



COMS 2018 – Technical Program

Tuesday – September 25, 2018

08:00 – 18:00 Registration open - **Main Lobby**

09:00 – 09:30 **Welcome Session**
Room: **4 Saisons**

[Prof. Volker Saile](#), President, Mancef, Karlsruhe Institute of Technology – COMS 2018 General Chair

[Philippe Fischer](#), Director, FSRM – COMS 2018 co-Chair

[Dr. Todd Christenson](#), HT MicroAnalytical, Inc – COMS 2018 Program Chair

09:30 – 10:30 **Session A: MANUFACTURING**
Room: **4 Saisons**

Chairs: Volker Saile, Mancef & Philippe Fischer, FSRM

KEYNOTE 1:

3D Printing of Microscale Parts for Prototyping, Tooling and Production

[Dr. Martin Hermatschweiler](#)

CEO, Nanoscribe, Germany

KEYNOTE 2:

Connected, Automated and Electric: Speeding up the Transformation of Mobility

[Dr. Gereon Meyer](#)

Head of Strategic Products, VDI/VDE Innovation + Technik GmbH, Germany

10:30 – 11:00 Coffee Break / Exhibition Visit



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11:00 – 12:45

Session A1 – Customized Manufacturing

Room: 4 Saisons

Chairs: Philippe Fischer, FSRM & Robert Giasolli, Cagent Vascular, Inc.

IoT, I4.0, Photonics and Emerging Markets

Dr. Steven Walsh

Distinguished Professor, University of New Mexico, United States

Developing Competences for high tech high growth: the Venturelab International Method

Prof. Dr. Aard J. Groen

Dean of Entrepreneurship, University of Groningen centre of entrepreneurship; Professor of Entrepreneurship & Commercialization, University of Groningen; Professor of Innovation Entrepreneurship, NIKOS, University of Twente, The Netherlands

How to Use the 'Magic Cube' to Choose from Differing Additive Manufacturing for an Industry 4.0 World

Dr. Matthias Fink & Dr. Johannes Gartner

Fink: Vice Head of Institute and Professor, Johannes Kepler University Linz, Institute for Innovation Management, Austria
Gartner: professor at the Institute for Innovation Management (IFI) at the Johannes Kepler University Linz, Austria, Austria/United Kingdom

3D Printing of Multi-Functional Structures

Dr. Eric MacDonald

Friedman Chair for Manufacturing, Professor, Electrical and Computer Engineering & Deputy Editor, Additive Manufacturing, Youngstown State University, United States

3D, 4D printing of MEMS - SWOT Analysis of Emerging Technique

Dr. Rafał Walczak

Professor, Wrocław University of Technology, Faculty of Microsystems Electronics and Photonics, Poland

Session A2 – New Manufacturing Processes

Room: Riviera

Chairs: Volker Saile, Mancef & Christine Reilley, ASME

Emerging Technologies and Innovative Readiness Levels for Industry 4.0

Dr. Nazrul Islam

Editor in Chief of International Journal of Technology and Intelligence Planning, University of Exeter, United Kingdom

Overcoming manufacturing challenges of large to small area display technology

Dr. Robert Andosca

Director Worldwide Applications Technology, Advanced Energy Industries, Inc., United States

Emerging Technology Based Steel Manufacturing

Justin Eisenach

CEO, Bayotech, Inc., United States

Digitally Printed Optoelectronic Devices and Systems

Dr. Uli Lemmer

Institute Director, Innovation Lab - Heidelberg, Germany

Is there a place for probe based manufacturing (QC) in Industry?

Mr. Daniel Bijl

CEO, SmartTip BV, The Netherlands

12:45 – 14:00

LUNCH & Exhibition Visit



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14:00 – 15:00

Session B: SENSORS

Room: 4 Saisons

Chairs: Roger Grace, Roger Grace Associates & Robert Andosca, Advanced Energy Industries, Inc.

