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Monday, May 14

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<i>Jie Liu (Harbin Institute of Technology, P.R. China)</i>	

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<i>Gilles A Fleury (Ecole Supérieure d'Electricité, France)</i>	
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<i>Gregorio Andria (Politecnico di Bari, Italy)</i>	
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<i>M Raghuram (Kakatiya Institute of Technology & Science, India)</i>	
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<i>E Hari Krishna (Kakatiya University College of Engineering & Technology, India)</i>	
<i>Nagarjuna Reddy Komalla (Kakatiya Medical College, India)</i>	
<i>Kosaraju Sivani (Talla Padmavathi College of Engineering, India)</i>	
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<i>Rudolf Konrad Fruhwirth (TDE Thonhauser Data Engineering GmbH, Austria)</i>	
<i>Gerhard Thonhauser (University of Leoben, Austria)</i>	
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<i>Pietro Vinetti (Innovation Team, SELEX Sistemi Integrati, Italy)</i>	
<i>Leopoldo Angrisani (University of Naples Federico II, Italy)</i>	
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AC magnetization measurement employing a pair of differentiating coils for magnetic nanoparticle noninvasive and remote temperature estimation.....1780
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Wenzhong Liu (Huazhong University of Science and Technology, P.R. China)
Ming Zhou (Huazhong University of Science and Technology, P.R. China)
Le He (Huazhong University of Science and Technology, P.R. China)

Use of Multi Scale PCA for Extraction of Respiratory Activity from Photoplethysmographic Signals.....1784
K Venu Madhav (Kakatiya Institute of Technology & Science, India)
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E Hari Krishna (Kakatiya University, India)
Nagarjuna Reddy Komalla (Kakatiya Medical College, India)
K. Ashoka Reddy (Kakatiya University, India)

Smart Sensors

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Manuel Glueck (Robert Bosch GmbH, Germany)
Alexander Buhmann (Robert Bosch GmbH, Automotive Electronics, Germany)
Yiannos Manoli (University of Freiburg - IMTEK, Germany)

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Philip Popejoy (University of Nottingham, United Kingdom)
Alexander Kalashnikov (University of Nottingham, United Kingdom)

Smart Metering for Demand Side Management.....1798
Giuseppe Di Leo (University of Salerno, Italy)
Marco Landi (University of Salerno, Italy)
Vincenzo Paciello (University of Salerno, Italy)
Antonio Pietrosanto (University of Salerno, Italy)

A CMOS Low-Power Lock-In Amplifier.....1804
Paulina Mariana Maya-Hernández (Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico)
Maria Teresa Sanz-Pascual (Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico, Mexico)
Belen Calvo (University of Zaragoza, Spain)
Diego Antolín (University of Zaragoza, Spain)

Two-input linear cascade in space compression.....1808
Sunil R. Das (University of Ottawa, Canada)
Alexander Applegate (Auburn University & AU Information Assurance Laboratory, USA)
Satyendra Biswas (Norfolk State University, USA)
Mansour H Assaf (The University of the South Pacific (USP) & Faculty of Science & Technology, Fiji)
Voicu Groza (University of Ottawa, Canada)
Emil M. Petriu (University of Ottawa, Canada)

Challenges and Limitations of Nanomeasuring Technology.....1814
Gerd Jaeger (Ilmenau University of Technology & Institute of Process Measurement and Sensor Technology, Germany)

Programmable Calibration Circuit for a MIM-ISFET Device.....1819
Erick Guerrero (National Institute of Astrophysics, Optics and Electronics, Mexico)
Maria Teresa Sanz-Pascual (National Institute for Astrophysics, Optics and Electronics, Mexico)
Joel Molina (National Institute of Astrophysics, Optics and Electronics, Mexico)
Nicolas Medrano (University of Zaragoza, Spain)
Belen Calvo (University of Zaragoza, Spain)
Diego Antolín (University of Zaragoza, Spain)

