ISTE-GTU Sponsored One Week Faculty Development Program on

"Multi-Objective Optimization: Theory and Applications

11th-16thFebruary, 2019

Organized By

Chemical Engineering Department

Vishwakarma Government Engineering College

Near Visat Three Roads, Visat-Gandhinagar Highway, Chandkheda, Ahmedabad

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1. Objective of Faculty Development Program (FDP)

The STTP on “Multi-Objective Optimization: Theory and Applications” is organized with a view to acquaint the faculty and research scholars with this growing area of optimization. It is aimed to give exposure of MOO techniques and applications along with hands on sessions for formulation and solutions of MOO design problems. It is also aimed to provide information on some advanced MOO algorithms along with a few case studies. Computer laboratory training and demonstrations will be given to the participants to gain experience in this area. The course will be divided into theory, practical sessions and demonstrations. Though the goal is exposure to advances in MOO techniques and applications, care is taken in designing the content for participants with little or no exposure of the optimization.

1.1 Inaugural Ceremony

In the auspicious presence of Dr. Navin Sheth (Vice-Chancellor – GTU), the inaugural ceremony of FDP was arranged in A Block auditorium of VGEC – Chandkheda. It was also attended by Shri. Damodara M S, Business Manager, Entuple Technologies, Prof. S. P. Sapre, I/C Principal, VGEC Chandkheda, Dr. R. A. Thakker, HoD - EC and Dr. N. M. Patel, Associate Professor, Chemical Department and Dr. A. R. Patel, Associate Professor – Mathematics, other faculties of college and participants of FDP.

Dr. N M Patel, Coordinator of the FDP delivered opening remarks, briefed about the course contents, objective of the training program and shared his views on Multi-Objective Optimization. Dr. Navin Sheth (Vice-Chancellor – GTU) appreciated the efforts of coordinators for organizing the FDPs.

About the Institute:

Vishwakarma Government Engineering College (VGEC) Ahmedabad, was established in August 1994, with an objective of imparting higher education in various fields of engineering and technology. This institute is recognized by All India Council of Technical Education (AICTE), New Delhi. The college is administrated by Directorate of Technical Education, Gujarat State, Gandhinagar and is affiliated with Gujarat Technological University. VGEC shifted to its own campus at Chandkheda, Ahmedabad in the year 2004.

This Institute is located in Chandkheda which is highly developing area. The Institute campus is situated adjacent to Oil and Natural Gas Corporation, Chandkheda. Presently the institute is running 09 under graduate and 02 postgraduate courses of engineering. This Institute is considered among few best Engineering Institutes of the state. More than 700 Engineers are passing out every year from this Institute.

About Multi-Objective Optimization:

Optimization is the process of finding the best. Continuous improvement is an important feature and need for all engineering development, application and processes. Improvement of efficiency in manufacturing and engineering activities is a result of optimization of design and operations. In particular for the efficiency, a scope still exists for optimizing the current operations with the ever changing economic, energy and environmental landscape. Most engineering optimization problems are complex in nature, multi-objective and needs robust optimization methods/algorithms.

Multi-objective optimization (MOO) is a class of optimization that deals with multiple conflicting objectives. Some examples of the sets of conflicting objectives are: capital cost and operating cost, cost and features, selectivity and yield in multiple reactions, profit and environmental impact, and profit and safety cost. MOO problems with conflicting objectives will have a set of solutions (representing trade-offs among the objectives), which are called pareto optimal solutions, of which none can be said to be better than the others with respect to all the objectives.

Formal presentation of optimization problem in mathematical form is the first step for Optimization; problem formulation. Solution of optimization problem is a field of applied mathematics that deals with finding the best solutions in a domain of definition, subject to various constraints on the variable values. Analytical, Numerical and Heuristics based methods are the major classes having their strengths and limitations, which will be discussed in details along with recent developments in the area of MOO. The course also focuses on hands-on sessions to practice solution of MOO design problems.

Course Content:

- Introduction to multi-objective optimization (MOO)
- Evolutionary optimization techniques
- Performance Measures for MOO
- Non-dominated sorting
- Rank based sorting
- Evolutionary MOO algorithms
- Decomposition based algorithms
- Constrain Handling in MOO
- MOO Design Applications
- Optimal Control Applications
- Recent Developments in MOO

Objectives:

The STTP on “Multi-Objective Optimization: Theory and Applications” is organized with a view to acquaint the faculty and research scholars with this growing area of optimization. It is aimed to give exposure of MOO techniques and applications along with hands on sessions for formulation and solutions of MOO design problems. It is also aimed to provide information on some advanced MOO algorithms along with a few case studies. Computer laboratory training and demonstrations will be given to the participants to gain experience in this area. The course will be divided into theory, practical sessions and demonstrations. Though the goal is exposure to advances in MOO techniques and applications, care is taken in designing the content for participants with little or no exposure of the optimization.

Recourse Persons: Expert Faculty will be from reputed academic institutions like IITGN, VGEC, PDPU, SVNIT, DAIICT, Nirma Uni., Gujarat Uni. and practicing professionals.

Eligibility for Participation: Faculty from Engineering Colleges/Polytechnics, PG and PhD Research Scholars and persons from industry / R & D Organizations / Consultants.

