

# BROADBAND PLASMONIC SURFACES AND COOL PLASMONIC TRANSDUCERS

February 24, 2017 at 12:30pm

CBB 106

This seminar is composed of two parts. In the first part, I will present our research group's studies on broadband plasmonic structures and surfaces, which have uses in many practical applications, including thin-film photovoltaics, non-linear optics, surface enhanced spectroscopy techniques, and ultrafast pulse shaping. Plasmonic structures generally have narrow and sharp resonances, however, in recent years there has been significant research on novel designs for broadband plasmonic structures. In this part of the presentation, various broadband plasmonic structures are introduced, their physical mechanisms are interpreted and several practical applications are demonstrated.

In the second part of the seminar, I will present our research group's studies on cool plasmonic transducers. The heating of plasmonic transducers can result in both performance and reliability issues in practical plasmonic applications. For example in heat assisted magnetic recording, an emerging data storage technology, localized optical spots are obtained via plasmonic transducers. However, during this process plasmonic transducers are heated, and this results in a performance reduction. In this part of the presentation, we discuss various plasmonic transducers and provide heat-sink designs to reduce their heating.



**Kursat Sendur**

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## SPEAKER BIO

Kursat Sendur received his Ph.D. degree in 2001 from The Ohio State University, where he worked as a graduate research associate and postdoctoral researcher between 1997 and 2002. In 2002, he joined Seagate Technology Research Center, USA where he worked on plasmonic transducers and recording medium in heat assisted magnetic recording, an emerging data storage technology. Between 2005-2007 he worked at Advanced Microsensors, Boston, USA on thin-film sensor technologies. Since 2007, he has been a faculty member at Sabanci University, Istanbul, Turkey.

Contact Professor Stanko Brankovic at [sbrankovic@uh.edu](mailto:sbrankovic@uh.edu) if you would like to arrange for a time to meet with Dr. Sendur.

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