M-DUST: an Innovative Low-Cost Smart PM Sensor.....1823
Domenico Soldo (myHermes S.r.l. & Politecnico di Bari, Italy)
Alessandro Quarto (MYHERMES srl & Polytechnic of Bari, Italy)
Vincenzo Di Lecce (Politecnico di Bari, Italy)

A seismic sensor based on IPMC combined with ferrofluids.....1829
Bruno Andò (University of Catania, Italy)
Salvatore Baglio (University of Catania, Italy)
Angela Beninato (University of Catania, Italy)
Salvatore Graziani (University of Catania, Italy)
Francesco Pagano (University of Catania, Italy)
Elena Umana (University of Catania, Italy)

Effect of CDMA techniques with Kasami codes on ultrasound-image quality parameters.....1833
Cristina Diego (University of Alcalá, Spain)
Alvaro Hernández (University of Alcalá, Spain)
Ana Jiménez (University of Alcalá, Spain)
Sverre Holm (University of Oslo, Norway)
Joaquín Aparicio (University of Alcalá, Spain)

Comparison of Different Methods to Cancel Offset Capacitance in Capacitive Displacement Sensors...1838
Sha Xia (Delft University of Technology, The Netherlands)
Stoyan Nihtianov (Delft University of Technology, The Netherlands)

A Framework for Computing Quality of Information in Multi-sensor Systems.....1842
M. Anwar Hossain (King Saud University, Saudi Arabia)
Dewan T Ahmed (King Saud University, Saudi Arabia)
Jorge Parra (Ikerlan Technological Research Center, Spain)

Temperature Measurement

An Innovative Method for Determining the Junction Temperature of a Photovoltaic Cell.....1847
Jeevan Doss (IIT Madras, India)
Kumaravel M (IIT Madras, India)
Boby George (IIT Madras, India)
Jagadeesh Kumar V (IIT Madras, India)

Temperature measurements by means of the electrical impedance of piezoceramics.....1851
Jürgen Ilg (University Erlangen-Nürnberg, Germany)
Stefan Rupitsch (University Erlangen-Nürnberg, Germany)
Reinhard Lerch (University Erlangen-Nürnberg, Germany)

Measurement of Flame Temperature Distribution Using Optical Tomographic and Two-color Pyrometric Techniques.....1856
Md. Moinul Hossain (University of Kent, United Kingdom)
Gang Lu (University of Kent, United Kingdom)
Yong Yan (University of Kent, United Kingdom)

Surface-micromachined Thermal Conductivity Detectors for Gas Sensing.....1861

Ger De Graaf (Delft University of Technology, The Netherlands)
Reinoud Wolffenbuttel (Delft University of Technology, The Netherlands)

Measurement of Soot Temperature, Emissivity and Concentration of a Heavy-Oil Flame through Pyrometric Imaging.....1865

Duo Sun (University of Kent, United Kingdom)
Gang Lu (University of Kent, United Kingdom)
Hao Zhou (Zhejiang University, P.R. China)
Yong Yan (University of Kent, United Kingdom)

Fast Johnson noise thermometry using a temperature dependent sensor.....1870

Graziella Scandurra (University of Messina, Italy)
Gianluca Cannatà (University of Messina, Italy)
Carmine Ciofi (University of Messina, Italy)

Sensitivity Analysis and Automatic Adjustment of a Controlled-Temperature Thermoresistive-based Anemometer.....1876

Viviane Martins (Federal University of Campina Grande, Brazil)
Raimundo Freire (Federal University of Campina Grande, Brazil)
Sebastian Yuri Catunda (Federal University of Rio Grande do Norte, Brazil)

14:00 - 16:05

Instrumentation and Measurement in RAMS analysis

Room: S1

Self-Powered High-Rate Wireless Sensor Network for Underground High Voltage Power Lines.....1881

Daniel M Toma (Technical University of Catalonia, Spain)
Joaquin del Rio (Universitat Politecnica de Catalunya, Spain)
Antoni Mànuel-Làzaro (Universitat Politecnica de Catalunya, Spain)