Lodging, Boarding and Travel: Course fee includes working lunch, tea, kit and course material. Participants will have to bare their travel and accommodation expanses at their own. Participants from Institutes under Commissionerate of Technical Education, Government of Gujarat are eligible to draw TA/DA under TED-7 from their parent institute. (Subject to Approval from CTE)

Course Fee:

Course Fees of Rs. 500/- (non-refundable) is to be paid by all the participants including faculty of Degree/Diploma Engineering Institutes. Participant must become a member of ISTE at the time of registration, if not.

Link for Registration: https://tinyurl.com/y8khyjam

No. of Seats: **40**

Venue: Vishwakarma Government Engineering College, Chandkheda

Application Form:

Interested candidates have to submit filled application form duly signed by sponsoring authority at the time of registration. However, participants must have to apply on the above link:

Dr. N. M. Patel / Dr. A R Patel

Course Coordinator, STTP MOO:T&A - 2019

Vishwakarma Government Engineering College,
Visat-Gandhinagar Highway,
Chandkheda, Ahmedabad-382 424.

Coordinators: (M) 9426024961 (Prof. N M Patel)
(M) 9427308425 (Prof A R. Patel)

E-mail: prof.nmpatel@gmail.com hod_general@vgecg.ac.in

ISTE-GTU Sponsored

One Week Short Term Training Program

on

Multi-Objective Optimization: Theory and Applications

(MOO:T&A - 2019)

[February, 11th – 16th, 2019]

Dr. N. M. Patel
Course Coordinator
Associate Professor
Chemical Engineering Department

Dr. A. R. Patel
Course Coordinator
Associate Professor and Head
General Department

Dr. R. K. Gajjar
Principal
Patron

Organized by

Vishwakarma Government Engineering College,
Chandkheda, Ahmedabad – 382 424.
GUJARAT

\

ISTE-GTU Sponsored One Week STTP on

Multi-Objective Optimization: Theory and Applications

(MOO:T&A - 2019)

[February, 11th – 16th, 2019]

Registration Form

Name: _____

Designation: _____

Name & Address of the
Institute / Organization: _____

_____

ISTE Membership No:_____(Submit proof)
Educational Qualification: _____

Experience : Academic: _____
Industrial: _____

Address for Communication: _____

_____

Phone No. (O): _____(R): _____

E-mail: _____

Date: Signature of the Applicant.
Place:

Certificate

This is to certify that Mr./Ms./ Mrs._____ is working as _____ in _____ department of this Institute. He / She will be permitted to attend this STTP, if selected.

Seal & Signature of Sponsoring Authority

Note: *Photocopy this form if required.*

ISTE-GTU Sponsored One Week STTP on

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(MOO:T&A - 2019)

[February, 11th – 16th, 2019]

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_____

ISTE Membership No:_____(Submit proof)
Educational Qualification: _____

Experience : Academic: _____
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This is to certify that Mr./Ms./ Mrs._____ is working as _____ in _____ department of this Institute. He / She will be permitted to attend this STTP, if selected.

Seal & Signature of Sponsoring Authority

Note: *Photocopy this form if required.*

3 Schedule of FDP

Program Schedule

Date and Day	Time	Topic	Expert Faculty
11-02-2019 Monday	10-30 to 11-30	Inauguration	
	11-30 to 12-00	Registration and Hi-Tea	
	12-00 to 1-30	Introduction to Multi-Objective Optimization (MOO)	Dr. N M Patel
	13-30 to 14-30	Lunch	
	14-30 to 16-00	MOO: Test Functions & Performance Measures	Dr. N M Patel
	16-00 to 16-15	Tea Break	
	16-15 to 17-45	AHP- an overview	Dr. Kunal Shukla
12-02-2019 Tuesday	10-00 to 11-30	Lexicographic Multi Objective Optimization	Dr. Anil Markana
	11-30 to 13-00	Application of Lexicographic MOO in Process Control	Dr. Anil Markana
	13-00 to 14-00	Lunch	
	14-00 to 15-30	Application of GA for MOO	Dr. P J Gundaliya
	15-30 to 15-45	Tea Break	
	15-45 to 17-15	MOO Application: BRTS – a case study	Dr. P J Gundaliya
13-02-2019 Wednesday	10-00 to 11-30	Separable Programming based Optimization	Dr. Dipesh Makwana
	11-30 to 13-00	Applications of Separable Programming in MOO	Dr. Dipesh Makwana
	13-00 to 14-00	Lunch	
	14-00 to 15-30	Constraint handling in MOO	Dr. N M Patel
	15-30 to 15-45	Tea Break	
	15-45 to 17-15	Demonstration of solving MOO in MATLAB	Dr. N M Patel
14-02-2019 Thursday	10-00 to 11-30	Many-objective heat transfer search algorithm and its applications	Dr. Vivek Patel
	11-30 to 13-00	NSGA-II and its Applications	Dr. Rajesh Sanghvi
	13-00 to 14-00	Lunch	
	14-00 to 15-30	Multi-Criterion decision making approach for Hybrid Operation of Wind Farms	Dr. Dipankar Deb
	15-30 to 15-45	Tea Break	
	15-45 to 17-15	Identification of MOO Application to solve	Dr. A R Patel
15-02-2019 Friday	10-00 to 11-30	Genetic Algorithm for MOO	Dr. Rina Trivedi
	11-30 to 13-00	PSO: Application demonstration for MOO solutions	Dr. Rina Trivedi
	13-00 to 14-00	Lunch	
	14-00 to 15-30	MOO applications in Chemical Engineering	Dr. D D Mandaliya
	15-30 to 15-45	Tea Break	
	15-45 to 17-15	Goal Programming for MOO	Dr. Kunal Shukla
16-02-2019 Saturday	10-00 to 11-00	Art of Living	Dr. Nitin Padhiyar
	11-00 to 12-30	MOO solution using ANN model	Dr. N M Patel
	12-30 to 13-30	Lunch	
	13-30 to 15-00	Applications of DOE model for MOO	Dr. D M Patel
	15-00 to 16-00	Evaluation of Participants	Dr. A R Patel
	16-00 to 17-30	Valedictory and Feedback session	

