers, ***Chem. Mater***. 2008, *20,* 3623.
16. Kumar R., Zhang L., Water-induced hydrophobicity of soy protein materials containing 2,2-diphenyl-2-hydroxyethanoic acid, ***Biomacromolecules,*** 2008, *9,* 2430.
17. Wang X., Xu X., Zhang L., Thermally induced conformation transition of triple-helical lentinan in NaCl aqueous solution, ***J. Phys. Chem. B*** 2008, *112,* 10343.
18..Cai J., Zhang L., Liu S., Liu Y., Xu X., Chen X., Chu B., Guo X., Xu J., Cheng H., Han C C., Kuga S., Dynamic self-assembly induced rapid dissolution of cellulose at low temperatures, ***Macromolecules***, 2008, 41, 9345.
19. Qi H., Chang C., Zhang L., Properties and applications of biodegradable transparent and photoluminescent cellulose films prepared via a green process, ***Green Chemistry,*** 2009, 11, 177.
20. Qi H., Cai J., Zhang L., Kuga S., Properties of films composed of cellulose nanowhiskers and a cellulose matrix regenerated from alkali/urea solution, ***Biomacromolecules,*** 2009, *10,* 1597.
21. Luo X., Liu S., Zhou J., Zhang L., Properties of films composed of cellulose nanowhiskers and a cellulose matrix regenerated from alkali/urea solution, ***J. Mater. Chem.***, 2009, 19, 3538.
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28. Chang C, Zhang L, Novel Hydrogels Prepared via direct dissolution of chitin at low temperature: structure and biocompatibility, ***J. Mater. Chem.***, 2011, 21, 3865.
29. Chang C., He Meng., Zhou J., Zhang L., Swelling behaviors of pH- and salt-responsive cellulose-based hydrogels, ***Macromolecules,*** 2011, 44, 1642.
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microspheres, ***J. Mater. Chem. A,*** 2015, 3, 16424.

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