

WORKSHOP

Dimensions of Measurement

Convenors: Alfred Nordmann (Darmstadt) and Oliver Schlaudt (Heidelberg)

March 14 - 16, 2013

IN COOPERATION WITH:



Thursday - March 14

10:00 - 10:45 Alfred Nordmann and Oliver Schlaudt: Welcome and Outlook

11:00 - 13:00 Parallel sessions

I. The Epistemic Value of Visual Data

Chair: Aud Sissel Hoel

Patrick Maynard: *"Photo Mensura"*

Laura Perini: *Imaging, Measurement, and Scientific Representation*

Nicola Mößner: *Visual Data – Reasons to Rely on?*

Tobias Schöttler: *Pictorial Evidence: On the Rightness of Pictures*

II. Sociology of Metrological Knowledge

Chair: Hans Radder

Hector Vera: *A Single Language of Measurement for Humanity: the Global Dissemination of the Decimal Metric System*

François Hochereau and Adel Selmi: *Measuring Animal Performance: Sociological Analysis of a Double Transaction between Genericity and Singularity*

Nadine de Courtenay, Oliver Schlaudt: *Round Table Discussion with Alexandre Mallard, Simon Schaffer et al. On the Social Construction of Units of Measurement*

III. Disciplinary Formations

Chair: Donna Drucker

Godfrey Guillaumin: *Scientific Measurement as a Cognitive Integration. The Case of Kepler's Astronomy*

Andrew Maul, David Torres Iribarra and Mark Wilson: *On the Conceptual Boundaries between Physical and Psychological Measurement*

Sébastien Plutniak: *Measuring the Foreign Past: A Sociohistorical Inquiry of the Use of Multivariate Analysis in French Prehistorians' Community*

13:00 - 14:00 - Lunch at ZiF -

14:00 - 16:00 **Plenary Lectures**

Chair: Astrid Schwarz

Joel Michell: *Militant Pantometry, the Logical Limits of Measurement, and the Fabrication of Psychometrics*

Michael Heidelberger: *The Function of Instrument Measurement*

16:00 - 16:30 - Coffee Break -

16:30 - 18:30 Parallel sessions

I. Images as Measurements

Chair: Nicola Mößner

Sophia Efstathiou: *The Shiny and the Real: Fluorescent Dying Techniques as Means of Scientific Measurement*

Aud Sissel Hoel: *Images as Measurement*

Liv Hausken: *The Photographic Prototype in Cognitive Neuroimaging*

Tom Vogt: *Imaging at the Edge*

II. Studies on Calibration

Chair: Johannes Lenhard

What is Calibration? An Analysis of Calibration Focused on Normal Practices of the Investigation of Nature by Means of Already Standardized instrumental Devices

- Léna Soler
 - Catherine Allamel-Raffin
 - Frédéric Wieber
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Genco Guralp, *Calibrating the Universe: The Beginning and End of the Hubble Wars*

III. Measurement Practices

Chair: Leah McClimans

Elizabeth Neswald: *Creating Commensurability in Early Nutrition Science and Metabolism Studies*

Ramona A. Braun: *The Pump, the Woman, the Graph: Measuring Tubal Pressure in French and German Gynaecology, 1940s-50s*

Laura Cupples: *Epistemic Iteration: Enrichment and Self-Correction of Patient-Reported Outcome Measures*

Emily Brock: *Measuring Darwin's Entangled Bank: The Tools of Ecological Fieldwork*

18:30 - 20:00 - *Dinner at ZIF* -

20:00 - 21:00 **Plenary Lecture**

Chair: Carsten Reinhardt

Simon Schaffer: *The Silent Trade: On the Boundaries of Measurement*

Friday - March 15

09:00 - 11:00 **Plenary Lectures**

Chair: Michael Stöltzner

Nadine de Courtenay: *Connecting the Actual and the Virtual: The Double Interpretation of the Equations of Physics*

Luca Mari: *Outline of the Current Status of Measurement Science: From the Point of View of the International Vocabulary of Metrology*

11:00 - 11:30 - *Coffee Break* -

11:30 - 13:00 Parallel sessions

I. Measuring the Unmeasurable (organized by Leah McClimans, Ann Johnson and Johannes Lenhard)

Chair: Andreas Kaminski

Leah McClimans: *Can We Measure Quality of Life? You Decide*

Ann Johnson: *Measuring Complex Phenomena: The Problem with Proxies*

Johannes Lenhard: *When a Pea is Equal to the Sun: The Mathematics of the Unmeasurable*

