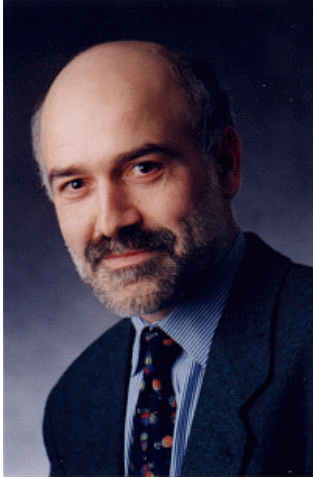


# Prof. Dr.-Ing. Yiannos Manoli

Professor, Director of the Fritz Huettinger Chair of Microelectronics



Phone +49 (0) 761 / 203-7591

Email: [ymanoli@imtek.uni-freiburg.de](mailto:ymanoli@imtek.uni-freiburg.de)

University of Freiburg  
Department of Microsystems Engineering - IMTEK  
Fritz Huettinger Chair of Microelectronics  
Georges-Koehler-Allee 102  
D-79110 Freiburg, Germany

## Biography

Yiannos Manoli was born in Famagusta, Cyprus, in 1954. As a Fulbright scholar, he received the B.A. degree (summa cum laude) in Physics and Mathematics from [Lawrence University](#) in Appleton, Wisconsin, in 1978 and the M.S. degree in Electrical Engineering and Computer Science from the [University of California, Berkeley](#), in 1980. He obtained the Dr.-Ing. degree in Electrical Engineering from the [Gerhard Mercator Universität](#) in Duisburg, Germany, in 1987.

From 1980 to 1984 he was a research assistant at the [Universität of Dortmund](#), Germany, in the field of digital and analog MOS integrated circuit design with an emphasis on A/D and D/A converters. This was also the topic of his dissertation: "Components and Architectures for Fast High-Resolution A/D and D/A Converters".

In 1985 he joined the newly founded [Fraunhofer Institute of Microelectronic Circuits and Systems](#) in Duisburg where he established a design group for microsystem and microcontroller integrated circuits. His work there concentrated on mixed-signal CMOS circuits especially for monolithic integrated sensors such as surface micromachined pressure sensors, flow sensors, biosensors etc. Another highlight of his work was the design of application specific microcontrollers as well as novel architectures and development tools for such microcontrollers.

In 1996, he was appointed Chair of Microelectronics at the Department of Electrical Engineering of the [University of Saarland](#) in Saarbruecken, Germany. His research interests were focused on the design of low-voltage and low-power Delta Sigma converters and on VLSI embedded system design. As department head (1998-2000) he initiated a number of reforms that boosted the research activities and enhanced the teaching curriculum of the department.

In 2001, he joined the Department of Microsystems Engineering (IMTEK) at the University of Freiburg, Germany where he established the Chair of Microelectronics. In memory of the founder of today's Trumpf Huettinger GmbH, this chair was endowed by the Fritz Huettinger Foundation in 2010 and has since carried the name "Fritz Huettinger Chair of Microelectronics". It was the first time in the recent history of the University of Freiburg that a named professorship has been awarded.

His current research interests are the design of low-voltage/low-power mixed-signal CMOS circuits, energy harvesting electronics, sensor read-out circuits as well as Analog-to-Digital converters with over 300 papers published in these areas.

Together with his colleague Roland Zengerle, he has been director of the "Institute of Micromachining and Information Technology" of the "[Hahn-Schickard](#)" in Villingen-Schwenningen and Freiburg, Germany, since 2005. This non-profit, applied research organization focuses on innovations in MEMS technologies and low-power sensor applications. Here the research activities concentrate on the field of inertial sensors and sensor fusion as well as on energy harvesting with an emphasis on motion and vibration energy transducers.

From 2008 until 2015 Professor Manoli served as Associate Dean and as Dean of the Faculty of Engineering. He was instrumental in planning the new Department of Sustainable Systems Engineering - INATECH established in 2015.