4. Contribution of resource persons in FDP:

Sr. No.	Name of Resource Person	No. of Sessions taken	Whether from Outside/from the Institute.	Total Sessions	%
1	Dr. N M Patel	5	From the Institute.	9	40
2	Dr. A R Patel	1	From the Institute.		
3	Dr. Krunal Shukla	2	From the Institute.		
4	Dr. D M Patel	1	From the Institute.		
5	Dr. Anil Markana	2	Outside the Institute.	13	60
6	Dr. P J Gundaliya	2	Outside the Institute.		
7	Dr. Dipesh Makwana	2	Outside the Institute.		
8	Dr. Vivek Patel	1	Outside the Institute.		
9	Dr. Rajesh Sanghvi	1	Outside the Institute.		
10	Dr. Dipankar Deb	1	Outside the Institute.		
11	Dr. Rina Trivedi	2	Outside the Institute.		
12	Dr. D D Mandaliya	1	Outside the Institute.		
13	Dr. Nitin Padhiyar	1	Outside the Institute.		
		22		22	100

5. About Resource persons:

Dr. N. M. Patel, Course Coordinator Narendra Patel received his Ph.D. from Indian Institute of Technology, Gandhinagar in 2017 on "Strategies for Enhanced Performance of Single and Multi-Objective Optimization using Evolutionary Algorithms: Applications to Optimal Control Problems". Currently working as Associate Professor of Chemical Engineering at Vishwakarma Government Engineering College, Chandkheda. Research interests are Multi-Objective Optimization, Evolutionary Optimization, and Modelling and Simulation.	
Dr. A R Patel, Course Coordinator Ashok Patel received his Ph.D. from Sardar Patel University, V. V. Nagar in 2003 on "Some New Exact Solutions of Gravitational Field Equations in General Theory of Relativity". Currently working as Associate Professor of Mathematics at Vishwakarma Government Engineering College, Chandkheda. His research area is Mathematical modelling in Tribology. He has co-authored five books on Engineering Mathematics.	
Dr. Dipankar Deb, Professor Electrical Engineering, IITRAM He has experience of teaching 10 years. His area of interest for research includes Adaptive control system, active flow control, Renewable energy, Engine control, IPR. He has 06 US patents, 05 India Patents and published many papers in international journals. He has delivered expert talks in various STTP/FDP/Seminars.	
Dr. Reena Trivedi, Associate Professor, Mechanical Engineering, Nirma University Ms. Reena Trivedi has an experience of more than 20 years in the field of Teaching, Research & Industry. She has published number of papers in the area of CAD, FEA, Optimization, MEMS etc. in International referred journals and presented/published more than 15 papers in International Conferences/Proceedings. Her research interest includes MEMS, FEA, Optimization, CAD etc. She has guided more than 35 PG students.	
Dr. Nitin Padhiyar, Assistant Professor, Chemical Engineering, IIT Gandhinagar He has teaching experience of 10 years. His area of interest includes Process optimization and control, Multi-objective optimization, GA, Dynamic optimization, Model predictive control. He has published more than 25 papers in international journals. He has also delivered expert talks in various STTP/FDP/Seminars.	
Dr. Anil Markana, Assistant Professor, Electrical Engineering, School of Technology, PDPU, Gandhinagar. He has published more than 11 National and International Papers. He has delivered large number of technical talks at various conferences and workshops.	

Dr. Vivek Patel, Assistant Professor, Mechanical Engineering, PDPU He is working in the field of Friction stir processing for grain refinement and consequently super plasticity enhancement for high strength aluminium alloy. The recent area includes hard machining using a hybrid approach. Future work involves for fabrication of surface composites using friction stir processing and friction stir surfacing for improving tribological properties. He has published more than 30 papers in international and national journals.	
Dr. Rajesh Sanghvi ,Assistant Professor in Mathematics, GHCET, VVNagar He obtained Ph.D. in the area of Signal Processing at CHARUSAT, Changa. He has more than twenty years of academic experience of teaching at under graduate and post graduate levels. His research interest includes optimization techniques, MCDM, Signal Processing, Evolutionary algorithms. He has published number of papers at National & International conferences and journals. He has been working as a reviewer of International Journals like Journal of Basic and Applied Research international, British Journal of Mathematics & Computer Science, British Journal of Applied Science & Technology etc.	
Dr. P J Gundaliya, Professor, Civil Engineering, L D College of Engineering. He did Ph.D. from IIT Bombay. He has published more than 50 papers in international and national journals. He has delivered expert talks in various STTP/FDP/Seminars.	
Dr. Dipesh Makwana, Associate Professor of IC, GEC, Rajkot He has 19 years of teaching experience. His interest area of research is control system design and automation. He has published many papers in international / national journals.	
Dr. D. M. Patel, Professor, Mechanical Engineering, VGEC, Chandkheda He did Ph.D. from GANPAT University, Mehsana. He has teaching experience of more than 15 years. His research includes advance manufacturing, CAD-CAM, integrated manufacturing. He has published more than 50 research papers in international / national journals.	
Dr. D. D. Mandaliya, Associate Professor, Chemical Engineering, VGEC, Chandkheda He did his Ph.D. from IIT Bombay on Model based analysis approaches for chemical reactors. He has 18 years of teaching experience. His area of research is Chemical reaction engineering. He has published many papers in international / national journals.	

