

A Talk & Discussion

By Kalyanmoy Deb, Koenig Endowed Chair Professor,
Michigan State University, East Lansing, Michigan, USA

<http://www.coin-laboratory.com>

At Training room 4/1, 4th floor, SIT Bld.

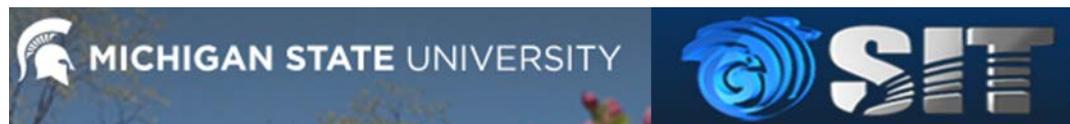


Title: “Arming Graduates with Optimization Tools for a Smarter Career”

On **Wednesday March 20th, 2019, 1:30 to 2:30 pm.**

Abstract:

Optimization is one of the most applicable methods in practice, whereas it is also a word which is most misused by practitioners. Optimization literature has gone through a huge sea-change over the past two decades, which many practitioners are not completely aware of. In this talk, we shall present a list of practical problems from various domains, each of which can be ideally solved by an optimization method. They involve problems from engineering, sciences, and commerce. If optimization methods are so commonly needed in practice, a natural question arises: why don't universities make it mandatory to educate their graduates on optimization for them to be more competitive in the real world?



Title: “Introduction to Genetic algorithms and Evolutionary”

On Thursday March 21st , 2019, 1:30 to 2:45 pm.



Abstract:

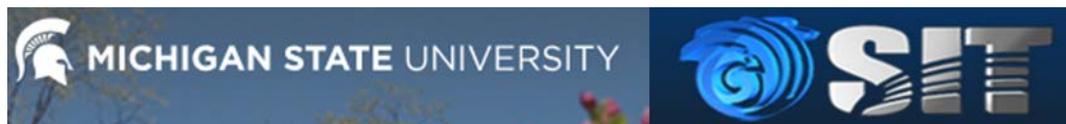
Optimization methods are omnipresent in sciences, engineering and business. Traditionally, they are solved using deterministic point-based optimization methods, which have been increasingly found to be inefficient in solving challenging real-world problems. In this lecture, we shall present nature-inspired optimization methods which were proposed in sixties, but have become prominent in eighties. Some case studies will be presented showing their strengths and use in practical problem solving tasks.

Title: “Trends in Multi-objective optimization”

On Thursday March 21st , 2019, 3:00 to 4:15 pm,

Abstract:

Practical optimization problems are hardly comprised of a single objective, as often they must be considered from a multi-disciplinary point of view. Multi-objective optimization problems gives rise to a set of trade-off optimal solutions, from which one has to be chosen at the end. However, the knowledge of a diverse trade-off solution provides the user with plethora of information about the problem that are priceless and otherwise difficult to obtain. In this talk, we present some state-of-the-art methodologies of a fast-growing field of evolutionary multi-objective optimization (EMO) and showcase the advantages of using EMO methodologies for applied engineering problem solving tasks. Some specific issues of handling uncertainties leading to robust and reliability-based optimization, meta-modeling to deal with computationally expensive problems, many (10+) objectives, large-dimensional spaces, and multi-criterion decision making to choose a single preferred solution will be discussed with engineering case studies. Due to the availability of multiple trade-off solutions, EMO allows a practitioner to analyze the solutions to reveal important and innovative problem knowledge that are common to them. Different 'innovization' procedures will be illustrated by means of a number of engineering design and control problems.



BIOGRAPHY

Kalyanmoy Deb is Koenig Endowed Chair Professor at Department of Electrical and Computer Engineering in Michigan State University, USA. Prof. Deb's research interests are in evolutionary optimization and their application in multi-criteria optimization, modeling, and machine learning. He has been a visiting professor at various universities across the world including IITs in India, Aalto University in Finland, University of Skovde in Sweden, Nanyang Technological University in Singapore. He was awarded IEEE CIS EC Pioneer award, Infosys Prize, TWAS Prize in Engineering Sciences, CajAstur Mamdani Prize, Distinguished Alumni Award from IIT Kharagpur, Edgeworth-Pareto award, Bhatnagar Prize in Engineering Sciences, and Bessel Research award from Germany. He is fellow of IEEE, ASME, and three Indian science and engineering academies. He has published over 500 research papers with Google Scholar citation of over 114,000 with h-index 114. He is in the editorial board on 18 major international journals. More information about his research contribution can be found from <http://www.egr.msu.edu/~kdeb>.

If you are interested in this talk and discussion,

please reserve a seat at <https://goo.gl/forms/cmWR3ZvJuNMM4xab2>

or QR Code

By **Monday March 18th, 2019**

For more information, please contact Ms. Paweena,
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Thank you.

