

Faculty Page
(As on 01.02. 2009)

Name: NARENDRA KUMAR SAMADHIYA	Designation: Professor	Employee code: 100046
Department/Centre: CIVIL ENGG. IIT ROORKEE		Date of Birth: 01-07-1962
Date of joining the Institute: 29.01.1990		
Lecturer	Asstt. Professor	Assoc. Professor
29.01.1990	05.06.2000	03.02.2004
		Professor
		19.12.2007

Educational qualifications

Degree	Name of Degree	Subject	Institution	Year
Bachelor	B.E.	Civil Engg.	Ravishankar Vishwavidayalya, Raipur	1984
Master	M.E.	Geotech. Engg.	Rani Durgavati Viswavidayalya, Jabalpur	1987
Doctoral	Ph.D.	Civil Engg.	University of Roorkee, Roorkee	1999

Experience Academic: 19 years 00 months Administrative: Chief Warden, Ravindra Bhawan Warden, Ravindra Bhawan Staff Advisor, Cricket Staff Advisor, Prog. Magmt.	Research guidance B.Tech.: - Masters: 48 (Awarded) 04 (in progress) Doctoral: 07 (Awarded) 04 (in progress)
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Sponsored research consulting: Sponsored research : Number : 05 Amount : 40.19 Lacs Consulting : Number : 189 Amount : Over 236 Lacs Continuing education : Number : - Amount : -	Publications: Journal : 19 Conference: 56 Chapter in books: - Books (authored) : - Books (edited) : 02
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Honours and Awards :	IGS-HEICO Award for Best Paper (1996) IGS-HEICO Award for Best Paper (1997-1998) ISRMTT Award for Best Paper (1999) IGS-Prof. Leonards Prize for Best Ph.D. Thesis in Geotechnical Engineering submitted in Indian Universities (1999-2000). IGS-AIMIL Best Chapter Award as Hony. Secy of Roorkee Chapter (2004)
Memberships of Societies :	Member, International Society for Rock Mechanics Member, International Society for Soil Mech and Geotechnical Engg Fellow, Indian Geotechnical Society Member, Institution of Engineers, India Member, Indian Society for Rock Mechanics and Tunnelling Technology Member, Indian Society for Continuing Education Member, Indian Society for Construction and Materials Member, Indian Society for Technical Education

Membership of editorial boards : Indian Geotechnical Journal

National/International collaboration : Nil

Any other attainments :

Member, Organising Committee, International Conference on Soil Mechanics and Foundation Engineering (ICSMFE-94), New Delhi
Organising Secretary, All India Seminar on Technical Education – Vision 2020, Nov. 12-13, 1999, Roorkee
Organising Secretary, National Workshop on Application of Rock Engineering in Nation's Development (In Honour of Prof. Bhawani Singh), April 27-28, 2001, Roorkee
Organising Secretary, Indian Geotechnical Conference on Geotechnical Engineering for Infrastructural Development, Dec. 18-20, 2003, Roorkee.
Hony. Secretary, Indian Geotechnical Society, Roorkee Chapter (2001-2004).
Treasurer, Indian Society for Construction and Materials (2006-2008)

BIO - DATA

1. Full Name : **NARENDRA KUMAR SAMADHIYA**
2. Father's Name : Shri Ganesh Prasad Samadhiya
3. Address for Correspondence : Professor
Department of Civil Engineering
Indian Institute of Technology Roorkee
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Permanent Address : Near Railway Bridge, Gotegaon
Distt. Narsinghpur (M.P) – 487 118
Phone : 07794 –282373
4. Date and Place of Birth : 01.07.1962 Gotegaon
5. Field of Specialization : Geotechnical Engineering
6. Sex : Male
7. Marital Status : Married
8. Nationality : Indian
9. Category : General
10. Academic Qualifications :