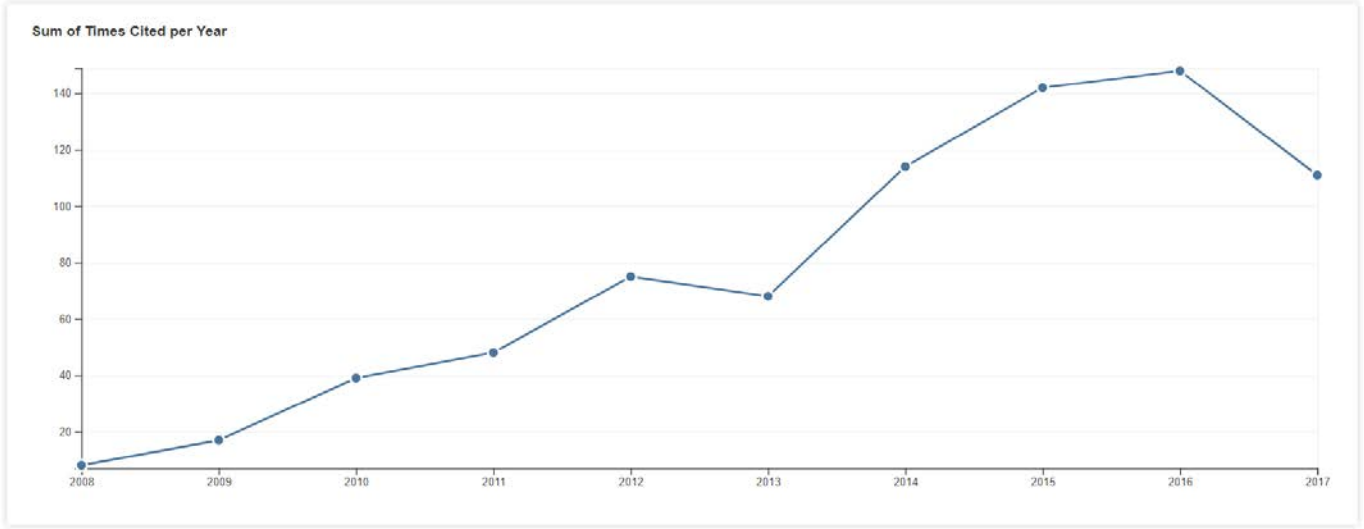
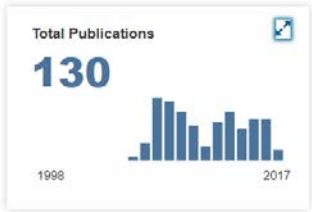
In 2000 he had the opportunity to join a research project with the Sensor Division of Motorola for half a year in Phoenix, Arizona. In 2006, he spent his sabbatical semester with [Intel](#) in Santa Clara, California, working on the read-out electronics for a high-resolution accelerometer.

Yiannos Manoli received the best paper award of the "European Solid-State Circuits Conference" ([ESSCIRC 1988](#)) for the paper "A Self-Calibration Method for Fast High-Resolution A/D and D/A Converters". His group received awards for the following papers: "Novel Non-resonant Vibration Transducer for Energy Harvesting" at the Workshop on Micro and Nanotechnology for Energy Applications ([PowerMEMS 2005](#)), "Systematic Approach to the Synthesis of Continuous-Time Cascaded Sigma-Delta Modulators" at the IEEE International Midwest Symposium on Circuits and Systems ([MWSCAS 2007](#)), "A Unified Environment for Design Entry and 3D Animation of Analog Circuit Schematics" at the IEEE International Conference on Microelectronic Systems Education ([MSE 2007](#)), "A Self-Adaptive Switched-Capacitor Voltage Converter with Dynamic Input Load Control for Energy Harvesting" at the "European Solid-State Circuits Conference" ([ESSCIRC 2009](#)), and "Autonomous and Self-Starting Efficient Micro Energy Harvesting Interface with Adaptive MPPT, Buffer Monitoring, and Voltage Stabilization" at the "European Solid-State Circuits Conference" (ESSCIRC 2012).

The MSE-2007 award was granted for [Spicy VOLTsim](#), a web-based application for the animation and visualization of analog circuits for which Yiannos Manoli also received the Media Prize of the University of Freiburg in 2005. Further developments of SpicyVOLTsim were supported with a "Fellowship for Innovations in University Teaching" of the Baden-Wuerttemberg Foundation in 2011. He was the first to receive the Best Teaching Award of the Faculty of Engineering when it was introduced in 2008. For his creative contributions to an interactive teaching of microelectronics, he also received the Excellence in Teaching Award of the University of Freiburg and the Teaching Award of the State of Baden-Württemberg, both in 2010.