II. Conceptual Issues

Chair: Insa Röpke

Flavia Padovani: *A Logical Space for Measurement*

Fabien Grégis: *Can we Dispense with the Notion of "True Value" in Metrology?*

Christian Hennig: *Measurement as Constructive Act – a Statistician's View*

III. Measurement and Engineering

Chair: Marcel Boumans

Mieke Boon: *The Measurement of Properties in the Engineering Sciences*

Sjoerd D. Zwart: *The Foundations of Indirect Measurement and Model Laws*

Pablo Schyfter: *Measuring Promoters to Make the Field: Metrology as a Tool for Building Knowledge, Building Artifacts, and Building Fields*

13:00 - 14:00 - Lunch at ZiF -

14:00 - 16:00 Parallel sessions

I. The Politics of Measurement

Chair: Emily Brock

Anne Harrington: *Nuclear Values*

Carlo Martini: *"Subjective" Measurement in Economics, but not Arbitrary*

Sharon Crasnow: *The Measure of Democracy: Coding in Political Science*

Cheryce von Xylander: *The Metrics of Tact*

II. Standards in Context

Chair: Ann Johnson

Shaul Katzir: *Frequency and Time Standards from Acoustics to Radio - the Road to the Quartz Clock*

Sharon Ku and Frederick Klaessig: *A Matter of Size Does Not Matter: The Social Construction and Application of Gold Nanoparticle Standard*

Lara Huber: *Measuring by which Standard? Plurality Challenges Epistemic Singularity*

Wolfgang Pietsch: *A Revolution Without Tooth and Claw: Redefining the Physical Base Units*

III. Human Dimensions

Chair: Andreas Gelhard

Donna J. Drucker: *The Klein Sexual Orientation Grid and the Fluid Measurement of Sexual Identity*

Erik Angner: *The Problem with Happiness Measurement*

Zed Adams: *Man a Measure?*

Hans Radder: *Benjamin Libet's Measurement of Freely Willed Decisions: A Critical Analysis*

16:00 - 16:30 - *Coffee Break* -

16:30 - 18:30 **Plenary Lectures**

Chair: Alfred Nordmann

Laura Dassow Walls: *With Compass, Chains, and Sounding Line: Taking Thoreau's Measure*

Martin Kusch: *"A Branch of Human Natural History": Wittgenstein and Metrology*

19:30 - *Dinner at restaurant Brauhaus Joh. Albrecht (self-paid)* -

Saturday - March 16

09:00 - 11:00 **Plenary Lectures**

Chair: Martin Carrier

Mary Morgan: *Accounting Reasons - Reasoning Accounts*

Marcel Boumans: *Clinical Measurement*

11:00 - 11:30 - *Coffee Break* -

11:30 - 13:00 **Parallel sessions**

I. Measurement of Mind

Chair: Laura Cupples

Andreas Kaminski: *Measuring Intelligence and Temperature: Is it the Same?*

Andreas Gelhard: *Measuring Competence Rather than Intelligence? McClelland's Claim*

Malte Bachem: *Matching Personality to Vocation. A Historical Perspective on an Epistemological Model around 1920*

II. Simulations, Models and Measurements

Chair: Eran Tal

Wendy Parker: *Data Assimilation, Measurement and the Construction of Global Climate Datasets*

Teru Miyake: *Uncertainty and Modeling in Seismology*

III. History of Measurement and Measurement Theory

Chair: Cheryce von Xylander

Francesca Biagioli: *Empirical and Formal Conditions in Helmholtz's Theory of Measurement*

Stéphanie Dupouy: *How Meaningful is it to Measure Sensation? Discussions of Fechner in France in the 1870's and 1880's*

Joshua McGrane: *Good Logic does not Make Good Measurement: A very Shaky Discussion of the Foundations of Measurement by a Social Scientist*

13:00 - 14:00 - *Lunch at ZiF* -

14:00 - 16:00 **Plenary Lectures**

Chair: Oliver Schlaudt

Hasok Chang: *Operationalism: Old Lessons and New Challenges*

Eran Tal: *A Model-Based Epistemology of Measurement*

- End of conference -