Examination/ Degree	Subjects/ Specialisation	Year	Div.	% Marks/ Grade	University/College/ Board	Distinctions/ Scholarships
Higher Secondary School Certificate Examination	Hindi, English, Physics, Chemistry, Mathematics	1979	First	75.3%	Board of Secondary Education, M.P., Bhopal	English, Chemistry, Maths, Merit Scholarship
Bachelor of Engineering	Civil Engineering	1984	First	73.2%	Ravishankar Univ., Raipur (M.P.)	National Scholarship
Master of Engineering	Geotechnical Engineering	1987	First	87.0%	Rani Durgavati Vishwavidyalaya, Jabalpur (M.P.)	MHRD Fellowship
Ph.D.	Civil Engineering	1999	-	-	University of Roorkee, Roorkee	-

11. Teaching/Professional/Research appointment held :

Employer	Post held	Pay Scale	Basic Pay	Period of Employment		Nature of Duties/Work
				from	to	
IIT, Roorkee	Professor	Rs. 18400/- Rs. 22000/-	Rs.18400/-	19.12.2007	Till date	Teaching, Research & Consultancy
IIT, Roorkee	Associate Professor	Rs. 16400/- Rs. 20000/-	Rs.16400/-	03.02.2004	18.12.2007	- do -
University of Roorkee (Now IIT Roorkee)	Assistant Professor	Rs. 12000/- Rs. 18300/-	Rs.12000/-	05.06.2000	02.02.2004	- do -
University of Roorkee, Roorkee	Selection Grade	Rs. 12000/- Rs. 18300/-	Rs.12000/-	29.01.2000	04.06.2000	- do -
University of Roorkee, Roorkee	Lecturer	Rs. 3000/- Rs. 5000/-	Rs.3000/-	29.01.1990	28.01.2000	- do -
IIT, Delhi	Research Scholar	Rs. 2400/- p.m. (Institute Fellowship)		28.12.1987	22.01.1990	Research work
				Topic- Strength and Deformation Behaviour of Rock Masses		

12. Summary of Performance

(a) Teaching Experience		From	To	Total Year & Month
(i)	Under Graduate	29.1.90	till date	19 years 00 months
(ii)	Post Graduate	29.1.90	till date	19 years 00 months
(iii)	Total Teaching Experience	29.1.90	till date	19 years 00 months
(iv)	Short Term / Continuing Education / Specialist Courses conducted			
	<p>a) QIP Short Term Course on Rock Mechanics in Civil Engineering Projects, Dec. 22-26, 2003. (Co-ordinators; Dr. Mahendra Singh and Dr. N.K. Samadhiya).</p> <p>b) QIP Short Term Course on Advances in Rock Engineering , Dec. 26-30, 2006. (Co-ordinators; Dr. Mahendra Singh and Dr. N.K. Samadhiya).</p> <p>c) Participated (delivered lectures) in the courses organized by Prof. G. Ramasamy, Prof. Civil Engg., Dr. U. C. Choube, Prof. WRDM and Dr. R. Anbalagan, Prof. Earth Sc. IIT Roorkee.</p>			
(b) Publication		Published	Accepted	Communicated
(i)	Research Papers in Refereed Journals	18	01	10 (first review cleared 03)
(ii)	Papers in Conference / Symposia	56	02	-