Professor Manoli served as a Distinguished Lecturer of the IEEE as well as guest editor of the "IEEE Transactions on VLSI Systems" and the "IEEE Journal of Solid-State Circuits". He is on the Senior Editorial Board of the "IEEE Journal on Emerging and Selected Topics in Circuits and Systems" and on the Editorial Board of the "Journal of Low Power Electronics". He has also served on the committees of a number of conferences such as the International Solid-State Circuits Conference ([ISSCC](#)), the European Solid-State Circuits Conference ([ESSCIRC](#)) and the International Electron Devices Meeting ([IEDM](#)). He was Program Chair (2001) and General Chair (2002) of the IEEE International Conference on Computer Design ([ICCD](#)). He is a member of [VDE](#), [Phi Beta Kappa](#), [Mortar Board](#), and senior member of the [IEEE](#).

Yiannos Manoli is married to Astrid Strasburger-Manoli and has three children Martha, Katina and Manolis.



						2014	2015	2016	2017	2018	Total	Average Citations per Year
Use the checkboxes to remove individual items from this Citation Report												
or restrict to items published between 1900 and 2018 Go						114	142	148	111	0	770	77.00
<input type="checkbox"/>	1.	<b>Fabrication, characterization and modelling of electrostatic micro-generators</b>										
By: Hoffmann, Daniel; Folkmer, Bernd; Manoli, Yiannos Conference: 8th International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications Location: Tohoku Univ, Sendai, JAPAN Date: NOV 09-12, 2008 JOURNAL OF MICROMECHANICS AND MICROENGINEERING Volume: 19 Issue: 9 Article Number: 094001 Published: SEP 2009						12	13	14	9	0	74	8.22
<input type="checkbox"/>	2.	<b>A Comparative Study on Excess-Loop-Delay Compensation Techniques for Continuous-Time Sigma-Delta Modulators</b>										
By: Keller, Matthias; Buhmann, Alexander; Sauerbrey, Jens; et al. IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS Volume: 55 Issue: 11 Pages: 3480-3487 Published: DEC 2008						6	10	9	0	0	57	5.70
<input type="checkbox"/>	3.	<b>A Sub-500 mV Highly Efficient Active Rectifier for Energy Harvesting Applications</b>										
By: Peters, Christian; Handwerker, Jonas; Maurath, Dominic; et al. Conference: IEEE International Symposium on Circuits and Systems (ISCAS) Location: Paris, FRANCE Date: JUN, 2010 Sponsor(s): IEEE IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS Volume: 58 Issue: 7 Special Issue: SI Pages: 1542-1550 Published: JUL 2011						8	11	9	10	0	52	7.43
<input type="checkbox"/>	4.	<b>A closed-loop wide-range tunable mechanical resonator for energy harvesting systems</b>										
