



**Department of Electrical and Electronics Engineering**

**Report on EVOLUTIONARY COMPUTATION**

**Date:** 04.06.2020

**Time:** 11:30 am to 01:00pm

**Category:** Webinar

**Platform:** Cisco WebEx, YouTube

**Resource Person:** Dr. P. N. Suganthan – IEEE CIS Distinguished Lecturer & Associate Professor, NTU, Singapore

**Audience:** Researchers and Academicians.

**No. of Participants:** 130

Evolutionary computation techniques are generally applied to optimization problems. Many of those problems are combinatorial optimization problems, which are computationally hard (NP-hard). In the recent past, these techniques are used in almost all the fields of engineering to solve complex real-world problems. Hence, it becomes important for every engineer especially researchers, to be aware of these techniques to be updated in their own fields. With this idea of gaining knowledge in such fields, a webinar was hosted by the department of Electrical and Electronics Engineering, LICET. Dr. P. N. Suganthan, Associate editor of Applied Soft Computing (Elsevier), Neurocomputing (Elsevier), Information Sciences (Elsevier), Pattern Recognition (Elsevier), IEEE Transactions on Evolutionary Computation, Int. J. of Swarm Intelligence Research and Founding co-editor-in-chief of Swarm and Evolutionary Computation was the guest speaker.

Dr. P. N. Suganthan gave a brief introduction about the Evolutionary computation techniques and later dealt with in detail Differential Evolution. His slow, steady, and clear explanation of concepts assured to offer a better understanding to the participants on differential evolution. Several useful and informative references from the basics to the recent publications were highlighted during his presentation. This expert guidance offered by reviewing and highlighting several good literatures was highly appreciated by the participants. A few researchers also felt that the insights given will greatly help them in their progress.

The session was enlightening and motivated the participants to focus on computation techniques. The speaker also clarified the doubts of the participants patiently. His lecture broke the barrier the students had towards research and encouraged us to get involved in more multi-disciplinary ideas.

## Screenshot:

The screenshot shows a Cisco Webex Meeting interface. At the top, there's a header with 'Cisco Webex Meetings' and a 'Connected' status. Below the header, a row of participant thumbnails is visible, including P N Suganthan, mahimal49, GARIMA VERMA, naveenkumar.kall..., and A AMBIKA. The main content area displays a slide with the following text:

### Population Size Reduction

- Evolutionary algorithms are expected to explore the search space in the early stages
- In the final stages of search, exploitation of previously found good regions takes place.
- For exploration of the whole search space, we need a large population while for exploitation around the top solutions, we need a small population size.
- Hence, population size reduction will be effective for evolutionary algorithms.

The slide number '42' is visible in the bottom right corner. On the right side, a 'Participants (87)' panel is open, showing a search bar and a list of participants with their initials and names.

Initials	Name	Status
IA	Infantraj A Host, me	Connected
PS	P N Suganthan	Connected
AA	A AMBIKA	Connected
A	a.manjuraman	Connected
A	abirami	Connected
AT	Adhinarayanan T	Connected
AS	Aditya Pratap Shahi	Connected
A	ADMIN	Connected
A	Admin	Connected
A	ageesofficials	Connected
AP	Amardeep Potdar	Connected
AS	Anitha Sampathkumar	Connected

Below the participants list, a chat window shows a message: 'from Amardeep Potdar to Everyone: 12:30 PM agreed'.

IA	Infantraj A Host, me	Connected
PS	P N Suganthan	Connected
AA	A AMBIKA	Connected
A	a.manjuraman	Connected
A	abirami	Connected
AT	Adhinarayanan T	Connected
AS	Aditya Pratap Shahi	Connected
A	Admin	Connected
A	ageesofficials	Connected
AT	Annamalai T	Connected
AG	AUGUSTINE MATHU GNANI...	Connected
B	B.A.Manjusha	Connected
B	Belina	Connected
BS	Bharathi S	Connected
CJ	Christina J	Connected
DS	Deepa Soms	Connected
DS	DILAVAR BASHA KHADER S...	Connected
DP	Divya Prabha	Connected
DS	Dr Gopinath S	Connected
DC	Dr I William Christopher	Connected