(iii)	a)Editor, Proceedings National Workshop on Application of Rock Engineering in Nation's Development (in Honour of Prof. Bhawani Singh), April 27-28, 2001, Roorkee b)Editor, Proceedings of Indian Geotechnical Conference on Geotechnical Engineering for Infrastructural Development, Dec. 18-20, 2003, Roorkee.			
(c) Number of Theses Supervised		Awarded	Submitted	In Progress
(i)	Ph.D.	07	-	04
(ii)	M.E./ M.Tech.	48	-	04
(d) Sponsored Research / Consultancy Projects			Completed	In Progress
(i)	Number of Sponsored Research Projects		03	02
(ii)	Number of Consultancy Projects		189	06
(e) Prizes/Medals/Awards/Honours				
(i)	IGS-Prof. Leonard Annual Prize for Best Doctoral Dissertation in Geotechnical Engineering Submitted to Indian Universities and Institutes, 1999 & 2000, entitled "Influence of Anisotropy and Shear Zones on Stability of Caverns" Department of Civil Engineering, University of Roorkee (1999).			
(ii)	IGS-HEICO Annual Prize (1996) for the Best Paper on Rock Mechanics on the paper entitled "Stability Analysis of Slopes with Non-Circular Slip Surface and Non-Vertical Slices", published in IGJ, Vol. 26, No. 4, Oct. 1996.			
(iii)	IGS-HEICO Annual Prize (1997 & 1998) for the Best Paper on Rock Mechanics , on the paper entitled "Engineering Properties of Phyllite", Proc. IGC-98, New Delhi, pp. 339-342.			
(iv)	Indian Society for Rock Mechanics and Tunneling Technology (ISRMTT) Best Paper Award on the paper entitled, "Three Dimensional Analysis of An Arch cum Gravity Dam – Foundation Interaction", Proc. Sem. on Rock Mech and Tunnelling Tech. with Special Reference to NJPC, pp. 139-158,(1999).			
(v)	IGS-AIMIL Best Local Chapter Award as Hony Secy , IGS Roorkee Chapter (2001-2004) in recognition of outstanding overall performance during 2004.			
(vi)	Letter of appreciation from Director, IIT Roorkee for overall performance for the year 2005-2006			
(f) Extra-Curricular Activities				
<i>As a student</i>				
* Member College Cricket Team (1982-1984), GCET Raipur				
* Member IIT, Delhi Cricket Team (1988-1989) in Inter IIT- Sports Meet (1989)				
? <i>After entering into service</i>				
* Staff Advisor, Cricket, University Sports Association, Roorkee (1992-1994)				
* Staff Advisor, Students Chapter (Civil Engg.), Institution of Engineers (I)(1992-1998)				
* Warden, Ravindra Bhawan Mess, UOR, Roorkee (1998-2001)				
* Staff Advisor, Program Mangmt, Cultural Council, IIT, Roorkee(2001- 2006)				
* Member IITR, Staff Cricket Team in Inter IIT- Staff Sports Meets (2004, 2005)				
* Chief Warden, Ravindra Bhawan , IIT Roorkee (Jan 2007- till now)				
* Staff Advisor, Cricket, IIT Roorkee Sports Association, Roorkee (2008-till now)				

13. Special Training/Assignment/Any Other Relevant Particulars

- Attended a course on Norwegian Tunnelling Methods, New Delhi, Dec. 1993.
- Attended XIII ICSMFE-94, New Delhi, Jan 1994.
- Attended Int Conf. on Design and Construction of Underground Structures, New Delhi, Feb. 1995.
- Attended Indian Geotechnical Conferences: IGC-1998 New Delhi, IGC-2001 Indore, IGC-2002 Allahabad, IGC-2003 Roorkee, IGC-2004 Warangal, IGC-2005 Ahemadabad, IGC-2006 Chennai, IGC-2008 Bangalore
- Attended International Symp. SINOROCK 2004 at Three Gorges Project Site at Hubei Province, **China** , May 2004.
- Attended Asian Rock Mechanics Symp. (ARMS-4) at **Singapore** , November 2006.
- Attended 6th International Conference on Case Histories in Geotechnical engineering at **Washington (USA)**, August 2008.
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14. Specialization

- (a) Specialization in the degree preceding to Ph.D. Geotechnical Engineering
Civil Engineering
- (b) Research Specialization Influence of Anisotropy and
Shear Zones on Stability of
Caverns
- (c) Courses taught
(Undergraduate) - Graphics-I (1990-2000)
Soil Mechanics and Engineering Geology (1998-2007)
Rock Engineering (2005-2008)
(Postgraduate) - Advanced Soil Mechanics (1998-2000)
Rock Slope Engineering (1990-2000 and 2009-till date)
Applied Rock Mechanics (2005- till date)
Design of Underground Excavations (2001- 2004)
Seepage in Foundations and Earth Structures(2008-till date)
Soil and Rock Mechanics (WRDM) (1997-2000)

