

One Page Curriculum Vitae

Name: Charanjit S Bhatia

Present Appointment:

Professor

ECE Department, NUS

Contact Information:

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Research Areas:

- Magnetic Data Storage Systems,
- Ultra-thin film research
Tribology
Magnetic Interface Studies for Spintronics devices & exchange couple media.
Solar Energy

Teaching Areas:

- Thin film research, magnetic recording materials, characterization of ultra thin films

Academic/Professional Qualifications:

- Degree (year obtained) Institution, Country
- Ph D, 1979, Electrical Engineering Dept., University of Minnesota, Mpls., Mn 55455 USA
- MS ,1978, Electrical Engineering Dept., University of Minnesota, Mpls., Mn 55455 USA

Awards/Honours (Post-PhD):

- 1) IBM faculty award for year 2008-09
- 2)IBM Blue Chip award (Corporate award given by IBM Chairman's office)
- 3)Outstanding Innovation Award, IBM corp, San Jose CA
- 4)Outstanding Technical Achievement Award, IBM Corp, San Jose CA
- 5)Information Storage Industry Consortium (INSIC) Leadership award (twice, 1998 & 2003)
- 6)Temasek Professor, NUS, Singapore
- 7) INSIC technical achievement award 2005
- 8) Chairman of Magnetic Data Storage tribology, ASME, USA
- 9) Team Leader for the INSIC's 10Gb/In2, 100Gb/In2, 1Tb/In2 & 10Tb/In2 Tribology project.
- 10) Faculty at UC Berkeley USA (IBM faculty loan program) 1989 and 1994
- 11) Visiting Industrial Fellow to CML, ME Dept UC Berkeley, Berkeley USA(1987-Present)

Career History:

- 1979-Present Staff Engineer-Sr Technical Staff Member IBM/Hitachi GST
Held technical & management positions in IBM and Hitachi Global Storage technologies in the Advanced Magnetic Recording Lab, Heads and Media groups.

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Administrative Leadership:

- Team Leader of INSIC Tribology.
Helped established ISML at NUS Singapore.
Managed Thin film Head (MR) and Disk technology projects into products.
Wrote proposals for funding from DARPA, NSF to help fund research in NSIC (and now INSIC).
These have been very successful research projects and the most of the Data Storage industry is supporting this effort. DSI and NUS also have been funded with grants out of these funds.

Professional/Consulting Activities:

- Since I worked in the industry, I helped Universities/Research centers (UC Berkeley, U of M, UCSD, DSI, NIST, Northwestern U, CMU, U of Illinois, Urbana-Champaign) focus on key pre-competitive research projects to achieve 10Gb/in², 100Gb/in², 1 Tb/in² & 10Tb/in².
- I have been invited by Cambridge U, Fraunhofer institute at Dresden, MIPE conf in Japan, DSI in Singapore, MRS, IEEE, ASME to give keynote talks on my research on advanced data storage projects.
IEEE magnetics editor (01/2007-Present)
- I have developed special symposia on advanced data storage tribological issues at the ASME and international tribological meetings.

Invited to lead tribology research projects for 10Tb/in².

Invited to lead the joint roadmap tribology effort for Storage Research (Japan based) & Information Storage Research Consortium (US based) (Oct 07)

Chaired session on Head/Disk Interface Tribology at the Intermag 2008 in Madrid.

Major Publications (Maximum of 5):

- Design & Dynamics of Flying Height Control Slider with Piezoelectric Nanoactuator in Hard Disk Drives. Submitted to Journal of Tribology Dec 2006
- Hardness, elastic modulus, and structure of very hard carbon films produced by cathodic-arc deposition with substrate pulse biasing

Ultra-Thin Overcoats for the Head/Disk Interface Tribology

Ultra-Thin Diamond-Like Carbon Films Deposited by Filtered Carbon Vacuum Arcs

Tribological behavior of amorphous carbon nitride overcoats for magnetic thin-film rigid disks

Thermal and electron-stimulated chemistry of Fomblin–Zdol lubricant on a magnetic disk

Tribo-chemistry at the head/disk interface

Surface treatment of magnetic recording heads

Frontiers of Magnetic Hard Disk Drive Tribology & Technology

Nanotribology and Nanotechnology for 1Tbit/in² (Proceedings of Symp. Jt.ASME/STLE Intl Tribology Conference)

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