

IEEE UKRCON-2019 ORGANIZERS

IEEE Ukraine Section
 IEEE Industry Application Society
 IEEE Ukraine Section (West) AP/ED/MTT/CPMT/SSC Societies Joint Chapter
 IEEE Ukraine Section (East) AP/MTT/ED/AES/GRS/NPS Societies Joint Chapter
 IEEE Ukraine Section (Kyiv) ED/MTT/CPMT/COM/SSC Societies Joint Chapter
 IEEE Ukraine Section (Rep of Georgia) ED/MTT Societies Joint Chapter
 IEEE Ukraine Section CAS/IM/C/MTT Societies Joint Chapter
 IEEE Ukraine Section PHO Society Chapter
 IEEE Ukraine Section COM Society Chapter
 IEEE Ukraine Section (Kharkiv) SP/AP/C/EMC/COM Societies Joint Chapter
 IEEE Ukraine Section IM/CIS Societies Joint Chapter
 IEEE Ukraine Section SP/AES Societies Joint Chapter
 IEEE Ukraine Section EMB Society Chapter
 IEEE Ukraine Section PE/IE/IA Societies Joint Chapter
 IEEE Ukraine Section PE/IE/PEL Societies Joint Chapter

Partners:

IEEE Region 8
 The European Microwave Association (EuMA)
 Association of Industrial Automation of Ukraine
 Lviv Convention Bureau
 Lviv City Council
 Lviv Polytechnic National University
 Ivan Franko Lviv National University
 IT Step University

2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON)

Edited by Mariya Antyufeyeva
 Computer layout and cover design: Mariya Antyufeyeva

Part Number CFP19K03-ART
ISBN 978-1-7281-3882-4

Copyright and Reprint Permission: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For reprint or republication permission, email to IEEE Copyrights Manager at pubs-permissions@ieee.org. All rights reserved. Copyright ©2019 by IEEE.