By: Peters, Christian; Maurath, Dominic; Schock, Wolfram; et al. Conference: 8th International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications Location: Tohoku Univ, Sendai, JAPAN Date: NOV 09-12, 2008 JOURNAL OF MICROMECHANICS AND MICROENGINEERING Volume: 19 Issue: 9 Article Number: 094004 Published: SEP 2009						5	10	12	8	0	49	5.44
<input type="checkbox"/>	5.	<b>A 62 mV 0.13 mu m CMOS Standard-Cell-Based Design Technique Using Schmitt-Trigger Logic</b>										
By: Lotze, Niklas; Manoli, Yiannos Conference: IEEE International Solid-State Circuits Conference (ISSCC) Location: San Francisco, CA Date: FEB 20-24, 2011 Sponsor(s): IEEE IEEE JOURNAL OF SOLID-STATE CIRCUITS Volume: 47 Issue: 1 Pages: 47-60 Published: JAN 2012						14	11	8	8	0	44	7.33
<input type="checkbox"/>	6.	<b>A CMOS integrated voltage and power efficient AC/DC converter for energy harvesting applications</b>										
By: Peters, Christian; Spreemann, Dirk; Ortmanns, Maurits; et al. Conference: 7th International Workshop on Micro and Nanotechnologies for Power Generation and Energy Conversion Applications Location: Freiburg, GERMANY Date: NOV 27-29, 2007 Sponsor(s): Fraunhofer Inst Solar Energy Syst; Albert Ludwig Univ Freiburg, Dept Microsyst Engn JOURNAL OF MICROMECHANICS AND MICROENGINEERING Volume: 18 Issue: 10 Article Number: 104005 Published: OCT 2008						4	7	1	0	0	32	3.20
<input type="checkbox"/>	7.	<b>A Field-Programmable Analog Array of 55 Digitally Tunable OTAs in a Hexagonal Lattice</b>										
By: Becker, Joachim; Henrici, Fabian; Trendelenburg, Stanis; et al. Conference: IEEE International Solid-State Circuits Conference (ISSCC) Location: San Francisco, CA Date: FEB 03-07, 2008 Sponsor(s): IEEE IEEE JOURNAL OF SOLID-STATE CIRCUITS Volume: 43 Issue: 12 Pages: 2759-2768 Published: DEC 2008						2	4	4	3	0	31	3.10
<input type="checkbox"/>	8.	<b>Design, geometry evaluation, and calibration of a gyroscope-free inertial measurement unit</b>										
By: Schopp, Patrick; Klingbeil, Lasse; Peters, Christian; et al. Conference: 23rd Eurosensors Conference Location: Lausanne, SWITZERLAND Date: SEP 06-09, 2009 SENSORS AND ACTUATORS A-PHYSICAL Volume: 162 Issue: 2 Special Issue: SI Pages: 379-387 Published: AUG 2010						9	10	6	1	0	30	3.75
<input type="checkbox"/>	9.	<b>A Fully Autonomous Integrated Interface Circuit for Piezoelectric Harvesters</b>										
By: Hehn, Thorsten; Hagedorn, Friedrich; Maurath, Dominic; et al. IEEE JOURNAL OF SOLID-STATE CIRCUITS Volume: 47 Issue: 9 Pages: 2185-2198 Published: SEP 2012						6	6	8	6	0	29	4.83
<input type="checkbox"/>	10.	<b>Efficient Energy Harvesting With Electromagnetic Energy Transducers Using Active Low-Voltage Rectification and Maximum Power Point Tracking</b>										
By: Maurath, Dominic; Becker, Philipp F.; Spreemann, Dirk; et al. IEEE JOURNAL OF SOLID-STATE CIRCUITS Volume: 47 Issue: 6 Pages: 1369-1380 Published: JUN 2012						6	4	3	10	0	26	4.33