Dr. Kunal T Shukla, Assistant Professor in Mathematics, VGEC, Chandkheda He did his Ph. D. from Gujarat University. He has teaching experience of 13 years and research experience of 6 years. His area of interest includes Supply Chain Management, Fuzzy Sets and Computational Mathematics. He has published more than 25 papers in international journals. He delivered expert sessions in seminars, FDP, refresher course and in BISAG series.	

6. Details of participants:

Sr. No.	Name of Participant	Institute	ISTE membership no
1	C K Makwana	Government Engineering College, Bharuch	Applied for
2	Yamini Mansukhlal Parmar	GEC, GANDHINAGAR	LM66630
3	Rupal Paresh Vyasa	Government Engineering college, Modasa	LM02536
4	N.R.Vaghela	Government Engineering College,Bharuch	LM123062
5	Zalak Ashvinkumar Patel	L. D. College of Engineering	Applied for
6	Dipak J Varia	Government Engineering College,Patan	LM105884
7	Chirag B Mehta	Government Polytechnic Gandhinagar	LM053035
8	Kintu R Patel	Vishwakarma Govt. Engg. College, Chandkheda	Applied for
9	Kunal Tarunkumar Shukla	Vishwakarma Govt. Engg. College, Chandkheda	LM103780
10	Prajapati Ashishkumar Amrutlal	Shantilal Shah Engineering College	Applied for
11	Rajesh Kumar Jain	Shantilal Shah Engineering College, Bhavnagar	LM023371
12	Kamlesh R Gurjar	Vishwakarma Govt. Engg. College, Chandkheda	LM126927
13	Shah Jalpa Ashokkumar	Vishwakarma Govt. Engg. College, Chandkheda	Applied for
14	Mita Chauhan	Vishwakarma Govt. Engg. College, Chandkheda	LM046284
15	Nirav D. Mehta	Vishwakarma Govt. Engg. College, Chandkheda	LM048157
16	Matinahmed Shakurbhai Baqui	GP, Ahmedabad	LM104990
17	Ravikumar Dasharathlal Patel	K D Polytechnic,Patan	LM110892
18	Ashita Santoshkumar Pareek	Lec (Poly), Morbi	Applied for
19	Chirag Danabhai Zala	RCTI, Ahmedabad	LM100570
20	Rozina Rajesh Surani	Vishwakarma Govt. Engg. College, Chandkheda	Applied for
21	Darshna Manojkumar Joshi	GP, Ahmedabad	Applied for
22	Sunil Sevakram Changlani	Government Engineering College, Godhra	LM109640
23	Yogesh Jerambhai Morabiya	Vishwakarma Govt. Engg. College, Chandkheda	LM104468
24	Harshal Sharadbhai Wani	Vishwakarma Govt. Engg. College, Chandkheda	LM125838
25	Yashvant B Bhavsar	Vishwakarma Govt. Engg. College, Chandkheda	LM045150
26	Jigar J Chaudhari	Vishwakarma Govt. Engg. College, Chandkheda	Applied for
27	Dhruv Anand B.	Vishwakarma Govt. Engg. College, Chandkheda	Applied for
28	Joshi Kartikkumar Jayeshbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar	Applied for
29	Jhaveri Sneha Bharatbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar	Applied for
30	Krishan Patel	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar	Applied for
31	Dr. N M Patel	Vishwakarma Govt. Engg. College, Chandkheda	Coordinator
32	Dr. A R Patel	Vishwakarma Govt. Engg. College, Chandkheda	Coordinator

7. Attendance Reports:

All 30 participants are present for all 6 days. Their attendance report is as follow.

ISTE-GTU Sponsored One Week FDP on
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[February, 11–16, 2019]

Attendance Sheet

Sr. No.	Name	Institution	11/2/2019			12/2/2019				13/2/2019			
			S-I	S-II	S-III	S-I	S-II	S-III	S-IV	S-I	S-II	S-III	S-IV
1	C K Makwana	Government Engineering College, Bharuch											
2	Yamini Mansukhlal Parmar	GEC, GANDHINAGAR											
3	Rupal Paresh Vyasa	Government Engineering college, Modasa											
4	N.R.Vaghela	Government Engineering College,Bharuch											
5	Zalak Ashvinkumar Patel	L. D. College of Engineering											
6	Dipak J Varia	Government Engineering College,Patan											
7	Chirag B Mehta	Government Polytechnic Gandhinagar											
8	Kintu R Patel	Vishwakarma Govt. Engg. College, Chandkheda											
9	Kunal Tarunkumar Shukla	Vishwakarma Govt. Engg. College, Chandkheda											
10	Prajapati Ashishkumar Amrutlal	Shantilal Shah Engineering College											
11	Rajesh Kumar Jain	Shantilal Shah Engineering College, Bhavnagar											
12	Kamlesh R Gurjar	Vishwakarma Govt. Engg. College, Chandkheda											
13	Shah Jalpa Ashokkumar	Vishwakarma Govt. Engg. College, Chandkheda											
14	Mita Chauhan	Vishwakarma Govt. Engg. College, Chandkheda											
15	Nirav D. Mehta	Vishwakarma Govt. Engg. College, Chandkheda											

