

Preface

This volume of CCIS contains the revised papers of SACLA 2016, the 45th Annual Conference of the Southern African Computer Lecturers' Association, held in the old diamond mining town of Cullinan (Republic of South Africa), July 5–6, 2016, under the motto: “Achieving Brilliance in ICT Education.”¹ This conference was jointly conducted (in mutually beneficial co-location) with the CSERC 2016, the Computer Science Education Research Conference,² and the University of the Witwatersrand's JCSE Workshop on ICT Skills Shortage in South Africa.³

Over 45 years, Southern African computing lecturers have been holding annual meetings to discuss matters and issues in the context of lecturing computing (computer science, informatics, information technology) in tertiary education. This SACLA series thus has one of the most long-standing conferencing traditions in our discipline world-wide, though the series was internationally not widely known in its earlier years. During the course of its history, the SACLA series evolved from initially very informal gatherings to increasingly formalized and peer-reviewed conferences — although still with a rather regional Southern African character until today. With SACLA 2016, however, the first attempt was made at opening the conference's doors and windows much wider, in order to make the SACLA series henceforth attractive for an international audience anywhere in the world. This move toward internationalization is a rational consequence of the notoriously ongoing globalization of our world, which means that problems —and their solutions— can no longer be contained easily within national or regional borders and boundaries. For this reason also the conference's Programme Committee (PC) was —for the first time— systematically internationalized, with almost half of its members now residing overseas. The call for papers, too, was distributed internationally via various widely recognized communication channels, although the response from overseas was not (yet) as big as (wishfully) expected. What remained, however, constant also at SACLA 2016 (in spite of the new move toward internationalization), is the original motivation of the very first SACLA meetings from more than four decades ago, namely: to provide a forum at which lecturers of computer science and informatics can thoroughly discuss any contemporary issues of lecturing these subjects at a tertiary education level.

With this motivation, SACLA 2016 called for original research papers as well as noteworthy experience reports in all matters concerning the lecturing (teaching) of informatics or computer science (ICS) at institutions of tertiary education (TE) — i.e., classical universities, comprehensive universities, and vocational-technical training colleges. Relevant contemporary topics mentioned in the call for papers included:

¹ <http://sacla.cs.up.ac.za>

² <https://www.ou.nl/web/cserc/cserc-2016>

³ <http://www.jcse.org.za/events/sacla16-ict-skills-shortage-workshop>

- ICS massive open online courses (MOOCs)
- Didactics and methods for teaching ICS in TE
- ICS curricula development in TE: scientific-theoretical versus industrial-practical orientation
- Didactic software and educational support tools for ICS in TE
- Program-code plagiarism, ghost-writing, and counter-measurements
- Ethical problems in the teaching of ICS at TE level
- Students' behavior, self-perceptions, plans, and aspirations within their ICS learning environment at TE level
- Deficiencies in literacy, numeracy, logical reasoning, and general study-ability among students of ICS today
- Transition of newly graduated middle-school (secondary school) pupils into their ICS curricula at TE level: factors of success or failure
- Transition of newly graduated ICS students into their post-TE employment environments: factors of success or failure
- Marks/grades inflation and/or assessment standard/quality changes over longer periods of time in the history of ICS-TE
- International comparability of degrees and levels of knowledge/skill/performance among ICS students at TE level
- Effects of the still ongoing massification, egalitarization, and commercial commodification of TE on the ICS teaching and learning environment
- Humboldt's question: separation or combination of teaching and research in small or large ICS departments at TE institutions
- Longitudinal studies in ICS education: past-versus-presence comparisons and plausible future trends
- Social role problems and/or career issues of ICS academics from junior lecturer to emeritus professor at TE institutions
- ICS lecturers' general matters: best/worst practices, success/failure experiences, etc.

Within these themes and topic fields, two types of submissions to SACLA 2016 were possible:

- Full-length research papers or practical experience reports with solid results
- Short papers for interesting and promising work in progress

Submissions in both categories were rigorously reviewed by the Programme Committee for quality in contents and style of presentation. Each submission was assessed by three reviewers, of whom at least one had to be from South Africa and at least one from abroad. All rejection decisions were final, i.e., without any rebuttal phase for the authors after the reviews. Accepted papers had to be discussed at the SACLA 2016 conference *and* thoroughly revised before their inclusion in this CCIS volume, which is the very first (and hopefully not its last) publication of the SACLA series with Springer as its highly esteemed publishing house.

By its closing date, SACLA 2016 had received 30 submissions, out of which (after rigorous review) three (10 %) were accepted as full papers, and another 13 (≈ 43 %) as 8-page-short work-in-progress papers. All of them appear thematically grouped (regardless of their full- or short-length category) in this CCIS book. The full paper by Serena Coetzee

and Victoria Rautenbach —see table of contents— received the conference’s Best Paper Award. In addition to these regular submissions, two invited keynote lectures were given by Martin Olivier (day 1) and Bob Travica (day 2): The papers that recapitulate these two lectures are included in this CCIS volume, too. In my role as editor I proposed the invitation of Martin Olivier to the conference’s committee while PC member Jan Kroeze proposed the invitation of Bob Travica.

In addition to the “official” members of the conference’s Organizing Committee many colleagues and friends contributed to the success of SACLA 2016. Thank you to the regular authors, as well as to the invited speakers, for having chosen SACLA 2016 as the forum for communicating their noteworthy insights and interesting thoughts. Thank you to the members of the PC and their additional reviewers, who all provided insightful and detailed comments well within the stipulated assessment time. Thank you to the representatives of Springer German branch (Alfred Hofmann, Aliaksandr Birukou, Leonie Kunz, Frank Holzwarth) for having provided SACLA 2016 with this CCIS publication opportunity, as well as to the representatives of Springer British branch (Beverley Ford, Wayne Wheeler, James Robinson) for having donated a package of relevant ICS textbooks for further use. Thank you to Peter Csaba Ölveczky for his professional LaTeX advice concerning the structure and the type-setting of this CCIS book. Thank you to the representatives of our financial sponsors: the Department of Computer Science of the University of Pretoria (Andries Engelbrecht) and the IITPSA (Tony Parry), as well as to the organizers of the value-adding co-located events: CSERC 2016 (Marko van Eekelen) and the JCSE workshop on South African IT skills (Barry Dwolatzky, Adrian Schofield). Thank you, last but not least, to Christina Firkins and Joané de Kock for their hands-on help at the conference’s registration desk.

After the 45th *Annual Conference of the Southern African Computer Lecturers’ Association* —and at the end of this preface— I express my hope that this CCIS volume may receive the international recognition that it deserves, and that the herewith-documented success of SACLA 2016 may lead to the further growth and internationalization of the long-standing SACLA conferencing tradition in the not-too-far future.

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Stefan Gruner



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