

## **Distinguished Speaker: Dr Vijay Saraswat**

### About the speaker:

Vijay Saraswat (B Tech EE IIT Kanpur 1982, PhD CS, Carnegie Mellon 1989) is a Computer and AI Scientist known for his work in logic, concurrency and (programming, natural) languages. Over a 35 year career, he has been a researcher at several of the world's iconic research centers -- Xerox' Palo Alto Research Center, AT&T Research, and IBM's TJ Watson research center. Most recently he was Global Head of AI R&D at Goldman Sachs. He is currently in the process of starting his own company, Language Machines.

### **Title: "The Dawn of the AI Age"**

Abstract: Language Machines -- such as ChatGPT, GPT4 and PALM -- are a new breed of instructable computers that can read all language available to us, understand it, and communicate with us (somewhat) as humans do. Here, we mean "language" broadly: any medium used by humans for communication with other humans (and computers) --- text, tables, graphs, code, images, and soon, audio, pictures, video. As an exemplar of these extraordinary systems, ChatGPT can, given simple (English) language instructions: summarize documents, extract precise information from documents, generate ontologies for specific domains, generate plans for everyday activities, write poetry, screenplays, outlines of political commentary, generate questions for exams, answer exam questions, generate programs, correct programs.... Recently, a major Wall Street bank has predicted that these systems will add 7% to global GDP, could replace 300 million jobs worldwide, and affect 2/3 of the jobs in US and Europe.

What are these systems? Where did they come from? What are their strengths and shortcomings? Can these be extended to deal with multiple languages (e.g. Indian languages)? What are social, political, moral, and regulatory issues they raise?