

Personal Information

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| Full name | Susan Krumdieck |  |
| Current position | Professor in Mechanical Engineering | |
| Organization | University of Canterbury | |
| Country | New Zealand | |

Short Biography

Susan Krumdieck earned the PhD from University of Colorado at Boulder in 1999 in Mechanical Engineering. Her PhD research involved developing a new chemical vapor deposition process aimed at reducing the energy input, toxic waste production, and providing a low cost method of depositing ceramic coatings on complex shapes such as gas microturbines or biomedical implants. Dr. Krumdieck has been conducting research to model and explore the deposition method she developed, Pulsed-Pressure Metalorganic Chemical Vapor Deposition (PP-MOCVD), with the aim of commercial development of the coating technology. The unique PP-MOCVD approach has been shown to be scalable, allowing the science discoveries in the laboratory to be transferred to product development and manufacturing. Her materials work includes conformal, high quality ceramic coatings on complex 3-D shaped objects. Materials include calcium phosphate, TiO_2 , Al_2O_3 , ZrO_2 , SiO_2 . The recent research has demonstrated a small production scale PP-MOCVD deposition system.

Dr. Krumdieck is currently at the University of Canterbury, Christchurch, New Zealand. She is the founder and director of the Advanced Energy and Material Systems Lab. She has published over 100 peer reviewed papers over a range of research interests. She has supervised 17 PhD students and 10 Masters students. She was the recipient of the Mechanical Engineering Department's Top Researcher Award in 2009. Susan received a prestigious RSNZ Marsden Fund Research Grant in 2003 to study the mass transport regime in PP-MOCVD, and a FRST grant in 2007 to develop numerical modeling capability for the process. Her most recent research includes a grant from the Ministry of Business, Industry and Employment in 2015 is aimed at developing a novel TiO_2 based antimicrobial coating for use on touch surfaces in health care services.