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Sr. No.	Name	Institution	11/2/2019			12/2/2019				13/2/2019			
			S-I	S-II	S-III	S-I	S-II	S-III	S-IV	S-I	S-II	S-III	S-IV
16	Matinahmed Shakurbhai Baqui	GP, Ahmedabad											
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21	Darshna Manojkumar Joshi	GP, Ahmedabad											
22	Sunil Sevakram Changlani	Government Engineering College, Godhra											
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24	Harshal Sharadbhai Wani	Vishwakarma Govt. Engg. College, Chandkheda											
25	Yashvant B Bhavsar	Vishwakarma Govt. Engg. College, Chandkheda											
26	Jigar J Chaudhari	Vishwakarma Govt. Engg. College, Chandkheda											
27	Dhruv Anand B.	Vishwakarma Govt. Engg. College, Chandkheda											
28	Joshi Kartikkumar Jayeshbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar											
29	Jhaveri Sneha Bharatbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar											
30	Krishan Patel	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar											

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Attendance Sheet

Sr. No.	Name	Institution	14/2/2019				15/2/2019				16/2/2019		
			S-I	S-II	S-III	S-IV	S-I	S-II	S-III	S-IV	S-I	S-II	S-III
1	C K Makwana	Government Engineering College, Bharuch											
2	Yamini Mansukhlal Parmar	GEC, GANDHINAGAR											
3	Rupal Paresh Vyasa	Government Engineering college, Modasa											
4	N.R.Vaghela	Government Engineering College,Bharuch											
5	Zalak Ashvinkumar Patel	L. D. College of Engineering											
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9	Kunal Tarunkumar Shukla	Vishwakarma Govt. Engg. College, Chandkheda											
10	Prajapati Ashishkumar Amrutlal	Shantilal Shah Engineering College											
11	Rajesh Kumar Jain	Shantilal Shah Engineering College, Bhavnagar											
12	Kamlesh R Gurjar	Vishwakarma Govt. Engg. College, Chandkheda											
13	Shah Jalpa Ashokkumar	Vishwakarma Govt. Engg. College, Chandkheda											
14	Mita Chauhan	Vishwakarma Govt. Engg. College, Chandkheda											
15	Nirav D. Mehta	Vishwakarma Govt. Engg. College, Chandkheda											

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			S-I	S-II	S-III	S-IV	S-I	S-II	S-III	S-IV	S-I	S-II	S-III
16	Matinahmed Shakurbhai Baqui	GP, Ahmedabad											
17	Ravikumar Dasharathlal Patel	K D Polytechnic,Patan											
18	Ashita Santoshkumar Pareek	Lec (Poly), Morbi											
19	Chirag Danabhai Zala	RCTI, Ahmedabad											
20	Rozina Rajesh Surani	Vishwakarma Govt. Engg. College, Chandkheda											
21	Darshna Manojkumar Joshi	GP, Ahmedabad											
22	Sunil Sevakram Changlani	Government Engineering College, Godhra											
23	Yogesh Jerambhai Morabiya	Vishwakarma Govt. Engg. College, Chandkheda											
24	Harshal Sharadbhai Wani	Vishwakarma Govt. Engg. College, Chandkheda											
25	Yashvant B Bhavsar	Vishwakarma Govt. Engg. College, Chandkheda											
26	Jigar J Chaudhari	Vishwakarma Govt. Engg. College, Chandkheda											
27	Dhruv Anand B.	Vishwakarma Govt. Engg. College, Chandkheda											
28	Joshi Kartikkumar Jayeshbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar											
29	Jhaveri Sneha Bharatbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar											
30	Krishan Patel	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar											

8. Fee receipt for participants

GOVERNMENT OF GUJARAT
VISHWAKARMA GOVERNMENT ENGINEERING COLLEGE
CHANDKHEDA , AHMEDABAD
(Affiliated with Gujarat Technologicla University)
Visat-Koba Road, Chandkheda, Ahmedabad - 382424 Gujarat, India
www.vgecg.ac.in Email : principal@vgecg.ac.in, sts@vgecg.ac.in
Ph. 079 (F) 23293866, (O) 29099903

NO. VGEC/FDP_M00/206 DT - 16/02/2019

Registration Fees Reciept

Following participants have paid registration fees of Rs. 500/- in cash to attend FDP on "Multi-Objective Optimization: Theory and Applications" at Vishwakarma Government Engineering College, Chandkheda-Ahmedabad from 11/02/2019 to 16/02/2019. The total Rs. 15000/- received in cash for all participants.

