

2019 Iran Workshop on Communication and Information Theory (IWCIT 2019)

**Tehran, Iran
24 – 25 April 2019**



**IEEE Catalog Number: CFP19WCI-POD
ISBN: 978-1-7281-0585-7**

**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:	CFP19WCI-POD
ISBN (Print-On-Demand):	978-1-7281-0585-7
ISBN (Online):	978-1-7281-0584-0

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

CURRAN ASSOCIATES INC.
proceedings
.com



Table of Content

Robert Schober (Keynote Speaker)

Title: Synthetic Molecular Communication: Fundamentals, Opportunities, and Challenges.....N/A

Tara Javidi (Keynote Speaker)

Title: Gaussian Process Bandits with Adaptive Discretization.....N/A

Vincent Y. F. Tan (Invited Speaker)

Title: On Wyner's, Exact and ∞ -Rényi Common Informations: Settling a Conjecture by Kumar, Li and El Gamal.....N/A

Keivan Navaie (Invited Speaker)

Title: On Caching in Dense HetNets.....N/A

Mohammad Hossein Yassaee (Invited Speaker)

Title: Point-wise variable length coding for some multi-user compression problems.....N/A

S1. Shannon Theory and Coding Theory

P1. Tight Bound on the Stability of Control Systems over Parallel Gaussian Channels Using a New Joint Source-Channel Coding.....1

Vahideh Sanjaron, Abolfazl S. Motahari, Alireza Farhadi and Babak. H. Khalaj

P2. Time-Sharing Improves Dynamic Index Coding Delay.....7

Mohammad Hadi, Mohammad Mahdi Mojahedian, Mohammad Reza Aref and Mohammad Reza Pakravan

P3. Compressive Sensing-Based Colocated MIMO Radar with Reduced Number of Transmit Antennas.....13

Abdollah Ajorloo, Arash Amini and Mohammad Hassan Bastani

P4. New Inner Bounds for the Gaussian Interference Channel with a Cognitive Relay.....19

Elaheh Asadollahi Yazdi, Ghosheh Abed Hodtani and Hossein Khoshbin Ghomash

S2. Communication Theory

P1. Outage Performance in Secure Cooperative NOMA.....23

Milad Abolpour, Mahtab Mirmohseni and Mohammad Reza Aref

P2. A Novel PHP-Based Coverage Analysis in Millimeter Wave Heterogeneous Cellular Networks.....29

Mehdi Sattari and Aliazam Abbasfar

P3. Resource Allocation in Cognitive Radio Inspired Non-Orthogonal Multiple Acces.....35

Fatemeh Mokhtari, Mahtab Mirmohseni, Farid Ashtiani and Masoumeh Nasiri-Kenari

P4. Performance Analysis of All-Optical Multi-Hop FSO Systems over Gamma-Gamma Fading Channels.....41

Fariba Jamali, Mohammad Javad Emadi and Hamid Saeedi

S3. Applications of Information Theory

P1. The Statistical Dictionary-Based String Matching Problem.....46

Meer Suri and Stefano Rini

P2. Efficiency and Crosstalk in Demultiplexing Orbital Angular Momentum Modes using a Geometrical Transformation-Based Mode Sorter.....52

Amir Minoofar, Amirnader Askarpour and Abdolali Abdipour

P3. Private Shotgun DNA Sequencing: A Structured Approach.....57

Ali Gholami, Mohammad Ali Maddah-Ali and Seyed Abolfazl Motahari

P4. The Impact of Distribution Uncertainty on The Average Distortion in a Block Fading Channel.....63

Sayed Ali Khodam Hoseini and Soroush Akhlaghi