15.(a) Membership/Fellowship of Professional Societies :

- Member, International Society for Soil Mech. & Geotechnical Engineering
- Member, International Society for Rock Mech.
- Fellow, Indian Geotechnical Society
- Life Member, Institution of Engineers, India
- Life Member, Indian Society for Rock Mechanics and Tunnelling Technology
- Life Member, IIT Roorkee Alumni Association
- Life Member, Indian Society for Continuing Engineering Education
- Life Member, Indian Society for Construction, Materials & Structures
- Life Member, Indian Society for Technical Education
- (b) Knowledge of Foreign Languages - English

(c) Other Activities/Responsibilities

- (i) Member, Organising Committee, International Conference on Soil Mechanics and Foundation Engineering (ICSMFE-94), New Delhi
- (ii) Organising Secretary, All India Seminar on Technical Education – Vision 2020, Nov. 12-13, 1999, Roorkee
- (iii) Organising Secretary, National Workshop on Application of Rock Engineering in Nation's Development (In Honour of Prof. Bhawani Singh), April 27-28, 2001, Roorkee
- (iv) Organising Secretary, Indian Geotechnical Conference on Geotechnical Engineering for Infrastructural Development, Dec. 18-20, 2003, Roorkee.
- (v) Hony Secy, IGS Roorkee Chapter (2001-2004)
- (vi) National Executive committee Member , IGS, New Delhi (2005-2006)
- (vii) Reviewer, Indian Geotechnical Journal, India
- (viii) National Executive committee Member , ISRM-TT, New Delhi (2006-2007)
- (ix) Treasurer, Indian Society for Construction, Materials & Structures (2006-2008)
- (x) Organising Secretary, National Conference on Foundations and Retaining Structures (In Honour of Prof. Swami Saran), May 23-24, 2007, Roorkee
- (xi) Member, Organising Committee, Asian Regional Conference on Soil Mechanics and Foundation Engineering (ARC-2007), Dec. 10-15, 2007 Kolkata

(d) Visits Abroad

China (2004), Thailand(2004), Singapore(2006), USA(2008)

SIGNIFICANT RESEARCH CONTRIBUTIONS**1. *Strength and Deformation Behaviour of Isotropic and Anisotropic Rocks***

On the basis of the work carried out in this area, it has been brought out by conducting a series of tri-axial tests on rock specimens that the modulus of deformation and shear strength parameters very much depend on the confining pressure. This conclusion has a significant influence on the design of structures in rock/rock masses.

In the stability analysis of any structure in or on rock masses, determination of mechanical parameters required for any failure criteria is a very important preposition. A series of tri-axial tests have been conducted to determine Hoek and Brown parameters to be used for the non-linear analysis of the Tehri Hydroelectric Power House cavity through a research-cum consultancy project.

Strength and deformation behaviour of anisotropic rocks has been found to be dependent on the orientation of schistosity / anisotropy. An attempt has been made to develop correlations between various mechanical parameters of isotropic and anisotropic rocks. This will help in understanding the mechanical response of anisotropic rocks subjected to various loading conditions.

Determination of shear strength of infilled discontinuities which is another complex problem has been studied by testing on simulated filled discontinuities in laboratory.

2. *Stability Analysis of Slopes*

Stereographic projection method, although very old, has been used in analyzing the abutments of dams. The effect of earthquake force has been taken into account by considering it as pseudo-static force. The method has been found to be simple to use and understand.

Computer programs SANC and TOPPLE have been developed using FORTRAN 77 language to analyze the slope with non-circular slip surface and non-vertical slices and the failure involving over toppling respectively. The study has been extended to incorporate non-linear failure strength criterion. Limit equilibrium approach has been used for both static and dynamic conditions. These programs have been found to be very useful in the stability analysis of natural and man made slopes.