Sr. No.	Name of Participant	Institute name
1	C K Makwana	Government Engineering College, Bharuch
2	Yamini Mansukhlal Parmar	GEC, GANDHINAGAR
3	Rupal Paresh Vyasa	Government Engineering college, Modasa
4	N.R.Vaghela	Government Engineering College,Bharuch
5	Zalak Ashvinkumar Patel	L. D. College of Engineering
6	Dipak J Varia	Government Engineering College,Patan
7	Chirag B Mehta	Government Polytechnic Gandhinagar
8	Kintu R Patel	Vishwakarma Govt. Engg. College, Chandkheda
9	Kunal Tarunkumar Shukla	Vishwakarma Govt. Engg. College, Chandkheda
10	Prajapati Ashishkumar Amrutlal	Shantilal Shah Engineering College
11	Rajesh Kumar Jain	Shantilal Shah Engineering College, Bhavnagar
12	Kamlesh R Gurjar	Vishwakarma Govt. Engg. College, Chandkheda
13	Shah Jalpa Ashokkumar	Vishwakarma Govt. Engg. College, Chandkheda
14	Mita Chauhan	Vishwakarma Govt. Engg. College, Chandkheda
15	Nirav D. Mehta	Vishwakarma Govt. Engg. College, Chandkheda
16	Matinahmed Shakurbhai Baqui	GP, Ahmedabad
17	Ravikumar Dasharathlal Patel	K D Polytechnic,Patan
18	Ashita Santoshkumar Pareek	Lec (Poly), Morbi
19	Chirag Danabhai Zala	RCTI, Ahmedabad
20	Rozina Rajesh Surani	Vishwakarma Govt. Engg. College, Chandkheda
21	Darshna Manojkumar Joshi	GP, Ahmedabad
22	Sunil Sevakram Changlani	Government Engineering College, Godhra
23	Yogesh Jerambhai Morabiya	Vishwakarma Govt. Engg. College, Chandkheda
24	Harshal Sharadbhai Wani	Vishwakarma Govt. Engg. College, Chandkheda
25	Yashvant B Bhavsar	Vishwakarma Govt. Engg. College, Chandkheda
26	Jigar J Chaudhari	Vishwakarma Govt. Engg. College, Chandkheda
27	Dhruv Anand B.	Vishwakarma Govt. Engg. College, Chandkheda
28	Joshi Kartikkumar Jayeshbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar
29	Jhaveri Sneha Bharatbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar
30	Krishan Patel	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar

Coordinators
Prof. N. M. Patel
Prof. A. R. Patel
VGEC, Chandkheda.

9. Feedback of participants (Samples):

VISHWAKARMA GOVERNMENT ENGINEERING COLLEGE

Chemical Engineering and General Department

FDP on "Multi-Objective Optimization: Theory and Applications"

Sponsored by GTU and ISTE,
Duration: 11 to 16 February, 2019

FEEDBACK FORM

Please rate your response in the box provided between 1 to 5. Where 5 being the highest and 1 being the lowest.

1. *How do you rate the theory sessions delivered by different experts?* 5
2. *How do you rate the demonstration sessions delivered by experts?* 5
3. *How do you rate the overall experience of the FDP?* 5
4. *Please provide three key aspects that you liked about the FDP.*
   a. Theory Session with practical Demonstration & case studies.
   b. Hands on session Explaining working of Tools.
   c. Art of Living Sessions.
5. *How did this program help you in gaining the knowledge?*
   This training gives me the new direction & knowledge of optimization. It can be used in field of power electronics.
6. *How do you think this program will help you in your studies/work assignment and deliverables?*
   The outcome of this program will help us to teach the subject in affiliating institute as well as in research.
7. *Please suggest areas we should improve upon for this FDP.*
   Two more session should be there as 'Hands on session' if possible. Given more time to 'ART OF LIVING SESSION".

Please provide following details: (OPTIONAL)

Name: N. D. MEHTA Designation: ASSISTANT PROFESSOR

Institute/Organization: VGEC, CHANDKHEDA Highest Qualification: M. TECH.

Email ID: ndmehta@vgecg.ac.in Mobile No.: 98245 23813.

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FEEDBACK FORM

Please rate your response in the box provided between 1 to 5. Where 5 being the highest and 1 being the lowest.

1. *How do you rate the theory sessions delivered by different experts?* 5
2. *How do you rate the demonstration sessions delivered by experts?* 3
3. *How do you rate the overall experience of the FDP?* 5
4. *Please provide three key aspects that you liked about the FDP.*
   a. Sessions organization
   b. Wide range of topics covered
   c. Art of living session
5. *How did this program help you in gaining the knowledge?*
   make me aware about Lexico-graphic multi-objective optimization, Genetic algorithm Heat transfer search algorithm and API
6. *How do you think this program will help you in your studies/work assignment and deliverables?*
   the students of ~~post~~ graduate will get benifited directly through teaching & system engineering
7. *Please suggest areas we should improve upon for this FDP.*
   Few sessions of hands on training shall be arranged

Please provide following details: (OPTIONAL)

Name: Rajesh Kumar Jain' Designation: Professor

Institute/Organization: SSEC, Bhavnagar Highest Qualification: Ph.D.

