# III-V Compound Semiconductor materials based HEMT devices for RF applications

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## Abstract:

Due to tremendous advances in lithography, the semiconductor industry has followed Moore's law by shrinking transistor dimensions continuously for the last 30 years. The big challenge in VLSI is that continued scaling of planar silicon, CMOS transistors will be more and more difficult because of both fundamental limitations and practical considerations as the CMOS transistor dimensions approach tens of nanometers. To address the scaling challenge, both industry and academia have been investigating alternative device structure and alternative materials, among which III-V compound semiconductor materials as a promising candidates for future logic applications because of their light effective masses lead to high electron mobility's and high on-currents, which translates into high device performance at low supply voltage. Due to outstanding electron transport properties and high mobility III-V compound semiconductor materials are the better channel materials for future highly scaled CMOS devices.

## Biography:

Dr. T.D.Subash is currently a full time professor, Department of Electronics and Communication Engineering of Mangalam College of Engineering, Kottayam, Kerala. He was the active senior member of IEEE and Founding Chairman of IEEE Photonics Society Madras Chapter since September 2015. He completed his Bachelor of Engineering in Electronics and

Communication Engineering and Master of Engineering in Embedded System Technologies from Anna University, India in the year 2008 and 2011 respectively. He com-

pleted his PhD in Nanoelectronics from Anna University, Chennai in the year 2016. He has 36 publications in International and National Journals and 25 papers in International and National Conferences in the area of Nanoelectronics, Nanoscale Device Modelling, Nanotechnology and Wireless Sensor Networks.

## Publication of speakers:

1. Haptic technology: A comprehensive review on its applications and future prospects
2. Novel key pre-distribution scheme in wireless sensor network
3. 20ánm high performance novel MOSHEMT on InP substrate for future high speed low power applications
4. Comparision of Photoluminescence studies of Lanthanum, Terbium doped Calcium Aluminate nanophosphors (CaAl2O4: La, CaAl2O4: Tb) by sol-gel method.
5. Photoluminescence studies of Terbium doped Calcium Aluminate nanophosphors (CaAl2O4: Tb) synthesized by sol-gel method.

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