

# **2019 1st International Conference on Unmanned Vehicle Systems-Oman (UVS 2019)**

**Muscat, Oman  
5 – 7 February 2019**



**IEEE Catalog Number: CFP19R78-POD  
ISBN: 978-1-5386-9369-8**

**Copyright © 2019 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:	CFP19R78-POD
ISBN (Print-On-Demand):	978-1-5386-9369-8
ISBN (Online):	978-1-5386-9368-1

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# TABLE OF CONTENTS

<b>ETHICAL DESIGN PERSPECTIVES OF INTELLIGENT UAVS</b> .....	1
<i>Alrence Santiago Halibas ; Talal Abdul Rasheed Mohammed Al Bulushi ; Ronald Cordova Soriano ; Amjad Saleem Mubarak Al Shaqsi</i>	
<b>A CLASSIFICATION BASED METHOD FOR TARGET DETECTION</b> .....	6
<i>Mohammad Sahnoon ; Khaled Assaleh ; Usman Tariq ; Hasan Mir</i>	
<b>TRACKING CONTROL OF QUADROTOR USING GENERALIZED DYNAMIC INVERSION WITH CONSTANT-PROPORTIONAL RATE REACHING LAW</b> .....	10
<i>Uzair Ansari ; Abdulrahman H. Bajodah</i>	
<b>ANGULAR POSITION CONTROL OF TWIN ROTOR MIMO SYSTEM USING GENERALIZED DYNAMIC INVERSION WITH SWITCHING SURFACE</b> .....	17
<i>Uzair Ansari ; Abdulrahman H. Bajodah</i>	
<b>DESIGN, DYNAMICS MODELLING AND CONTROL OF A H-SHAPE MULTI-ROTOR SYSTEM FOR INDOOR NAVIGATION</b> .....	23
<i>Swee King Phang ; Syed Zeeshan Ahmed ; Mohamed Redhwan Abdul Hamid</i>	
<b>UAV BASE STATION LOCATION OPTIMIZATION FOR NEXT GENERATION WIRELESS NETWORKS: OVERVIEW AND FUTURE RESEARCH DIRECTIONS</b> .....	29
<i>Cihan Tugrul Cicek ; Hakan Gultekin ; Bulent Tavli ; Halim Yanikomeroglu</i>	
<b>AN INTEGRATED WEB-BASED APPROACH FOR NEAR REAL-TIME MISSION MONITORING</b> .....	35
<i>Patrick Leibold ; Omar Al Abri</i>	
<b>GPU-BASED CONCURRENT MULTI-UAVS PATH FLOW ANALYSIS USING K-MST ALGORITHM</b> .....	41
<i>Munesh Singh Chauhan</i>	
<b>CAR DETECTION USING UNMANNED AERIAL VEHICLES: COMPARISON BETWEEN FASTER R-CNN AND YOLOV3</b> .....	46
<i>Bilel Benjdira ; Taha Khursheed ; Anis Koubaa ; Adel Ammar ; Kais Ouni</i>	
<b>DRONE HACKING WITH RASPBERRY-PI 3 AND WIFI PINEAPPLE: SECURITY AND PRIVACY THREATS FOR THE INTERNET-OF-THINGS</b> .....	52
<i>Ottilia Westerlund ; Rameez Asif</i>	
<b>YAW CONTROL OF AN UNMANNED HELICOPTER WITH FEEDBACK LINEARIZATION</b> .....	62
<i>Morteza Mohammadzaheri ; Hamidreza Ziaiefar ; Mojtaba Ghodsi ; Issam Bait Bahadur</i>	
<b>DEVELOPMENT OF MAGNETOSTRICTIVE HARVESTER FOR UNMANNED AERIAL VEHICLES (UAV)</b> .....	67
<i>Mojtaba Ghodsi ; Hamidreza Ziaiefar ; Morteza Mohammadzaheri ; Amur Al-Yahmedi</i>	
<b>INCORPORATING UNMANNED SYSTEMS ETHICS INTO THE CURRICULUM</b> .....	73
<i>Ahmed M. Zeki</i>	
<b>PARAMETER IDENTIFICATION OF IPM MOTOR REDUCED ORDER THERMAL MODEL FOR TRACTION APPLICATIONS</b> .....	78
<i>Georges Mekhael El Murr ; Saleh Elkelani Babaa ; Andrew Ordys</i>	
<b>AUTOMATIC FAULT DETECTION OF POWER LINES USING UNMANNED AERIAL VEHICLE (UAV)</b> .....	84
<i>Mehdi Korki ; Nikhil Dwarakanath Shankar ; Raj Naymeshbhai Shah ; Syed Muhammad Waseem ; Steven Hodges</i>	
<b>DESIGN AND IMPLEMENTATION OF AN UNMANNED SURFACE VEHICLE FOR OIL SPILL HANDLING</b> .....	90
<i>Waleed Al Maawali ; Ahmed Al Naabi ; Majid Al Yaruubi ; Ashraf Saleem ; Ahmed Al Maashri</i>	
<b>MODELING OF UNMANNED UNDERWATER VEHICLE WITH ROTATING THRUSTERS FOR OFFSHORE RIG INSPECTION</b> .....	96
<i>Alex Bernard ; Khalid Al Maawali ; Rakesh Sharma</i>	
<b>Author Index</b>	