

# **Microwave Ceramics for beyond 5G**

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This presentation will discuss, in the context of ceramics, the challenges that need to be overcome for applications in telecommunications for beyond 5G. A brief overview of microwave ceramic technology will be presented and state of the art in commercial ceramics discussed in terms of properties and the underlying crystal chemistry. Ceramics for antenna and resonators will be reviewed including ideas for the development of functionally graded and magnetodielectric ceramics for RF substrates. In addition, new concepts for the use of ultra low sintering temperature materials in the fabrication of substrates and 3D printed devices will be discussed.