Email ID: _____ Mobile No.: 9428465778

10. Examinations and Results

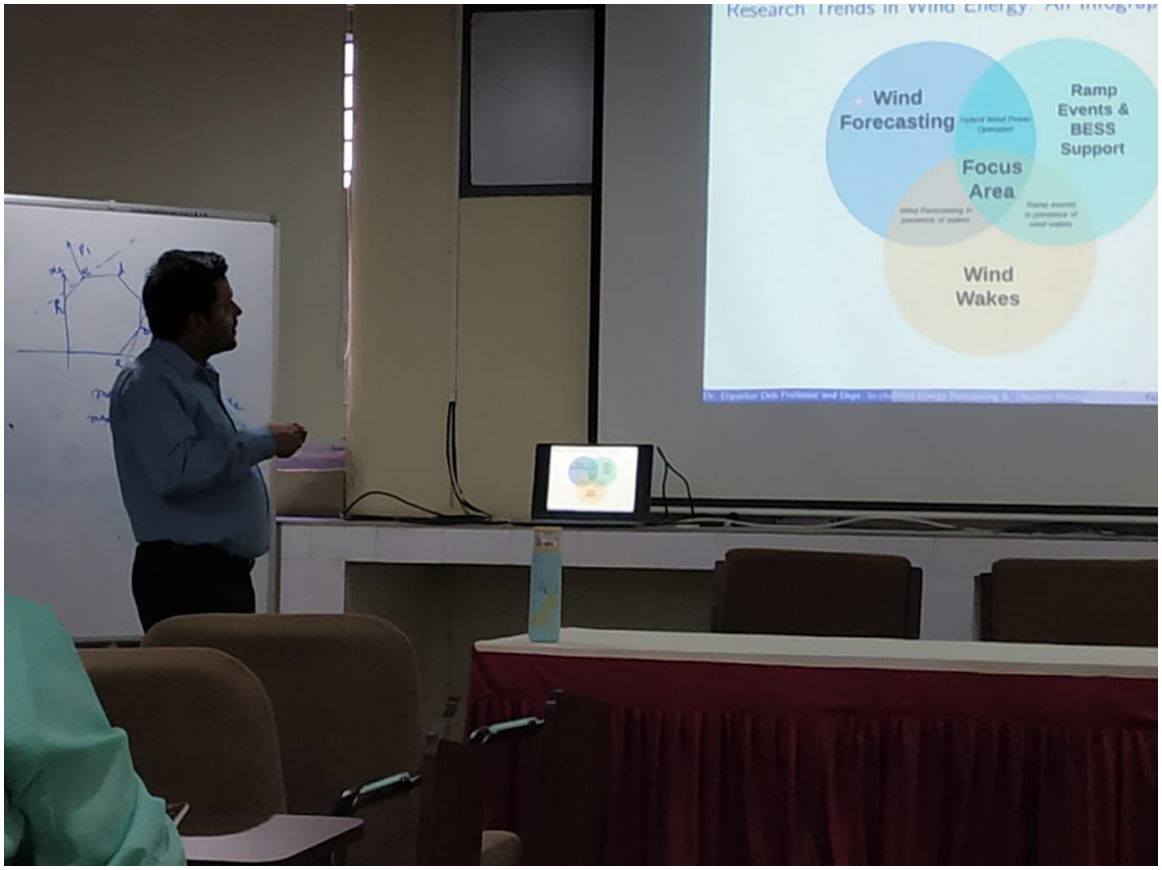
For evaluation the groups were formed of participants and they have been allotted a Multi-objective optimization problem of their domain. Evaluation was carried out on the base of presentation and the solution of the problem allotted. Their individual marks in percentage are as follows:

Sr. No.	Name of Participant	Institute	Marks obtained
1	C K Makwana	Government Engineering College, Bharuch	78%
2	Yamini Mansukhlal Parmar	GEC, GANDHINAGAR	72%
3	Rupal Paresh Vyasa	Government Engineering college, Modasa	82%
4	N.R.Vaghela	Government Engineering College,Bharuch	83%
5	Zalak Ashvinkumar Patel	L. D. College of Engineering	80%
6	Dipak J Varia	Government Engineering College,Patan	75%
7	Chirag B Mehta	Government Polytechnic Gandhinagar	83%
8	Kintu R Patel	Vishwakarma Govt. Engg. College, Chandkheda	72%
9	Kunal Tarunkumar Shukla	Vishwakarma Govt. Engg. College, Chandkheda	85%
10	Prajapati Ashishkumar Amrutlal	Shantilal Shah Engineering College	82%
11	Rajesh Kumar Jain	Shantilal Shah Engineering College, Bhavnagar	80%
12	Kamlesh R Gurjar	Vishwakarma Govt. Engg. College, Chandkheda	78%
13	Shah Jalpa Ashokkumar	Vishwakarma Govt. Engg. College, Chandkheda	76%
14	Mita Chauhan	Vishwakarma Govt. Engg. College, Chandkheda	72%
15	Nirav D. Mehta	Vishwakarma Govt. Engg. College, Chandkheda	80%
16	Matinahmed Shakurbhai Baqui	GP, Ahmedabad	78%
17	Ravikumar Dasharathlal Patel	K D Polytechnic,Patan	73%
18	Ashita Santoshkumar Pareek	Lec (Poly), Morbi	78%
19	Chirag Danabhai Zala	RCTI, Ahmedabad	75%
20	Rozina Rajesh Surani	Vishwakarma Govt. Engg. College, Chandkheda	80%
21	Darshna Manojkumar Joshi	GP, Ahmedabad	78%
22	Sunil Sevakram Changlani	Government Engineering College, Godhra	75%
23	Yogesh Jerambhai Morabiya	Vishwakarma Govt. Engg. College, Chandkheda	75%
24	Harshal Sharadbhai Wani	Vishwakarma Govt. Engg. College, Chandkheda	78%
25	Yashvant B Bhavsar	Vishwakarma Govt. Engg. College, Chandkheda	80%
26	Jigar J Chaudhari	Vishwakarma Govt. Engg. College, Chandkheda	82%
27	Dhruv Anand B.	Vishwakarma Govt. Engg. College, Chandkheda	78%
28	Joshi Kartikkumar Jayeshbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar	82%
29	Jhaveri Sneha Bharatbhai	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar	80%
30	Krishan Patel	Vishwakarma Govt. Engg. College, Chandkheda-PG Scholar	83%

