

# Calculating in Everyday Life

slide rules, tables, calculators and other mathematical devices

Karl Kleine (editor)

Proceedings of the 23<sup>th</sup> International Meeting of collectors  
and researchers of historical computing instruments

Bonn, September 22–24, 2017

Editor:

Prof. i. R. Karl Kleine  
Ernst-Abbe-Hochschule Jena  
Carl-Zeiss-Promenade 2  
D – 07745 Jena

`karl.kleine@eah-jena.de`

Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie;  
detaillierte bibliografische Daten sind im Internet über [www.dnb.de](http://www.dnb.de) abrufbar.

ISBN 978-3-7448-1056-2

© 2017 bei den Autoren der Beiträge

Herstellung und Verlag: BOD — Books on Demand, Norderstedt, [www.bod.de](http://www.bod.de)

# Table of Contents

Welcome to the International Meeting 2017 Karl Kleine	1
The Hydroculator – A World Novelty Stefan Heimann	3
Elektro Rules by Faber-Castell Robert Adams	11
The Pregnancy Slide Rule Faber-Castell 51/88 Fabrizio Brentini	25
Effective Banking with Modern Tools Jacques Perregaux	37
Is small beautiful or useful? Pocket Size Everyday Calculating Devices Wolfgang J. Irler	57

Slide Rules and Historic Calculators as Art Forms in Every Day Life	97
Edwin Chamberlain	
Dangerous Sliding	121
Nicola Marras	
Spanish Patents in Everyday Calculations	135
Jose Fernández	
Overlooked Beauties	169
RST community project	
Checksum and Check Digit Calculators	213
Andries de Man	
Replicating the lost Skew Distribution Machine of Jacobus Cornelius Kapteyn	231
Florian L. R. Lucas & Simon A. van der Salm	
Three of a Kind	281
Otto van Poelje	
Russian Do-It-Yourself Slide Rules	297
Timo Leipälä	
List of Contributors	307

# Welcome to the International Meeting 2017

*Karl Kleine*

This year's *International Meeting of collectors and researchers of historical computing instruments* is the 23<sup>rd</sup> conference of its kind.<sup>1</sup> After four years (IM2013 Berlin) we gather again in Germany, in Bonn, at the Arithmeum.

The programme follows the traditional scheme: Start after friday noon with a first technical session, then after a break the swap and display session. This will be held at the conference hotel.

The first technical session with presentations / papers by Heimann, Adams, Brentini and Perregaux is about slide rules, the core subject of International Meetings.

It is a long term custom for IMs to have a theme, but it is not exclusive. This is also the case for this year's theme *Calculating in Everyday Life*. The saturday morning is dedicated to it. It is a contrast programme. Typical contributions at IMs are about specific technical issues or particular models of slide rules, mechanical calculators, or mathematical instruments in general.

---

<sup>1</sup> Recent IMs were 2012 Bletchley Park (United Kingdom), 2013 Berlin (Germany), 2014 Delft (Netherlands), 2015 Bay Area (USA), 2016 Trento (Italy). More about the International Meetings and the various organizations involved can be found in the introductory chapter of the Proceedings of IM2013: Karl Kleine (ed.), *Computing for Science, Engineering and Production*, Norderstedt: BoD – Books on Demand, 2013.

This year, we want to take a broader view, looking at the mundane, even trivial issues and the use of calculating tools and aids not in the hands of professional specialists but their use by laymen or craftsmen in their day to day life.

Various aspects of that are treated in the four papers of Irler, Chamberlain, Marras and Fernández. A fifth is a joined effort of RST members to provide a colorful collection of samples from their personal collections as demonstration of these aspects. Peter Holland came up with the idea at the spring 2017 RST meeting and was joined by Rance, Kugel, Perregaux, Rudowski and Kleine.

After lunch and guided visits of Arithmeum collections and depots for the IM participants de Man and Lucas & van der Salm will present two completely different subjects, checksum calculators and the building of a replica of a demonstration machine for statistical distributions.

A final session again about slide rules as well as other open issues not covered in these proceedings finishes the second day of the IM2017.

The complete saturday programme will be held at the Arithmeum. The papers in these proceedings appear in the same sequence as in the IM programme.

On sunday there will be the opening and vernissage of a special exhibition ‘Three hundred Years of Logarithmic Computation in German Lands’ at the Arithmeum as extension of the traditional IM schedule. This exhibition will display rare early slide rules and other logarithmic instruments up to the begin of the twentieth century. There will also be a special catalogue for it.



Display of mechanical calculators at the Arithmeum