Cristina Alcaraz Liqun Chen Shujun Li Pierangela Samarati (Eds.)

# Information and Communications Security

24th International Conference, ICICS 2022 Canterbury, UK, September 5–8, 2022 Proceedings





# Lecture Notes in Computer Science 13407

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24th International Conference, ICICS 2022 Canterbury, UK, September 5–8, 2022 Proceedings



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#### Preface

This volume contains the papers that were selected for presentation and publication at the 24th International Conference on Information and Communications Security (ICICS 2022), which was jointly organized by the University of Kent (UK), theUniversità degli Studi di Milano (Italy), the University of Surrey (UK), and the University of Malaga (Spain). The conference was held at the main campus of the University of Kent, Canterbury, UK, during September 5–8, 2022. Due to post-pandemic conditions and travel limitations in some countries, the conference was held as a hybrid event, offering both in-person and remote participation options for attendees.

ICICS is one of the mainstream security conferences with the longest history. It started in 1997 and aims at bringing together leading researchers and practitioners from both academia and industry to discuss and exchange their experiences, lessons learned, and insights related to computer and communication security. This year's Program Committee (PC) consisted of 114 members with diverse backgrounds and broad research interests. A total of 150 valid paper submissions were received. The review process was double blind, and the papers were evaluated on the basis of their significance, novelty, and technical quality. Practically all the papers were reviewed by four or more PC members and then discussed among the Program Committee. The discussions were held online intensively over more than three weeks. Finally, 34 papers were selected for presentation at the conference giving an acceptance rate of 22.7%.

Following the reviews, two papers were selected for the Best Paper Award and the Best Student Paper Award, respectively. Both awards were generously sponsored by Springer. The conference also selected winners of four additional awards, a Best Presentation Award, a Best Artifact Award, a Best Poster Award and a Best Demo Award, all sponsored by the Institute of Cyber Security for Society (iCSS), University of Kent. Additionally, ICICS 2022 was honored to offer three outstanding keynote talks by Ross Anderson, University of Cambridge (UK), Nicholas Carlini, Google (USA), and Guang Gong, University of Waterloo (Canada). Our deepest and sincere thanks to Ross, Nicholas, and Guang for sharing their knowledge and experience during the conference. The conference also called for posters and demo presentations of "already published/accepted work", which were presented at a Poster/Demo session. In addition, a panel discussion was also organized at the conference.

For the success of ICICS 2022, we would like to first thank the authors of all submissions and the PC members for their great effort in selecting the papers. We also thank all the external reviewers for assisting the reviewing process. For the conference organization, we would like to thank the ICICS Steering Committee, the Publicity Chairs, Kalikinkar Mandal and Ding Wang, the Local Arrangement Co-Chairs, Budi Arief and Sanjay Bhattacherjee, the Poster/Demo Chairs, Özgür Kafalı and Vineet Rajani, the Panel Chair Zonghua Zhang, the Local Award Judging Chair Keenan Jones, the Sponsorship

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Chairs, Fauzia Idrees and Clare Patterson, and the VI (Visual Identity) Designers, Yinglong He and Zhonghai Liu. Finally, we thank everyone else, speakers, session chairs, and volunteer helpers, for their contributions to the program of ICICS 2022.

September 2022

Cristina Alcaraz Liqun Chen Shujun Li Pierangela Samarati

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