

## The Past, Present, and Future of Data Deduplication

Toward Massive, Ultrareliable,  
and Low-Latency Wireless  
Communication With  
Short Packets

A Survey on  
Wireless Security

Point of View: Minting  
Money with Megawatts

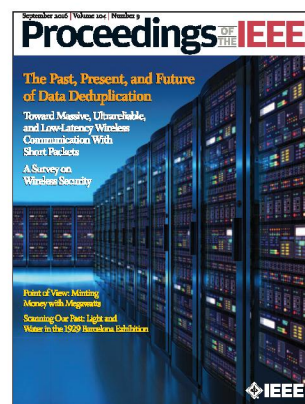
Scanning Our Past: Light and  
Water in the 1929 Barcelona Exhibition

REGULAR PAPERS ISSUE

- 1681 A Comprehensive Study of the Past, Present, and Future of Data Deduplication**  
 By *W. Xia, H. Jiang, D. Feng, F. Douglass, P. Shilane, Y. Hua, M. Fu, Y. Zhang, and Y. Zhou*  
 [CONTRIBUTED PAPER] This paper provides a comprehensive survey of the state of the art in data deduplication technologies for storage systems, covering key technologies, main applications, open problems, and future research directions.
- 1711 Toward Massive, Ultrareliable, and Low-Latency Wireless Communication With Short Packets**  
 By *G. Durisi, T. Koch, and P. Popovski*  
 [CONTRIBUTED PAPER] This paper reviews recent advances in information theory which provide the theoretical principles that govern the transmission of short packets, and shows how these developments will impact the design of future wireless communication systems.
- 1727 A Survey on Wireless Security: Technical Challenges, Recent Advances, and Future Trends**  
 By *Y. Zou, J. Zhu, X. Wang, and L. Hanzo*  
 [CONTRIBUTED PAPER] This paper examines the security vulnerabilities and threats in wireless communications and investigates efficient defense mechanisms for improving the security of wireless networks, with special attention to physical-layer security, an emerging paradigm.

DEPARTMENTS

- 1674 POINT OF VIEW**  
 Minting Money With Megawatts  
 By *S. Valfells and J. H. Egilsson*
- 1679 SCANNING THE ISSUE**
- 1766 SCANNING OUR PAST**  
 Light and Water in the 1929 Barcelona Exhibition: Fighting for the Recognition of Spectacle Authorship  
 By *J. Ferran Boleda*
- 1774 FUTURE SPECIAL ISSUES/SPECIAL SECTIONS**



**On the Cover:** This month's cover portrays the ever-growing need for mass data storage systems in today's data-intensive world. Data deduplication, an efficient approach to data reduction, can offer an effective solution to this problem.