

## Design, modelling and optimization of automated storage and retrieval systems

This plenary talk aims to investigate the design, modelling and optimization of automated storage and retrieval systems with high density storage. This kind of systems, known also as 3D systems, maximize storage space as compared to aisle spaces. They are usually used for storing identical products. But in our investigations, we aim to make them work in situation where a large variety of products can be stored. To do so, models of random storage were devised. They were used to optimize the dimensions of the systems to minimize the expected storage or retrieval times of the products. These investigations showed that these kinds of systems can be employed for different uses than the ones designed for.

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Zaki Sari is currently a freelance senior consultant and expert for industry and services. Before, he was a Manufacturing Engineering Professor at Aboubekr Belkaid University of Tlemcen (UABT), Algeria; the founder and past Director of the Manufacturing Engineering Laboratory of Tlemcen (MELT), and the founder and past head of the National Curriculum of Manufacturing Engineering. He obtained his Engineer degree in electrical engineering from the National Institute of Electrical Engineering, Boumerdes, Algeria in 1987; his Magister degree in power engineering from the National Polytechnic School of Algiers, Algeria in 1990; and his Doctorate degree in manufacturing engineering from Tlemcen University in 2003. He obtained also a certificate in system engineering management from University of Missouri Rolla, USA, in 2003.



His main domain of interest concerns the Design, Modeling, Optimization, Simulation and Control of Automated Storage and Retrieval System, he made several investigations on non-conventional AS/RS systems like flow rack systems but employed for different uses than the ones designed for. Other domains that he is interested in include Flexible Manufacturing Systems, Scheduling, Supply Chain Management...

He advised several magister and doctorate thesis. Some of his students are in professor position. He is associate editor of two international journals and regular reviewer of many ones. He was the chair of six international conferences and IPC member of more than thirty ones.