		2014	2015	2016	2017	2018	Total	Average Citations per Year
Use the checkboxes to remove individual items from this Citation Report		114	142	148	111	0	770	77.00
or restrict to items published between 1900 and 2018 <input type="button" value="Go"/>								
<input type="checkbox"/>	11. <b>A 72 dB DR, CT Delta Sigma Modulator Using Digitally Estimated, Auxiliary DAC Linearization Achieving 88 fJ/conv-step in a 25 MHz BW</b> By: Kauffman, John G.; Witte, Pascal; Lehmann, Matthias; et al. IEEE JOURNAL OF SOLID-STATE CIRCUITS Volume: 49 Issue: 2 Pages: 392-404 Published: FEB 2014	3	10	5	4	0	22	5.50
<input type="checkbox"/>	12. <b>Numerical optimization approach for resonant electromagnetic vibration transducer designed for random vibration</b> By: Spreemann, Dirk; Hoffmann, Daniel; Folkmer, Bernd; et al. Conference: 7th International Workshop on Micro and Nanotechnologies for Power Generation and Energy Conversion Applications Location: Freiburg, GERMANY Date: NOV 27-29, 2007 Sponsor(s): Fraunhofer Inst Solar Energy Syst; Albert Ludwig Univ Freiburg, Dept Microsyst Engr JOURNAL OF MICROMECHANICS AND MICROENGINEERING Volume: 18 Issue: 10 Article Number: 104001 Published: OCT 2008	0	3	1	1	0	21	2.10
<input type="checkbox"/>	13. <b>Inductance calculation of planar multi-layer and multi-wire coils: An analytical approach</b> By: Peters, Christian; Manoli, Yiannos Conference: 14th International Conference on Solid-State Sensors, Actuators and Microsystems Location: Lyon, FRANCE Date: JUN 10-14, 2007 Sponsor(s): CEA, Leti, Minatoc; IEEE; IEEE Electron Devices Soc; Elsevier SENSORS AND ACTUATORS A-PHYSICAL Volume: 145 Special Issue: SI Pages: 394-404 Published: JUL-AUG 2008	7	0	2	2	0	19	1.90
<input type="checkbox"/>	14. <b>On the implicit anti-aliasing feature of continuous-time cascaded sigma-delta modulators</b> By: Keller, Matthias; Buhmann, Alexander; Gerfers, Friedel; et al. IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS Volume: 54 Issue: 12 Pages: 2639-2645 Published: DEC 2007	2	0	1	1	0	18	1.64
<input type="checkbox"/>	15. <b>A Novel Hybrid Monotonic Local Search Algorithm for FIR Filter Coefficients Optimization</b> By: Shahein, Ahmed; Zhang, Qiang; Lotze, Niklas; et al. IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS Volume: 59 Issue: 3 Pages: 616-627 Published: MAR 2012	3	6	4	1	0	15	2.50
<input type="checkbox"/>	16. <b>Analysis and characterization of triangular electrode structures for electrostatic energy harvesting</b> By: Hoffmann, Daniel; Folkmer, Bernd; Manoli, Yiannos Conference: 10th International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS) Location: Leuven, BELGIUM Date: NOV 30-DEC 03, 2010 Sponsor(s): Katholieke Universiteit Leuven; Imec/Holst Ctr JOURNAL OF MICROMECHANICS AND MICROENGINEERING Volume: 21 Issue: 10 Article Number: 104002 Published: OCT 2011	2	4	4	4	0	15	2.14
<input type="checkbox"/>	17. <b>Design of Low-Power Direct-Conversion RF Front-End With a Double Balanced Current-Driven Subharmonic Mixer in 0.13 mu m CMOS</b> By: Mohamed, Sherif Ahmed Saleh; Manoli, Yiannos IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS Volume: 60 Issue: 5 Pages: 1322-1330 Published: MAY 2013	4	2	4	2	0	12	2.40
<input type="checkbox"/>	18. <b>An Ultra-Low-Voltage Active Rectifier for Energy Harvesting Applications</b> By: Peters, Christian; Handwerker, Jonas; Maurath, Dominic; et al. Book Group Author(s): IEEE Conference: International Symposium on Circuits and Systems Nano-Bio Circuit Fabrics and Systems (ISCAS 2010) Location: Paris, FRANCE Date: MAY 30-JUN 02, 2010 Sponsor(s): IEEE; CAS; ISEP 2010 IEEE INTERNATIONAL SYMPOSIUM ON CIRCUITS AND SYSTEMS Book Series: IEEE International Symposium on Circuits and Systems Pages: 889-892 Published: 2010	0	1	4	1	0	12	1.50
<input type="checkbox"/>	19. <b>A Wireless Stress Mapping System for Orthodontic Brackets Using CMOS Integrated Sensors</b> By: Kuhl, Matthias; Gieschke, Pascal; Rossbach, Daniel; et al. Conference: IEEE Bipolar/BiCMOS Circuits and Technology Meeting (BCTM) Location: Portland, OR Date: SEP 30-OCT 03, 2012 Sponsor(s): IEEE; Skyworks; RFMD; IBM; Tektronix; Maxim; Analog Devices; NXP; Texas Instruments; Anadigics; Microsemi; Cascade Microtech IEEE JOURNAL OF SOLID-STATE CIRCUITS Volume: 48 Issue: 9 Pages: 2191-2202 Published: SEP 2013	2	3	4	2	0	11	2.20
<input type="checkbox"/>	20. <b>An Integrated Power Supply System for Low Power 3.3 V Electronics Using On-Chip Polymer Electrolyte Membrane (PEM) Fuel Cells</b> By: Frank, Mirko; Kuhl, Matthias; Erdler, Gilbert; et al. Conference: IEEE International Solid-State Circuits Conference (ISSCC) Location: San Francisco, CA Date: FEB 08-12, 2009 Sponsor(s): IEEE IEEE JOURNAL OF SOLID-STATE CIRCUITS Volume: 45 Issue: 1 Pages: 205-213 Published: JAN 2010	1	2	0	1	0	8	1.00