3. *Stability of Underground Power House Caverns*

Based on the data collected through instrumentation and geological investigation, methodologies have been suggested for design of support systems based on empirical, semi-empirical and wedge analysis.

The design and performance evaluation of the underground openings warrant the knowledge of displacements and stresses in surrounding rock due to excavation. **A comprehensive software package for three dimensional analysis of stresses in anisotropic rock masses-ASARM using finite element method has been developed as part of the research leading to PhD degree.** The software is capable of simulating complex geological conditions, associated anisotropy, in-situ stresses and non-linear elastic behaviour of rock/rock masses. The software, thus developed, has been modified for water charged rock masses through a sponsored research project.

The stresses and deformations around underground openings very much depend on sequence of excavation. The loading and unloading due to excavation of different parts of the opening lead to redistribution of stresses, opening and closure of the joints which in turn affect the hydraulic conductivity, seepage pressure and finally the stresses. The phenomenon as coupled hydraulic stress problem has been studied through another Ph.D. problem.

4. *Rock Mass Characterization*

Engineers in recent times look towards empirical methods for selection and design of tunnel supports due to the complexities and uncertainties inherent in the analytical design methods. Engineering rock mass classification (RMC) is the best known empirical approach for assessing the stability of underground openings. Different RMC systems such as RSR, RMR, Q and RMi have been evaluated for tunnels in Himalaya. The recommendations have been made for stress reduction factors for moderately jointed rocks in squeezing and non-squeezing ground conditions. These recommendations are based on a comprehensive study of head race tunnel of Nathpa Jhakri Project, Himachal Pradesh.

5. *Stability Analysis of Levees*

A sheet pile cut-off wall is an important component of almost all types of water retaining structures. The importance of seepage force in computation of total thrust in design of sheet pile cut off walls is very well known. A detailed methodology for quantifying the forces to be considered in the analysis of a rigid cutoff wall has been proposed. It has been observed that the influence of exact seepage force on the active and passive thrust can be very significant.

6. *Barrage – Foundation Interaction*

The analysis of the raft floor of a barrage poses a challenge to the engineers due to varying foundation media, combination of loads and functional requirements. The analyses are mostly based on Hetenyi's approach which could be misleading as it does not consider the variation and continuation of foundation media along the horizontal and vertical direction of the raft. Through one of the studies, it has been brought out that final design be based on FE analysis.

ANNEXURE III**Ph.D. THESES SUPERVISED**

S.N.	Title	Year	Name of Candidate	Co-supervisor(s)
1	Rock Mass Characterization and Evaluation of Supports for Tunnels in Himalaya	2003	Naresh Kumar*	Gopal Chauhan R. Anbalgan
2	Stability Analysis of Levees	2005	Akhileshwar Kumar Singh	C.S.P. Ojha G.C. Mishra
3	Stability of Underground Structures in Anisotropic Rock Masses	2006	Moataz A.M. Al Obaydi	M.N. Viladkar
4	Barrage-Foundation Interaction under Static and Dynamic Loading	2006	Kumar Venkatesh	A.D. Pandey
5	Shear Strength Behaviour of Jointed Model Material under Low CNL Condition	2006	B.K. Agrawal	Mahendra Singh
6	Strength Behaviour of Anisotropic Rocks	2006	Ajit Kumar	Mahendra Singh
7	Bearing Capacity of a Foundation on Jointed Rocks	2007	Ajay Bindlish	Mahendra Singh
8	Behaviour of Sand-fibre mixed Granular Pile	2008	Partha Basu	-
9	Behaviour of Infilled Rock Joints	In-progress	Sandesh Aterkar	M.N. Viladkar
10	Influence of Blast Loading on Stability of Caverns	In-progress	Harsh Kumar Verma	Mahendra Singh V.V.R. Prasad
11	Development of a Landslide Warning System	In-progress	Devanjan Bhattacharyaa	J. K. Ghosh

* IGS-Prof. Leonards Prize for Best Ph.D. thesis in Geotechnical Engineering (2003-2004).