4D Simulation System for Laboratory Workflow of Life Science Automation.....1886

Yanfei Li (Center for Life Science Automation, Germany)
Steffen Junginger (University of Rostock & Institute of Automation, Germany)
Norbert Stoll (University of Rostock & Institute of Automation, Germany)
Kerstin Thurow (Center for Life Science Automation, Germany)

Thermal analysis of Critical components in Photovoltaic Inverter.....1891

Marcantonio Catelani (University of Florence, Italy)
Lorenzo Ciani (University of Florence, Italy)
Enrico Simoni (BORRI Industrial Power Solutions, Italy)

An Improved Method for Steel Fiber Reinforced Concrete Analysis.....1896

Marco Faifer (Politecnico di Milano, Italy)
Roberto Ottoboni (Politecnico di Milano, Italy)
Sergio Toscani (Politecnico di Milano, Italy)
Liberato Ferrara (Politecnico di Milano, Italy)

Pulsed Electromagnetic NDE for Defect Detection and Characterisation in Composites.....1902

Liang Cheng (Newcastle University, United Kingdom)
Gui Yun Tian (Newcastle University, United Kingdom)

14:00 - 16:05

Inverse Problems in Measurement

Room: S2

A new approach to improve the reconstruction quality in ultrasound elastography.....1908

Andreas Eder (*Universität der Bundeswehr, Germany*)
Mathias Richter (*Universität der Bundeswehr, Germany*)
Christian Kargel (*University of the Bundeswehr, Germany*)

Temporal Image Reconstruction in Electrical Tomography Using a Motion Estimation Based Approach.....1914

Samir Teniou (*Petroleum Institute, UAE*)
Mahmoud MMeribout (*Petroleum Institute, UAE*)

Direct Image Reconstruction for 3D Electrical Resistance Tomography by Using the Factorization Method.....1919

Zhang Cao (*Beihang University, P.R. China*)
Lijun Xu (*Beihang University, P.R. China*)

Fast Bayesian Inference for an Inverse Heat Transfer Problem using Approximations.....1923

Markus Neumayer (*Graz University of Technology, Austria*)
Daniel Watzenig (*Graz University of Technology, Austria*)
Helcio Orlande (*Federal University of Rio de Janeiro, Brazil*)
Marcelo Colaco (*Federal University of Rio de Janeiro, Brazil*)
George Dulikravich (*Florida International University, Austria*)

A Novel Electrical Resistance Tomography System Based on C4D Technique.....1929

Baoliang Wang (*Zhejiang University, P.R. China*)
Yuanyuan Hu (*Zhejiang University, P.R. China*)
Haifeng Ji (*Zhejiang University, P.R. China*)
Zhiyao Huang (*Zhejiang University, P.R. China*)
Haiqing Li (*Zhejiang University, P.R. China*)

14:00 - 16:05

Optical, Chemical, and Biological Sensors 2

Room: S3

An Active Pixel Sensor based System for Real Time Dosimeter in Interventional Radiology.....1933

Elia Conti (*University of Perugia, Italy*)
Pisana Placidi (*University of Perugia, Italy*)
Francesca Baldaccini (*University of Perugia, Italy*)
Maurizio Biasini (*University of Perugia, Italy*)
Lucia Bissi (*University of Perugia, Italy*)
Andrea Calandra (*University of Perugia, Italy*)
Bruno Checcucci (*INFN, University of Perugia, Italy*)
Stefania Chiocchini (*University of Perugia, Italy*)
Roberto Cicioni (*University of Perugia, Italy*)
Roberto Di Lorenzo (*ASL3-Umbria, Italy*)
Anna Concetta Dipilato (*University of Perugia, Italy*)
Alessandro Esposito (*University of Perugia, Italy*)
Livio Fanò (*University of Perugia, Italy*)
Massimiliano Paolucci (*ASL3-Foligno, Italy*)
Daniele Passeri (*University of Perugia, Italy*)
Andrea Pentiricci (*ASL1- Città di Castello, Italy*)
Leonello Servoli (*INFN, Italy*)