11. Some Glimpse of FDP:

ISTE-GTU Sponsored One Week FDPs

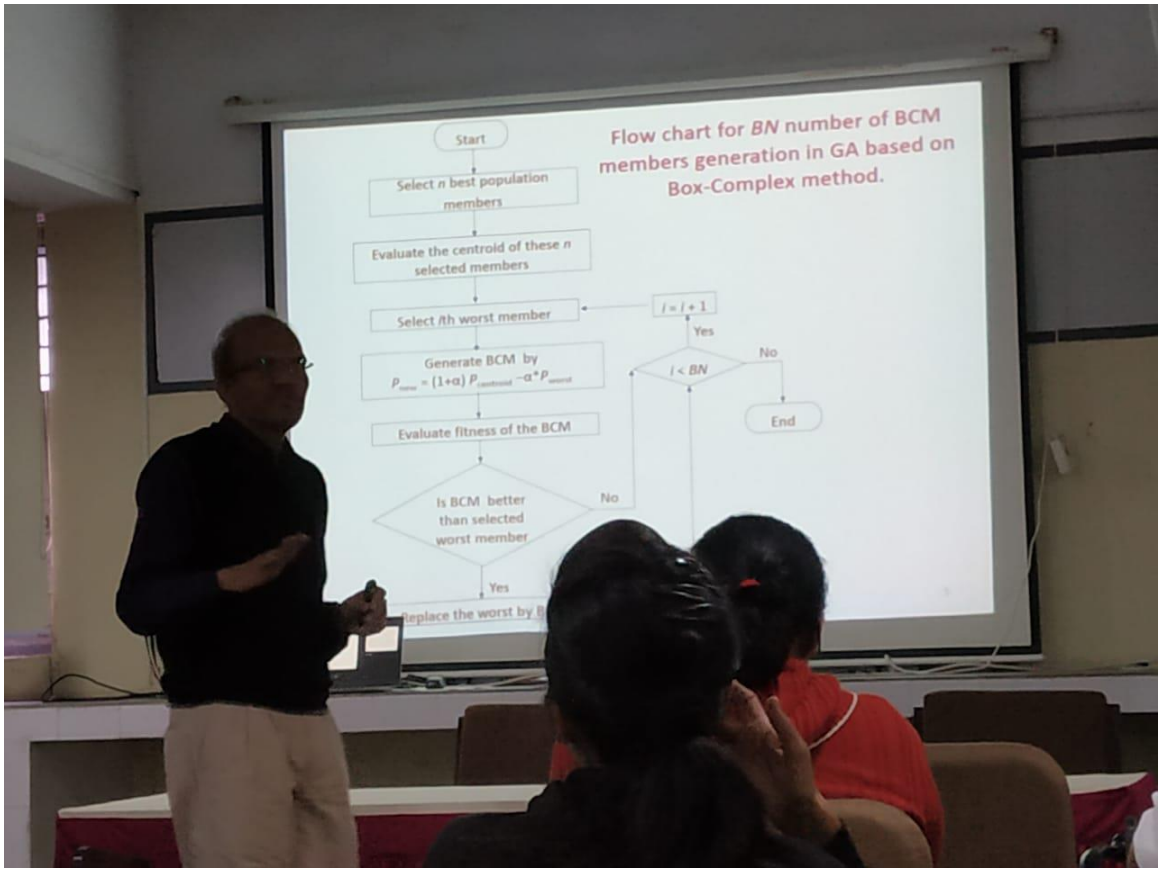
Application areas for MOO
ISTE-GTU Sponsored
on
Multi-Objective Optimization : T


Research Trends in Wind Energy
Wind Forecasting
Ramp Events & BESS Support
Focus Area
Wind Wakes

Heat transfer search (HTS) algorithm
Surrounding
Conducting
Convecting
System
Radiation
Energy of the system (Objective function of optimization Problem)
Heat transfer with surrounding (Update solution by utilizing best solution)
Intermolecular heat transfer (Update solution by utilizing other solution)
HTS is a population-based method.

Genetic Algorithms
Chapter 3

ISTE-GTU Sponsored One Week FDP
on
Multi-Objective Optimization : Theory and Applications


Flow chart for BN number of BCM members generation in GA based on Box-Complex method.
Start
Select n best population members
Evaluate the centroid of these n selected members
Select ℓth worst member
Generate BCM by
Evaluate fitness of the BCM
Is BCM better than selected worst member
No
Yes
i = i + 1
Yes
i < BN
No
End

• Application of Proposed method to MagLev System
Figure 3: MagLev Setup

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Theory and Applications
Engineering College,
382424, Gujarat

12. Valedictory

The FDP was concluded with the valedictory function in which the participants were issued participation certificates in presence of Dr. K. M. Bhavsar (Chairman, ISTE Gujarat Section), Dr. S. D. Panchal (I/C Registrar GTU), Dr. R. K. Gajjar (Principal, VGEC, Chandkheda), Dr. R. A. Thakker, Dr. N. M. Patel and Dr. A. R. Patel (Coordinators of FDP), HoD's of all departments and faculty members of college.

Dr. K. M. Bhavsar gave brief summary of activities done by ISTE. He also mentioned about important role of ISTE in providing quality training programmes to teachers and administrators of technical institutions to update their knowledge and skills in their fields of activity. Session ended with vote of thanks to all contributors who had made this FDP successful.

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Multi Objective Optimization : Theory and Applications