M.E. / M.TECH. DISSERTATIONS SUPERVISED

S.N.	Title	Year	Name of Candidate	Co-supervisor
1	Stability Analysis of Slopes with Non-circular Slip Surface and Non-vertical Slices	1993	R.K. Shekhawat	B. Singh
2	Behaviour of Soft Rock in Triaxial Stress Conditions	1993	Hardan Singh	P.K. Jain
3	Three Dimensional Stability Analysis of Abutments of Jamrani Dam, Kumaun Himalaya	1993	Rajneesh Singhal	R. Anbalagan
4	Analysis of Toppling Failure	1994	Mukesh Pande	B. Singh
5	3-D Stability Analysis of Abutment Slopes of Srinagar Dam	1994	Sheoraj Singh	B. Singh
6	Influence of Infilling on the Strength Behaviour of Rock Joints	1994	Alok Deepankar	U.N. Sinha
7	Drained Shear Behaviour of Infilled Rock Joints	1995	Anant Kumar	U.N. Sinha
8	Stability Analysis of Proposed Underground Power House of Tehri Dam Project	1995	A.K. Singh	G.S. Saini
9	Influence of Confining Pressure on Modulus of Elasticity of Sandstone	1995	D.K. Mishra	S. Mitra
10	Transmitivity and Storage Characteristics of Soils	1996	Ajay Srivastava	C.S.P. Ojha
11	Study of Failure Pattern of Soft Rocks Upon Saturation	1996	Abhinandan Kumar	S. Mitra
12	Probabilistic Approach to Slope Stability Analysis of Abutments of Jamrani Dam	1997	P.V. Subramanyam	C.S.P. Ojha
13	Effect of In-situ Stresses on Stability of Wedges in Underground Openings	1997	K. Srinivasulu	V.V.R. Prasad
14	Engineering Properties of Phyllites	1998	M.M. Prasad	P.K. Jain
15	Stability of Rock Slopes with In-situ Stresses	1998	A.K. Sharma	V.V.R. Prasad
16	Finite Element Analysis of Tehri Power House Cavity	1999	Satyendra	P. Bhargava
17	Shear Strength of Clayey Gouge	1999	Prashant Vishnoi	-
18	Analysis of Underground Cavities with Discontinuous Rock Parameters by FEM	1999	Nripen Das	H.S. Badrinath
19	Finite Element Analysis of Underground Opening	2000	Biswajit Saha	P. Bhargava
20	Mechanical Behaviour of Phyllite Under Cyclic Loading	2000	Gurcharan Birok	-
21	Analysis of Gravity Type Dam Foundation by FEM	2000	Manish Singh	-
22	Effect of Multiple Caverns on Rock Stresses Through F E Analysis	2000	Rajesh Kumar Chaudhary	H.S. Badrinath
23	Finite Element Analysis of Gravity Dam	2001	Ida Bagus Sufitryasa	B.N. Asthana