Versatile Infrared Gas Measurement System with tunable Microstructured Fabry-Pérot Filter.....1938
Karsten Kühn (Saarland University, Germany)
Michael Siegwart (Saarland University, Germany)
Eliseo Pignanelli (Saarland University, Germany)
Tilman Sauerwald (Saarland University, Germany)
Andreas Schütze (Saarland University, Germany)

Optimization of the Performances of a Self-mixing Velocimeter by using a Double Laser Diode Configuration.....1944
Bendy Tanios (CNRS, LAAS & Univ de Toulouse, UPS, LAAS, France)
Francis Bony (LOSE, France)
Thierry Bosch (Université de Toulouse, France)

A Polarization-Insensitive Wide-Band Electric Field Sensing Scheme Using Coherence Modulation of Light.....1949
Joel Santos-Aguilar (Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Mexico)
Celso Gutierrez-Martinez (Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Mexico)

Characteristics of Glucose Biosensors with Glucose Oxidase Deposited Under High Electric Field.....1953
Daluwathu Preethichandra (Central Queensland University, Australia)
Mala Ekanayake (Central Queensland University, Australia)
Keiichi Kaneto (Kyushu Institute of Technology, Japan)

14:00 - 16:05

Signal Detection & Classification 1

Room: S4

Parallelizing Small Finite State Machines, with Application to Pulsed Signal Analysis.....1957
Lee A Barford (Agilent Technologies, USA)

How much information could be revealed by analyzing data from pressure sensors attached to shoe insole?1963
Goutam Chakraborty (Iwate Prefectural University, Japan)
Tetsuhiro Dendou (Iwate Prefectural University, Japan)
Daigo Kikuchi (Iwate Prefectural University, Japan)
Kyohei Chiba (Iwate Prefectural University, Japan)

Flexible Algorithm for Frequency Tone Detection.....1968
Alessandro Magnani (Politecnico di Milano, Italy)
Michele Norgia (Politecnico di Milano, Italy)
Alessandro Pesatori (Politecnico di Milano, Italy)

A robust signal detection method for fMRI data under correct Rice conditions.....1972
Lieve Lauwers (Vrije Universiteit Brussel, Belgium)
Kurt Barbé (Vrije Universiteit Brussel, Belgium)
Wendy Van Moer (Vrije Universiteit Brussel, Belgium)

Feature Generation of Hyperspectral Images for Fuzzy Support Vector Machine Classification.....1977
Yi Shen (Harbin Institute of Technology, P.R. China)
Zhi He (Harbin Institute of Technology, P.R. China)
Qiang Wang (Harbin Institute of Technology, P.R. China)
Yan Wang (Harbin Institute of Technology, P.R. China)

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Temperature Measurement 1

Room: S6

Transient Suppression in Non-Parametric Frequency Response Function Estimates of Heat Diffusion Phenomena.....	1983
<i>Griet Monteyne (Vrije Universiteit Brussel, Belgium)</i>	
<i>Gerd Vandersteen (Vrije Universiteit Brussel, Belgium)</i>	
<i>Rik Pintelon (Vrije Universiteit Brussel, Belgium)</i>	
High Accuracy-Wide Range Resistance Measurement for Thermistor Sensors Monitoring.....	1988
<i>Stefano Nieddu (General Motors Powertrain Europe, Italy)</i>	
Sputtered Thermocouple for Lyophilization Monitoring.....	1994
<i>Marco Parvis (Politecnico di Torino, Italy)</i>	
<i>Sabrina Grassini (Politecnico di Torino, Italy)</i>	
<i>Antonello Barresi (Politecnico di Torino, Italy)</i>	
Temperature Distribution Reconstruction by Eigenfunction Interpolation of Boundary Measurement Data.....	1999
<i>Gabriele D'Antona (Politecnico di Milano, Italy)</i>	
<i>Nima Seifnaraghi (Politecnico di Milano, Italy)</i>	
The Dynamic Compensation of Temperature Sensors in Sonic Nozzle Airflow Standard Facilities Based on Method of Positive Pressure.....	2005
<i>Chao Wang (Tianjin University, P.R. China)</i>	
<i>Hongbing Ding (Tianjin University, P.R. China)</i>	
<i>Qin Liu (Tianjin University, P.R. China)</i>	
<i>Huaxiang Wang (Tianjin University, P.R. China)</i>	

