## 2016 International Workshop on Recent Advances in Robotics and Sensor Technology for Humanitarian Demining and Counter-IEDs (RST 2016)

Cairo, Egypt 27 – 30 October 2016



IEEE Catalog Number: ISBN:

CFP16H20-POD 978-1-5090-4247-0

## Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc All Rights Reserved

Copyright and Reprint Permissions: 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 other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP16H20-POD

 ISBN (Print-On-Demand):
 978-1-5090-4247-0

 ISBN (Online):
 978-1-5090-4246-3

## Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



## TABLE OF CONTENTS

MOTION PLANNING FOR AUTONOMOUS LANDMINE DETECTION AND CLEARANCE	
ROBOTS	1
Ibrahim A. Hameed	
UTILIZATION OF NEURAL NETWORK AND THE DISCREPANCY BETWEEN IT AND	
MODELING IN QUADCOPTER ATTITUDE	6
Ahmed M. ELDakrory ; Mohammad Tawfik	
IDENTIFYING THE ATTITUDE OF DYNAMIC SYSTEMS USING NEURALNETWORK	12
Ahmed M. ELDakrory ; Mohammad Tawfik	
A REVIEW ON DESIGNING ANTENNA ARRAYS FOR LONG RANGE SYNTHETIC	
APERTURE RADAR	16
Mohamed Elhefnawy ; Josaphat Tetuko Sri Sumantyo	
UGV LOCOMOTION SYSTEM FOR ROUGH TERRAIN	21
Ahmed Abdel Hamid ; Amr Nazih ; Mohammed Ashraf ; Ahmed Abdulbaky ; Alaa Khamis	
LANDMINES AND UXOS IN NWC: A DOMAIN REVIEW	27
Alaa Khamis ; Mohammed Ashraf ; Ahmed Abdulbaky	
GAMOS BASED SIMULATION USING GAMMA BACK- SCATTERED PHOTONS COUNT	
METHOD FOR MINE DETECTION	33
Ezzat A. Elmoujarkach ; Essam M. Banoqitah	
DESIGN OF ROBOT WHEELS FOR ROUGH TERRAIN: A MULTI-CRITERIA OPTIMIZATION	
APPROACH	39
Mohammed Ashraf ; Alaa Khamis	
Author Index	