	on Stratified Foundations			
24	Effect of Swelling Soils in the Foundation of River Valley Structures	2001	Vikas Kumar Jain	Gopal Chauhan
25	A Study on Transmissivity and Storage Characteristics of Soils	2001	Paramjeet Singh Juneja	C.S.P. Ojha
26	Influence of Sequence of Excavation on the Deformation Behaviour of Cavern	2001	Ajeet Kumar	-
27	Behaviour of Overconsolidated Clays	2001	Devjeet Mukherjee	-
28	Finite Element Analysis of a Barrage	2001	Garish Kumar Garg	P. Bhargava
29	Performance Analysis of Filter in Earth Dams	2002	Le Quoc Hung	G.C. Mishra
30	Determination of Optimum Bolt Length in Underground Opening	2002	Ch. Rajani Kanth	V.V.R. Prasad
31	Strength and Deformation Behaviour of Asperities	2002	B. Srinivas Rao	-
32	Studies on Hydraulic Properties of Soils for Design of Levees	2003	B.S. Kirar	P.K. Jain
33	Residual Shear Strength of Infilled Rock Joints of Medium Strength Rock	2003	B. Purna Chand	U.N. Sinha
34	Correlation Among Mini SPT Values and Properties of Stabilised Ash	2003	Satish Kumar	P.K. Jain
35	Stress and deformation Analysis of Under Ground Powerhouse Cavern using 2D FEM- A Case Study	2004	Tonny Suak	R. P. Singh B. N. Ashthana
36	Strength Behaviour of Infilled Rock Joints	2004	N. Manmadharao	U.N. Sinha
37	Slope Stability Analysis using Non-linear Failure Strength Criterion	2005	N. V. Mahesh Babu Pusunuri	-
38	Behaviour of Randomly Distributed Fibre Reinforced Clay	2005	Prabhune Nitin Narsinmh	-
39	Strength Behavior of Anisotropic Rocks	2005	Gajula Ramu	-
40	Elasto- Plastic Analysis of Caverns	2005	Churchill Kumar	-
41	Strength and Deformation Behaviour of Jointed Rock	2006	Mohammad Misam	-
42	Modeling of Tunnelling in Stratified Inhomogeneous Soil Mass	2006	Jay Kumar	Ing. Norbert Vogt
43	Strength and Deformation Behaviour of Dam Foundation on Jointed Rock mass	2007	Vinay Kumar Jain	-
44	Geotechnical Characterisation of a Landslide near Mussoorie	2007	P. Srinivas Reddy	Mahendra Singh
45	Behaviour of Granular Piles with Randomly Mixed Fibres	2007	Mani Bhusan Kumar	Priti Maheshwari
46	Stress Analysis of a Powerhouse Cavern in Jointed Rock Mass	2008	Sharique Khan	M. N. Viladkar
47	Engineering Behaviour of Infilled Rock Joints	2008	Jitendra Manwani	Kaushik Deb
48	Strengthening of Clay by Geogrid Reinforced Granular Pile	2008	Ayan Kundu	Priti Maheshwari A. M. Zsaki
49	Behaviour of RDFS Pile in Soft Clay	On going	Major Singh Kulvinder	Priti Maheshwari

50	Behaviour of Reinforced Sand Bed resting on Stone Column improved Soft Clay	On going	Jagtap Babasaheb Namdeo	Kaushik Deb
51	Behaviour of Anisotropic Rocks	On going	Rishi Kumar Pandey	Rolf Katzenbach Germany
52	Development of an analytical model for Mansa Devi Landslide.	On going	Saiful Rehman	J.K.Ghosh

B. TECH PROJECTS SUPERVISED

S.N.	Title	Year	Name of Students	Co-supervisor
1	Design of Prestressed Concrete Framed Box-Girder Bridge using Balanced Cantilever Construction Method	2006-2007	Vibhor Kumar Vishad Kuthiala Indrajeet Kr Verma Devendra Maghnani	Akhil Upadhyaya
2	Mapping and geotechnical Evaluation of Landslides in Himalayan Region	2006-2007	Piyush Gupta Rahul Patasariya Mayank Agrawal Kunal Garga Krishna Kr Singh	Manoj Kumar Arora
3	Kaliasur Landslide Stability Analysis and Corrective Measures	2006-2007	Somesh Sharma Rajeev Bachra Himanshu Godara Vineet Kr. Singla Rishi Nath	Kamal Jain
4	GIS based Sub-surface Geotechnical Evaluation of Delhi Area	2006-2007	Madhur Johri Deepak Kulshreshtha Devang A. Dhandhanania Vijay Kr Gupta Praneetha C.	Kamal Jain
5	Landslide Risk Assessment in Garhwal Himalayas	2007-2008	Neha Kadiyan Preety Agarwal Mathew Kurian Eranat Rishabh Gupta	Manoj Kumar Arora
6	Design of a Cable Stayed Bridge	2007-2008	Ankit Gupta Ajay Patel Ankit Jindal	A. K. Jain
7	Design of Bowstring Girder Bridge	2007-2008	V. Ravi Kumar P. B. Balakrishna M. Siva Krishna Prasad K. Bharath Reddy	Akhil Upadhyaya
8	Geodeformation Analysis through Geotechnical and Geodetic Investigation	2008-2009	Ankur Mundra Ram Bhuwan Chauhan Vinayak Shrestha Yuvraj Singh	J. K. Ghosh
9	Development of Decision Support System for Geo-environmental Applications	2008-2009	Ankit Prabhakar Anand Vardhan Anuj Kumar Singh Sanjeev Kumar	Pramod Kumar