14:00 - 16:05

Wireless Sensors and Sensor Networks 2

Room: S7

Collaborative Target Classification with Multiagent System in Wireless Multimedia Sensor Networks.....	2010
<i>Xue Wang (Tsinghua University, P.R. China)</i>	
<i>Xinyao Sun (Tsinghua University, P.R. China)</i>	
<i>Daowei Bi (Tsinghua University, P.R. China)</i>	
Estimation of the delay of network devices in hybrid wired/wireless real-time industrial communication systems.....	2016
<i>Matteo Bertocco (University of Padova, Italy)</i>	
<i>Claudio Narduzzi (University of Padova, Italy)</i>	
<i>Federico Tramarin (University of Padova, Italy)</i>	
Accurate indoor tracking using a mobile phone and non-overlapping camera sensor networks.....	2022
<i>Qiang Wang (Harbin Institute of Technology, P.R. China)</i>	
<i>Yan Liu (Harbin Institute of Technology, P.R. China)</i>	
<i>Juan Chen (Harbin Institute of Technology, P.R. China)</i>	
An Efficient Data Gathering and Reconstruction Method in WSNs Based on Compressive Sensing.....	2028
<i>Wenjie Yan (Harbin Institute of Technology, P.R. China)</i>	
<i>Qiang Wang (Harbin Institute of Technology, P.R. China)</i>	
<i>Yi Shen (Harbin Institute of Technology, P.R. China)</i>	
<i>Yan Wang (Harbin Institute of Technology, P.R. China)</i>	
<i>Qitao Han (Harbin Institute of Technology, P.R. China)</i>	

Timestamping Performance Analysis of IEEE 802.15.4a Systems based on SDR platforms.....2034
Chiara Maria De Dominicis (University of Brescia, Italy)
Paolo Ferrari (University of Brescia, Italy)
Emiliano Sisinni (University of Brescia, Italy)
Alessandra Flammini (University of Brescia, Italy)
Paolo Pivato (University of Trento, Italy)
David Macii (University of Trento, Italy)

16:30 - 18:35

Magnetic Imaging Technologies

Room: S1

Measurement of a Multi-pole Encoder with a Magnetic and Coordinate Measuring Machine.....2040
Hendrik Husstedt (Alps-Adriatic University Klagenfurt, Austria)
Udo Ausserlechner (Infineon Technologies Austria AG, Austria)
Manfred Kaltenbacher (Alpen-Adria-Universitaet Klagenfurt, Austria)

High Resolution Magnetic Imaging System for Industrial Quality Control.....2045
Johannes Atzlesberger (Johannes Kepler University, Austria)
Bernhard G. Zagar (Johannes Kepler University, Austria)

Quality Assurance for Wire Connections used in Integrated Circuits via Magnetic Imaging.....2051
Patrick Hölzl (Johannes Kepler University, Austria)
Thomas Wiesner (Johannes Kepler University, Austria)
Bernhard G. Zagar (Johannes Kepler University, Austria)

Application of Resonant Sensors for Magnetic Flux Density Measurements.....2057
Martin Heinisch (Johannes Kepler University, Austria)
Thomas Voglhuber-Brunnmaier (Johannes Kepler University, Austria)
Ali Abdallah (Johannes Kepler University, Austria)
Bernhard Jakoby (Johannes Kepler University, Austria)

Analyzing 2D Current Distributions by Magnetic Field Measurements.....2061
Dominik Hofer (Johannes Kepler University, Austria)
Thomas Wiesner (Johannes Kepler University, Austria)
Bernhard G. Zagar (Johannes Kepler University, Austria)

