

# **2021 Iran Workshop on Communication and Information Theory (IWCIT 2021)**

**Tehran, Iran  
19 – 20 May 2021**



**IEEE Catalog Number: CFP21WCI-POD  
ISBN: 978-1-6654-0057-2**

**Copyright © 2021 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:	CFP21WCI-POD
ISBN (Print-On-Demand):	978-1-6654-0057-2
ISBN (Online):	978-1-6654-0056-5

**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 Content

---

**Welcome by Prof. Babak H. Khalaj** **13:30-13:40**

**Amin Aminzadeh Gohari** (Invited Speaker)  
Title: *Strengthened Cutset Upper Bounds on the Capacity of the Relay Channel and Applications* **13:40-14:20**

## Session 1 :

**Efficient 3D Placement of an Aerial Base Station in Cellular Communication.....1** **14:30-14:50**  
Faeze Moradi kalarde and Maryam Sabbaghian  
(University of Tehran, Iran)

**Optimization of Cellular LiFi Network Deployment for Gaussian Mixture User Distributions.....7** **14:50-15:10**  
Mohammad Amir Dastgheib (Sharif University of Technology, Iran);  
Hamzeh Beyranvand (Amirkabir University of Technology, Iran);  
Elahe Zolala and Jawad Salehi (Sharif University of Technology, Iran)

**Intelligent Reflecting Surfaces for Compute-And-Forward.....13** **15:15-15:35**  
Mahdi Jafari Siavoshani (Sharif University of Technology, Iran);  
Seyed Pooya Shariatpanahi (University of Tehran, Iran);  
Naeimeh Omidvar (Institute for Research in Fundamental Sciences (IPM), Iran)

**Optimal Power Control Policy for Fading Channels with Bernoulli Harvested Energy.....19** **15:40-16:00**  
Afsaneh Khajepour (Shiraz University, Iran);  
Ali Zibaeenejad (McMaster University, Canada & Shiraz University, Iran)

**Hamed Hasani** (Tutorial) **Part1: 16:30-17:45**  
Title: *Submodular Optimization and Learning: From Discrete to Continuous and Back* **Part2: 18:00-19:15**

---

# Table of Content

---

**Mohammad Hossein Yassaee** (Tutorial)

Title: *Concentration of Measures with Application in Information Theory and Machine Learning*

**9:30-12:30**

**Songze Li** (Invited Speaker)

Title: *Nakamoto meets Shannon: scaling blockchains using codes*

**14:00-14:40**

**Session 2**

**15:00-16:00**

**Application and Analysis of Expectation Propagation Algorithm in the Binary Erasure Quantization.....25**

**15:00-15:20**

Golshan Piroozzadeh and Reza Asvadi  
(Shahid Beheshti University, Iran)

**A New Probabilistic Constellation Shaping Scheme for APSK Modulation.....31**

**15:20-15:40**

Sahar Z. Poor, Amir R. Forouzan and Farzad Parvaresh  
(University of Isfahan, Iran)

**Anonymous Mutual Authentication: An Information Theoretic Framework.....35**

**15:40-16:00**

Narges Kazempour, Mahtab Mirmohseni and Mohammad Reza Aref  
(Sharif University of Tech., Iran)

**Hamed Hasani** (Invited Speaker)

Title: *Learning Robust Models: Fundamental Limits and Algorithms*

**16:30-17:10**

---