ANNEXURE IV**DETAILS OF SPONSORED RESEARCH PROJECTS HANDLED**

S.N.	Name of the Project	Sponsoring Agency	Financial Outlay	Principal Investigator / Coordinator	Status
1	Development of a Decision Support System for Landslide in a North Eastern Region using Satellite and Ancillary Data in a GIS Environment	All Indian Council of Technical Education, New Delhi	Rs. 5.00 Lakhs	Dr. J. K. Ghosh Dr. Bhawani Singh Dr. N. K. Samadhiya	Completed 2000
2	Software Development for 3-D Finite Element Analysis of Structures in Jointed Rock Masses for River Valley Projects	Indian National Committee on Rock Mechanics and Tunneling Technology, New Delhi	Rs. 12.00 Lakhs	Dr. M. N. Viladkar Dr. P. N. Godbole Dr. N. K. Samadhiya	Completed 2002
3	Pre-Proposal for Identification of a Landslide Problem in the State of Uttaranchal	Department of Science and Technology, Bhawan, New Delhi	Rs. 1.20 Lakhs	Dr. Mahendra Singh Dr. N. K. Samadhiya	Completed 2004
4	Geotechnical Evaluation for Development of Landslide Model for Selected Landslide in Uttaranchal	Department of Science and Technology, Bhawan, New Delhi	Rs. 17.39 Lakhs	Dr. Mahendra Singh Dr. N. K. Samadhiya	On going
5	Development of an automated warning System (SLIDEWARN) for Monitoring of Mansa Hill (Hardwar) Landslide	Faculty initiation Grant (Scheme-B) , MHRD Funds, IIT Roorkee	Rs. 4.6 Lakhs	Dr. J. K. Ghosh Dr. Pramod Agarwal Dr. N. K. Samadhiya	On going

DETAILS OF RESEARCH PUBLICATIONS**PUBLISHED****JOURNALS: 19****International: 09****National: 10**

1. Singh, Bhawani, Viladkar, M.N., **Samadhiya, N.K.** and Sandeep (1995), 'A Semi-Empirical Method for the Design of Support Systems in Underground Openings', **Int. Jnl. of Tunnelling and Underground Space Technology, U.K.**, Vol. 10, No.3, pp. 375-383.
2. Singh, Bhawani, **Samadhiya, N.K.** and Shekhawat, R.K., (1996), 'Stability Analysis of Slopes with Non-circular Slip Surface and Non-vertical Slice', *Indian Geotech. Journal*, Vol. 26, No.4, pp. 417-429.
3. Singh, Bhawani, Viladkar, M.N., **Samadhiya, N.K.** and Mehrotra, V.K. (1997), "Rock Mass Strength Parameters Mobilised in Tunnels", **Int. Jnl. of Tunnelling and Underground Space Technology, U.K.**, Vol.12, No.1, pp. 47-54.
4. **Samadhiya, N.K.** and Jain, P.K. (2003), 'Strength Behaviour of Phyllites Under Triaxial Stress Conditions', *Jnl. of Rock. Mech. and Tunnelling Tech., India*, Vol. 9, No. 1, pp. 63-85.
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