KEYNOTE 3:

Micromachined Resonators: The Next Wave in Sensing

Dr. Srinivas Tadigadapa

Professor, Chairman of Electrical and Computer Engineering, Northeastern University, United States

KEYNOTE 4:

Spintronic sensors: a successful path from magnetic storage to biochips

Dr. Susana Cardoso de Freitas

Professor, INESC MN - Microsystems and Nanotechnologies at IST - Lisboa, Portugal

15:00 – 15:30

Coffee Break / Exhibition Visit

15:30 – 17:15

Session B1: Sensor Systems, Data Analytics, Smart Networks

Room: 4 Saisons

Chairs: Robert Andosca, Advanced Energy Industries, Inc. & David Tolfree, Mancef

The IoT Landscape and Commercializing Emerging Technologies

Dr. Inder Thukral

CEO, Kognetics, Inc., United States

From Smart Sensors to Smart Data

Dr. Alain-Serge Porret

Vice President, Integrated and Wireless Systems, CSEM SA, Switzerland

The Building of Smart Cities with New Emergent Technologies

Dr. David Tolfree

VP, Mancef, United Kingdom

3D Vision for Intelligent Vehicles and Automation?

Dr. Roland Mattis

Strategic Partnership, Fast3D, Switzerland

Robotic Vehicles, the New Paradigm for Mobility as a Service

Dr. Guillaume Girardin

Division Director, Photonics, Sensing and Display, Yole Development, France

Session B2: Commercialization of Emerging Sensor Technologies

Room: Riviera

Chairs: Roger Grace, Roger Grace Associates & Eric Moore, Tyndall National Institute

Challenging the Audio Market with MEMS Micro Speaker Technology

Mr. Ferruccio Bottoni, CEO & Mr. Andrea Rusconi-Clerici, CTO

USound, GmbH, Austria

Commercialization Challenges for Printed, Flexible, Stretchable and Functional Fabric Sensors and Sensor-Based System

Mr. Roger Grace

President, Roger Grace Associates, United States

Product Development Strategies to Overcome the Challenges of Sensor Packaging

Dr. Leland 'Chip' Spangler

President, Aspen Microsystems, United States

Edge Computing

Dr. Georges Kotrotsios

Vice President Business Development, CSEM SA, Switzerland

Speaker to be confirmed

17:15 – 18:00

PANEL DISCUSSION 1

Chairs: David Tolfree, Mancef & Philippe Fischer, FSRM

Challenges to using Emerging Technologies in 21st Century Manufacturing

18:00 – 19:30

Networking Reception – Exhibition Area & Patio (weather permitting)



COMS 2018 – Technical Program

Wednesday – September 26, 2018

8:00 – 16:00	Registration open - Main Lobby	
08:30 – 09:00	Session C: INDUSTRY 4.0 / DIGITAL HEALTH Room: 4 Saisons Chairs: Todd Christenson, HT MicroAnalytical, Inc & Srinivas Tadigadapa, Northeastern University KEYNOTE 5: Innovative Approaches Towards Commercialisation of Integrated Smart Systems Dr. Eric Moore Director, University College Cork; Academic Member, Tyndall National Institute, Republic of Ireland KEYNOTE 6: Recent advances in wearable biomonitoring and bioimplant devices Dr. Greg Auner Paul Strauss Endowed Chair, Professor, Department of Surgery and Biomedical Engineering, Director of the Smart Sensors and Integrated Microsystems (SSIM) Program/Wayne State University, School of Medicine, United States	
09:30 – 10:00	Coffee Break / Exhibition Visit	
10:00 – 11:30	Session C1: Advanced Manufacturing Methods Room: 4 Saisons Chairs: Todd Christenson, HT MicroAnalytical, Inc & Aard Groen, University of Twente Challenges of Industry 4.0 in Industry and the Role of Fraunhofer Dr. Biba Visnjicki Director Business Development, Fraunhofer Project Center, The Netherlands Augmented Working Places, Robot Companions and Bin Picking Dr. Philipp Schmid Head Robotics and Automation, CSEM SA, Switzerland Emerging Technology, Energy and Facilities in Industry 4.0 Mr. Jason Strauss President & CEO, Lobo Energy, Inc., United States Collaborative Robots Dr. Sarah Degallier Rochat Professor, Bern University of Applied Sciences, Switzerland	Session C2: eHealth, Digital Health, Bioinformatics Room: Riviera Chairs: Srinivas Tadigadapa, Northeastern University & Bob Mehalso, Microtec Associates Emerging Technology that Enables Truly Personalized Medicine for Every Cancer Patient Dr. Bidhan Chaudhuri CTO & Co-Founder, Quantumcyte, Inc., United States ClearStream Technologies and role of Video communications in an Industry 4.0 world Dr. Raghu Kopal CEO, ClearStream Technologies, Inc., United States Opportunities and Challenges for the Application of Artificial Intelligence in Health Care Dr. Mike McRae Founder & Consultant, Custom Diagnostic Solutions, LLC SensoDx, Inc., United States Leveraging the Power of Machine Learning on Genomics: Its Role in the Development of Precision Therapies against Multi-Resistant Bacteria Dr. Carlos Peña-Reyes Professor, HEIG-VD, Switzerland
11:30 – 12:30	PANEL DISCUSSION 2 Chairs: Roger Grace, Roger Grace Associates & Steve Walsh, University of New Mexico Challenges of applying AI, Robotics and BioSensors to Create a Foundation for the 4 P's Trend in Healthcare	
12:30 – 13:45	LUNCH & Exhibition Visit	



