Pulp and Paper: Reflections on Faculty and Research Careers and the Journey with *BioResources*

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With over 20 years in pulp and paper, my career has been shaped by foundational research and teaching as well as by *BioResources*, a journal that has significantly supported my work. This editorial reflects on key stages in my academic journey and the pivotal role *BioResources* has played in advancing my research and connecting the global pulp and paper community.

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Throughout a career spanning over two decades, I have had the privilege of contributing to advancements in the area of pulp and paper. This journey has been deeply rewarding, marked by collaborations, mentorships, and the continuous evolution of my research focus. Integral to this path has been *BioResources*, a journal that has not only provided a platform for my work but has profoundly shaped my research trajectory, offering invaluable support, visibility, and opportunities to connect with the global pulp and paper community. This editorial reflects on my academic and research experiences, underscoring the pivotal role that *BioResources* has played in shaping both my career and the broader field of sustainable papermaking materials.

Foundations in Pulp and Paper Research

My journey in the pulp and paper industry began in 1999 when I enrolled in the "Light Chemical Engineering" program at Shandong Institute of Light Industry, which is now known as Qilu University of Technology. During my studies, I was selected to participate in an esteemed pilot program, which allowed me to accelerate my education and complete my Bachelor's degree a year ahead of schedule, graduating in 2002. My academic supervisor during this period was Prof. Chuanshan Zhao, under whose guidance I completed an undergraduate thesis focused on the repulping of banknote waste paper.

I pursued my Master's in Pulp and Paper Engineering under Prof. Wenxia Liu, focusing on copolymeric cationic microparticles to stabilize rosin sizing agents in papermaking. In 2005, I joined Northeast Forestry University's College of Materials Science and Engineering as a faculty member. From 2006 to 2010, I undertook my Ph.D. in Chemical Processing Engineering of Forest Products at Northeast Forestry University,

guided by Profs. Zhanqian Song and Xueren Qian. My doctoral research was focused on enhancing calcium carbonate fillers for better acid tolerance and bondability.

International experiences, such as my time as a postdoctoral fellow and a visiting scholar at the Limerick Pulp and Paper Centre of Department of Chemical Engineering, University of New Brunswick, Canada, under Prof. Yonghao Ni, have significantly enriched my perspectives and understanding of global papermaking practices. I also had the opportunity to gain industry experience under Prof. Jinsong Li at Mudanjiang Hengfeng Paper Co. Ltd., China, where I learned firsthand the industry's application of pulp and paper science.

Teaching, Mentoring, and Expanding Research Interests

Over the past years at Northeast Forestry University, I have had the privilege of teaching a range of courses for undergraduate, Master's, and doctoral students, each aimed at deepening their understanding of pulp and paper science and chemical engineering. At the undergraduate level, I have taught courses such as "Wet End Chemistry & Additives," "Feedstocks and Raw Materials for Papermaking," "Introduction to Light Industry for Chemical Engineering," and "Introduction to Innovations in Light Industry for Chemical Engineering." I also had the experience of teaching "English & Central Science" to international undergraduates at Northeast Forestry University. At the Master's level, I have led courses including "Basics of Papermaking Chemistry," "Wet-End and Colloid Science," "Advanced Technical English," "Progress in Papermaking Chemicals Preparation and Applications," and "Special Topics in Pulp and Paper." At the doctoral level, I have taught "Paper-Based Functional Materials."

Since 2012, I have been mentoring Master's students, and from 2017, I began mentoring doctoral students, while continuously guiding undergraduate students as per the university's academic plans and policies. The opportunity to work with students at different stages has continually enriched my own research and teaching philosophy, shaping a dynamic and collaborative academic environment.

My research has primarily focused on papermaking chemistry while also exploring broader interdisciplinary fields, including cellulose-based hydrogels, biorefinery applications, and energy storage materials. I am honored to have received numerous awards and recognitions throughout my career, including the New Century Excellent Talents Program for Universities (2012), a nomination for the National Excellent Doctoral Dissertation (2012), and the Fok Ying Tung Prize for Young Professors (2018). In the same year, I was also recognized as a Longjiang Scholar. I was a finalist for the National "Ten Thousand Talents Program" for Young Top Talents in both 2020 and 2021, as well as a finalist for the "Changjiang Scholars Program" for Young Scholars in 2023. Most recently, I received a research grant from the Heilongjiang Natural Science Program for Outstanding Young Scholars (2023). These accolades have inspired me to pursue meaningful research that addresses current challenges in papermaking and the development of sustainable materials.

My Journey with *BioResources*

My relationship with *BioResources* has been a cornerstone of my research career, shaping my path in ways I deeply appreciate. While my first English-language publication appeared in *Appita Journal*, my initial submission to *BioResources* in June

2009 marked another significant turning point. Prof. Hubbe's encouraging feedback on my review article concerning filler modification provided invaluable motivation and guidance. This publication has since garnered over 200 citations, reflecting the collective interest in the topic.

In 2009 alone, I was fortunate to publish four papers in international journals, three of which appeared in *BioResources*. Each article delved into various aspects of filler modification for papermaking. *BioResources* has provided an invaluable platform for my work, enabling it to reach a global audience, and I remain sincerely grateful for the journal's support and the opportunities it has offered me.

The collaborative environment fostered by *BioResources* has facilitated meaningful discussions and partnerships with researchers from diverse backgrounds, enriching my own understanding of the challenges and innovations within the field. The journal has also played a critical role in disseminating knowledge about sustainable practices in papermaking and other areas related to renewable resources and sustainable bioproducts, which is essential in addressing the pressing environmental issues we face today.

Today, I view *BioResources* as an essential resource for researchers worldwide. The journal has fostered a collaborative environment that bridges Eastern and Western perspectives in pulp and paper, enriching our field as a whole. Through this editorial, I hope to express my heartfelt gratitude for *BioResources*' ongoing support and reflect on the pivotal role it has played in shaping my research journey and career.

Suggested Reading

Shen, J., Song, Z., Qian, X., and Liu, W. (2009). "Modification of papermaking grade fillers: A brief review," *BioResources* 4(3), 1190-1209.

Shen, J., Song, Z., Qian, X., and Liu, W. (2009). "A preliminary investigation into the use of acid-tolerant precipitated calcium carbonate fillers in papermaking of deinked pulp derived from recycled newspaper," *BioResources* 4(3), 1178-1189.

Shen, J., Song, Z., Qian, X., and Liu, W. (2009). "Modification of precipitated calcium carbonate filler using sodium silicate/zinc chloride-based modifiers for improving its acid-resistance and use of the modified filler in papermaking," *BioResources* 4(4), 1498-1519.