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Mechanical Measurements 1

Room: S2

Measurements of Soil Contact Stress in a Harsh Environment.....2067
Anders Beijer Lundberg (University of Delft, The Netherlands)
Jelke Dijkstra (University of Delft, The Netherlands)
Kees van Beek (University of Delft, The Netherlands)

A Linear Tunneling Magneto-Resistance Angle Transducer.....2073
Chandrika Sreekantan Anoop (Indian Institute of Technology, Madras, India)
Boby George (Indian Institute of Technology Madras, India)
Jagadeesh Kumar V (Indian Institute of Technology Madras, India)

Low-cost 2D fiber-based displacement sensor.....2078
Maria Luisa Casalicchio (Politecnico di Torino, Italy)
Massimo Olivero (Politecnico di Torino, Italy)
Alessio Penna (Politecnico di Torino, Italy)
Guido Perrone (Politecnico di Torino, Italy)
Alberto Vallan (Politecnico di Torino, Italy)

A Novel Signal Conditioning Scheme for Magneto-Resistive Angle Sensors.....2083
Chandrika Sreekantan Anoop (Indian Institute of Technology, Madras, India)
Boby George (Indian Institute of Technology Madras, India)

Answers to the need of higher orders of magnitude for pressure, force and torque measurement explained on the example of wind energy.....2088
André Schäfer (HBM- Hottinger Baldwin Messtechnik GmbH, Germany)

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Modeling of Signals and Systems 2

Room: S3

The Best Linear Approximation of Nonlinear Systems Operating in Feedback.....2092
Rik Pintelon (Vrije Universiteit Brussel, Belgium)
Johan Schoukens (Vrije Universiteit Brussel, Belgium)

Identification and Modeling of Distillation Columns From Transient Response Data.....2098
Diana Ugrumova (Vrije Universiteit Brussel, Belgium)
Gerd Vandersteen (Vrije Universiteit Brussel, Belgium)
Bart Huyck (Katholieke Universiteit Leuven, Belgium)
Filip Logist (Katholieke Universiteit Leuven, Belgium)
Jan Van Impez (Katholieke Universiteit Leuven, Belgium)
Bart De Moor (Katholieke Universiteit Leuven, Belgium)

Separate Initialization of Dynamics and Nonlinearities in Nonlinear State-Space Models.....2104
Anna Marconato (Vrije Universiteit Brussel, Belgium)
Jonas Sjöberg (Chalmers University of Technology, Sweden)
Johan Suykens (Katholieke Universiteit Leuven, Belgium)
Johan Schoukens (Vrije Universiteit Brussel, Belgium)

From two frequency response measurements to the powerful nonlinear LFR model.....2109
Laurent Vanbeylen (Vrije Universiteit Brussel, Belgium)

Parameter Reduction of MISO Wiener-Schetzen Models Using the Best Linear Approximation.....2114
Koen Tiels (Vrije Universiteit Brussel, Belgium)
Peter Heuberger (Delft University of Technology, The Netherlands)
Johan Schoukens (Vrije Universiteit Brussel, Belgium)

16:30 - 18:35

Sensor Applications 2

Room: S4

Low-energy CZT detector array for the ASIM mission.....2119
Linga Cenkeramaddi (University of Bergen, Norway)
Georgi Genov (University of Bergen, Norway)
Anja Kohfeldt (University of Bergen, Norway)
Kåre Njøten (University of Bergen, Norway)
Maja Rostad (University of Bergen, Norway)
Yngve Skogseide (University of Bergen, Norway)
Magnus Roscoe (University of Bergen, Norway)
Arne Solberg (University of Bergen, Norway)
Johan Stadsnes (University of Bergen, Norway)
Kjetil Ullaland (University of Bergen, Norway)
Nikolai Østgaard (University of Bergen, Norway)
Carl Budtz-Jørgensen (Technical University of Denmark, Denmark)
Irfan Kuvvetli (Technical University of Denmark, Denmark)
Sindre Mikkelsen (Gamma Medica-Ideas Norway AS, Norway)
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