Dr.
Johannes Kurth

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Born December 19, 1963

Career

2006-present	General Manager Research & Predevelopment KUKA Roboter GmbH
2001-2005	Manager Coordination Sales Subsidiaries KUKA Roboter GmbH
1997-2000	Manager Business Unit Hemming Systems KUKA Schweissanlagen GmbH, Augsburg, Germany
1995-1997	Manager Technical Planning, Assistant to the CTO IWKA AG, Karlsruhe, Germany
1989-1994	Research assistant at the Institute of Automatic Control RWTH Aachen, Germany

Research interests

intuitive robot programming, light weight robots, augmented reality,
nonlinear system identification

Honours

1989	Award for outstanding Master degree received from RWTH Aachen
1995	Two awards for outstanding Ph.D. thesis and scientific work received from RWTH Aachen

Most Important Relevant Publications (Selected):

- **Kurth, J.**; Klüger, H.-P.: „Mensch-Roboter-Kooperation durch Safe Robot Technology“, wt Werkstattstechnik online Jahrg. 95 (2005) H. 9, S. 672-676, www.werkstattstechnik.de, Springer-VDI-Verlag, Düsseldorf
- **Kurth, J.**: „Flexible Produktionssysteme durch kooperierende Roboter“, wt Werkstattstechnik online Jahrg. 95 (2005) H. 3, S. 81-84, www.werkstattstechnik.de, Springer-VDI-Verlag, Düsseldorf
- **Kurth, J.**: „Kooperierende Roboter eröffnen neue Anwendungen in der Produktion“, ZWF Jahrg. 99 (2004) 7-8, S. 385-389, Carl Hanser Verlag, München. Gerhardt, A.; **Kurth, J.**: „Zum Engineering der Systemkosten im Maschinen- und Anlagenbau“, ZWF Jahrg. 93 (1998) 9, S. 399-402, Carl Hanser Verlag, München
- Gerhardt, A.; **Kurth, J**.: „Systematik des Simultanen Engineering in der Produktionstechnik“, ZWF Jahrg. 91 (1996) 9, S. 386-391, Carl Hanser Verlag, München
- **Kurth, J.**: "Komprimierte Volterra-Reihen -- ein neuer Modellansatz zur Identifikation nichtlinearer Systeme", at - Automatisierungstechnik 44 (1996), S. 265-273, R. Oldenbourg Verlag,
- **Kurth, J.**; Rake, H.: "Control and Process Supervision of a Particle Filter System for Diesel Engines", Control Engineering Practice, Vol. 2, No. 4 pp. 621-628, 1994, PERGAMON Elsevier Science Ltd..

- **Kurth, J.**; Rake, H.: "Identification of Nonlinear Systems with Reduced Volterra-series" 10th IFAC Symposium on System Identification, Kopenhagen

KUKA on the way from Industrial to Service Robotics

Abstract :

KUKA Robot Group is a well known manufacturer of industrial robots. In order to enlarge the use of robots in industrial applications new technologies were developed. The *Save Handling* technology allows the direct operation of robots by humans. This leads to intelligent manipulators which combine the human sensory abilities with the power of a machine. The *Save Interaction* technology enables the human and the robot to work independently in the same workspace. These safety technologies are prerequisite for the deployment of service robots. Another key technology is the KUKA/DLR light weight robot which has a unique mass to payload ratio 1:1 and integrated sensors and compliant control methods making it suitable for programming by demonstration in direct contact with the human.