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13:45 – 14:45

Session D: Commercialization

Room: 4 Saisons

Chairs: Steve Walsh, University of New Mexico & Inder Thukral, Kognetics, Inc.

KEYNOTE 7:

Opportunities and Challenges of MEMS in an Increasingly Connected World

Dr. Nico de Rooij

Professor Emeritus EPFL; previous Vice-President, CSEM SA, Switzerland

KEYNOTE 8:

Valorisation: from innovation to a successful startup

Mr. Alain le Loux

MSc. MBA; Partner, Cottonwood Technology Fund, The Netherlands

14:45 – 16:30

Session D1: Commercialization Marketplace

Room: 4 Saisons

Chairs: Steve Walsh, University of New Mexico & Inder Thukral, Kognetics, Inc.

Commercializing Nanotechnology - from Laboratory to Market

Dr. Hebab Quazi

Technical Director, MARTECH International, Inc., United States

The Pathway for Emerging Product Commercialization

Dr. Robert Mehalso

President, Microtec Associates, United States

Innovation and Family Firms

Dr. Raj Mahto

Founding Director, Anderson Small Business Institute, University of New Mexico, United States

Elements Needed for Successful Commercialization of National Laboratory Technologies – A Case Study

Dr. Regan Stinnett

President & CEO, Quantum Manufacturing Technologies, Inc., United States

How Can MEMS Technologies Support SMES' Innovation?

Dr. Frederic Loizeau

Business Development Manager, CSEM SA, Switzerland

Session D2: Barriers to Commercialization

Room: Riveria

Chair: David Tolfree, Mancef & Bob Warrington, Mancef

Innovative Methods in Addressing Barriers to Commercialization

Dr. Ralph Ford

Chancellor, Penn State Erie, The Behrend College, United States

The Role of Verification and Validation of Models and Simulations in Regulatory Submissions

Ms. Christine Reilley

Business Development Director, Healthcare, American Society of Mechanical Engineers, United States

Strategies for getting through regulatory and methods for commercializing advance technologies - Through the lens of two well-funded start-ups.

Mr. Robert Giasolli

CTO, VP R&D, Co-Founder, Cagent Vascular, Inc., United States

Challenges of Introducing New Technologies/Products into a Large Corporate Manufacturing Environment

Dr. Donald D Arnone

CEO, TeraView, Ltd., Cambridge, United Kingdom

Analysis Of Factors Delaying Commercialization In Semiconductor Industry

Emilie Jolivet

Division Director, Semiconductor & Software; Yole Development, France

16:30 – 16:45

FINAL REMARKS / AWARDS / CLOSING

Room: 4 Saisons

Prof. Volker Saile, COMS 2018 General Chair

16:45 – 17:30

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