

## **Asst. Prof. BARIŞ NAKİBOĞLU**

### **Personal Information**

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### **Education Information**

Doctorate, Massachusetts Institute of Technology, Dept. of Electrical Engineering and Computer Science, United States Of America 2005 - 2011

Post Graduate, Massachusetts Institute of Technology, Dept. of Electrical Engineering and Computer Science, United States Of America 2003 - 2005

Under Graduate, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, Turkey 1998 - 2002

Undergraduate Double Major, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, Turkey 1998 - 2002

### **Dissertations**

Doctorate, Exponential Bounds On Error Probability With Feedback, Massachusetts Institute of Technology, Dept. of Electrical Engineering and Computer Science, 2011

Post Graduate, Variable Block Length Coding for Channels with Feedback and Cost Constraints, Massachusetts Institute of Technology, Dept. of Electrical Engineering and Computer Science, 2005

### **Research Areas**

Information Theory, Probability Theory, Stochastic Processes

### **Academic Titles / Tasks**

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2018 - Continues

Expert PhD, University of California, Berkeley, College of Engineering, Department of Electrical Engineering and Computer Sciences , 2012 - 2013

### **Courses**

Probability and Random Variables, Under Graduate, 2019 - 2020

INFORMATION THEORY , Post Graduate, 2018 - 2019, 2019 - 2020

Circuit Theory 1, Under Graduate, 2019 - 2020

### **Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes**

- **A simple derivation of the refined sphere packing bound under certain symmetry hypotheses**  
NAKİBOĞLU B.  
TURKISH JOURNAL OF MATHEMATICS, vol.44, pp.919-948, 2020 (Journal Indexed in SCI)
- **The Sphere Packing Bound for DSPCs with Feedback à la Augustin**  
NAKİBOĞLU B.  
IEEE Transactions on Communications, vol.67, pp.7456-7467, 2019 (Journal Indexed in SCI)
- **The Augustin Capacity and Center**  
Nakiboglu B.  
PROBLEMS OF INFORMATION TRANSMISSION, vol.55, pp.299-342, 2019 (Journal Indexed in SCI)
- **The Renyi Capacity and Center**  
NAKİBOĞLU B.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.65, pp.841-860, 2019 (Journal Indexed in SCI)
- **The Sphere Packing Bound via Augustin's Method**  
NAKİBOĞLU B.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.65, pp.816-840, 2019 (Journal Indexed in SCI)
- **Bit-Wise Unequal Error Protection for Variable-Length Block Codes With Feedback**  
NAKİBOĞLU B., Gorantla S. K. , Zheng L., Coleman T. P.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.59, pp.1475-1504, 2013 (Journal Indexed in SCI)
- **Errors-and-Erasures Decoding for Block Codes With Feedback**  
NAKİBOĞLU B., Zheng L.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.58, pp.24-49, 2012 (Journal Indexed in SCI)
- **Variations on a Theme by Schalkwijk and Kailath**  
Gallager R. G. , NAKİBOĞLU B.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.56, pp.6-17, 2010 (Journal Indexed in SCI)
- **Unequal Error Protection: An Information-Theoretic Perspective**  
Borade S., NAKİBOĞLU B., Zheng L.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.55, pp.5511-5539, 2009 (Journal Indexed in SCI)
- **A Simple Converse of Burnashev's Reliability Function**  
Berlin P., NAKİBOĞLU B., Rimoldi B., Telatar E. İ.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.55, pp.3074-3080, 2009 (Journal Indexed in SCI)
- **Error exponents for variable-length block codes with feedback and cost constraints**  
NAKİBOĞLU B., Gallager R. G.  
IEEE TRANSACTIONS ON INFORMATION THEORY, vol.54, pp.945-963, 2008 (Journal Indexed in SCI)

## **Refereed Congress / Symposium Publications in Proceedings**

- **Refined Strong Converse for the Constant Composition Codes**  
Cheng H., NAKİBOĞLU B.  
2020 IEEE International Symposium on Information Theory, ISIT 2020, California, United States Of America, 21 - 26 July 2020, pp.2149-2154
- **A Simple Derivation of the Refined SPB for the Constant Composition Codes**  
NAKİBOĞLU B.  
2019 IEEE International Symposium on Information Theory, ISIT 2019, Paris, France, 7 - 12 July 2019, pp.2659-2663
- **The Augustin center and the sphere packing bound for memoryless channels**  
NAKİBOĞLU B.  
2017 IEEE International Symposium on Information Theory (ISIT), Aachen, Germany, Germany, 25 - 30 June 2017
- **Sphere-packing bound for block-codes with feedback and finite memory**  
Giacomo C., NAKİBOĞLU B.  
2010 IEEE International Symposium on Information Theory, Austin, TX, USA, United States Of America, 13 - 18 June

- 2010, pp.251-255  
**Bit-wise Unequal Error Protection for Variable Length Blockcodes with Feedback**  
 Gorantla S. K. , NAKİBOĞLU B., Coleman T. P. , Zheng L.  
 2010 IEEE International Symposium on Information Theory, Austin, United States Of America, 13 July 2010, pp.241-245
- **Upper bounds to error probability with feedback**  
 NAKİBOĞLU B., Zheng L.  
 2009 47th Annual Allerton Conference on Communication, Control, and Computing (Allerton), Monticello, IL, United States Of America, 30 September - 02 October 2009, pp.865-871
- **Upper Bounds to Error Probability with Feedback**  
 NAKİBOĞLU B., Zheng L.  
 2009 IEEE International Symposium on Information Theory, Seoul, South Korea, 28 June - 03 July 2009, pp.1515-1519
- **Errors-and-erasures decoding for block codes with feedback**  
 NAKİBOĞLU B., Zheng L.  
 2008 IEEE International Symposium on Information Theory, Toronto, ON, Canada, Canada, 6 - 11 July 2008, pp.712-716
- **Some Fundamental Limits of Unequal Error Protection**  
 Borade S, NAKİBOĞLU B., Zheng L.  
 2008 IEEE International Symposium on Information Theory, Toronto, Canada, 6 - 11 July 2008, pp.2222-2226
- **Error Exponents for Variable-length block codes with feedback and cost constraints**  
 NAKİBOĞLU B., Gallager R. G. , Win M. Z.  
 2006 IEEE International Symposium on Information Theory, Seattle, WA, United States Of America, 9 - 14 July 2006, pp.74-78
- **A high efficiency power amplifier at x-band for satellite communication**  
 Sen O., Dudak C., Nakiboglu B.  
 21st International Communications Satellite Systems Conference and Exhibit, ICSSC 2003, Yokohama, Japan, 15 - 19 April 2003
- **A two stage solid state power amplifier at X-band for satellite communication**  
 Sen O., Dudak C., Nakiboglu B.  
 International Conference on Recent Advances in Space Technologies, İstanbul, Turkey, 20 - 22 November 2003, pp.630-634

## Supported Projects

NAKİBOĞLU B., TUBITAK Project, Renyi/Augustin Bilgi Ölçüleri Ve Küre Sıkıştırma Sınırı İçin Augustin Yöntemi, 2019 - Continues

## Citations

Total Citations (WOS):180

h-index (WOS):7

## Invited Talks

Augustin's Information Measures and The Sphere Packing Bound, Seminar, Sabancı Üniversitesi, Turkey, October 2019

## Awards

Nakibođlu B., Arařtırma Teřvik Ödülü, Odtü Prof. Dr. Mustafa N. Parlar Eđitim Ve Arařtırma Vakfı, December 2019

Nakibođlu B., Science Academy's Young Scientist Awards Program (BAGEP), Bilim Akademisi, April 2019