

INDIAN SOCIETY OF EARTHQUAKE TECHNOLOGY, ROORKEE

ANNUAL REPORT

(For the period from April 16, 2021 to June 22, 2022)

Dear Members,

It gives me immense pleasure in presenting the Annual Report of the Indian Society of Earthquake Technology for the period April 16, 2021 to June 22, 2022. The salient activities of the Society during this period are presented in this Annual Report.

1. Meetings

The last Annual General Body Meeting (50th AGM) of the Society was held online on April 16, 2021, minutes of which were published in the ISET Newsletter of January – December 2021.

During the period of the report, Five Executive Committee Meetings (ECM) were held as detailed below:

Meeting No.	Date	Venue
197 th ECM	16 th April, 2021 at 4:30 PM	Online mode
198 th ECM	16 th August, 2021 at 6:00 PM	Online mode
199 th ECM	13 th November, 2021 at 6:30 PM	Online mode
200 th ECM	22 nd March, 2022 at 7:00 PM	Online mode
201 st ECM	7 th June, 2022 at 7:30 PM	Online mode

2. Audit Report

The accounts of the Society for the financial year 2020-2021 have been audited by Vikas Khanna & Co., Chartered Accountants, Roorkee. The E.C. in its meeting held on **November 13, 2021** has approved the audit reports. It may be noted that in this financial year, the **total capital fund** of the Society has **increased from Rs. 1,15,46,146/- to Rs. 1,32,37,713/-**

3. ISET Annual Lecture

The 41st ISET Annual Lecture was delivered by **Prof. Ellen M. Rathje**, Janet S. Cockrell Centennial Chair, Depart. of Civil, Architectural, and Environmental Engineering, University of Texas, Austin, USA on ‘Advances in Site Response Analysis for Design-Level Ground Motions’, online mode on April 16, 2021.

4. Publications

ISET Journal:

The issues of March 2020 (No. 1), June 2020 (No. 2), September 2020 (No. 3), December 2020 (No. 4) of Vol. 57, Special issue March 2021 (No. 1) and June 2021 (No. 2) of Vol. 58 have been published. Soft copies have been sent to all the ISET Members. Similarly, the issues of September 2021 (No. 3), and December 2021 (No. 4) of Vol. 58 are under review.

Special Commemorative Volume in the name of Prof. D.K. Paul, former Deputy Director, IIT Roorkee, Head, Dept. of Earthquake Engineering shall be published by springer. We received a total of 16 submissions. After the peer review process, we found 12 publications suitable to include the volume.

ISET Newsletter: ISET Newsletter of January–December 2021 has been published. Soft copy has been sent to all the ISET Members.

5. Membership

Since April 01, 2022, 6 Life Members, 10 Annual Members and 1 Student Member have been enrolled.

Financial Year	Individual Members		Life Fellows	Institution Members		Total	Membership Increased
	Life	Annual		Permanent	Annual		
2018-2019	1734	38	58	55	7	1892	31
2019-2020	1743	39	58	55	7	1902	10
2020-2021	1788	42	58	57	7	1952	50
2021-2022	1847	43	61	58	7	2016	64
2022-2023 on 22.06.2022	1853	53	61	58	7	2032	16

6. Outstanding Contributions Awards

The E.C. in its meeting held online on June 7, 2022 and June 23, 2022, as resolved that the following clause IX. 9.6, 9.7 & 9.8 to be added to the Bye-laws.

IX.9 Eligibility:

IX. 9.6 **Mid-career researcher:** Candidates shall have post Ph.D. experience of a minimum of five years as a faculty/scientist in an Indian university/organization. The candidate shall be below the age of 45 during the time of nomination. The candidate should be a mid-career researcher who has contributed extensively to research, teaching, innovation and societal outreach in earthquake engineering. The research works carried out in India only shall be considered.

IX. 9.7 **Mid-career Research:** Candidates shall have post Ph.D. experience of a minimum of ten years as a faculty/scientist in an Indian university/organization. The candidate shall be below the age of 45 during the time of nomination. The candidate should be a mid-career researcher, who has contributed extensively to research, teaching, innovation and societal outreach in geotechnical earthquake engineering/soil dynamics in India. The research works carried out in India only shall be considered

IX. 9.8 **Early Career Research:** Candidates shall have post Ph.D. experience of a minimum of two years as a faculty/scientist in an Indian university/organization. The candidate shall be below the age of 35 during the time of nomination. The candidate should be a young researcher who has contributed significantly to research and innovation in Geotechnical Engineering in India. The research works carried out in India only shall be considered

7. ISET V.H. Joshi Award for Significant Contributions in Structural Dynamics

An amount of Rs. 1 lakh was received on February 04, 2022 from Prof. V.H. Joshi for increasing the corpus fund for the “V.H. Joshi Award for Significant Contributions in Structural Dynamics”. Total contribution to the corpus has now increased to Rs. 12,28,000/-

8. ISET Awards for the Block Years 2017-2020

The following ISET Awards for the Block Years **2017-2020** for research publications in the field of Earthquake Technology are being processed.

- “ISET Jai Krishna Award” – Certificate and award money for the best paper in **the publications of the Society**.
- “ISET B.N. Gupta Award” – Certificate and award money for the best paper in **Seismology and Seismotectonics** published in the ISET Journal.
- “ISET V.H. Joshi Award” – Certificate and award money for the best paper in **Soil Dynamics** published in the ISET Journal.
- “ISET Hanumantacharaya Joshi Award” – Certificate and award money for the best paper in **Structural Dynamics** published in the ISET Journal.
- “ISET Arbinda Mukhopadhyay Award” – Certificate and award money for the best paper dealing with “**Theoretical Aspects of Earthquake Technology**” published in the ISET Journal.

9. Various ISET Awards for Significant Contributions & Research Awards for the year 2022

Call for nominations for the following Various ISET Awards for Significant Contributions & Research Awards for the year 2022 was published in the ISET Newsletter of January-December 2021 and are also posted on the ISET Website: www.iset.org.in. The screening, shortlisting of nominations; and deciding name of awardees: by August 31, 2022. To inform the awardees and invite for the 17th SEE (to be held in Nov. 14-17, 2022): by Sept. 30, 2022.

- **ISET TRIFUNAC AWARD FOR SIGNIFICANT CONTRIBUTIONS IN STRONG MOTION EARTHQUAKE STUDIES – 2022**
- **ISET SHAMSHER PRAKASH AWARD FOR SIGNIFICANT CONTRIBUTIONS IN GEOTECHNICAL EARTHQUAKE ENGINEERING – 2022**
- **ISET SHAMSHER PRAKASH EARLY CAREER RESEARCH AWARD FOR SIGNIFICANT CONTRIBUTION IN GEOTECHNICAL EARTHQUAKE ENGINEERING” FOR THE YEAR 2022**
- **ISET SHAMSHER PRAKASH MID-CAREER RESEARCH AWARD FOR SIGNIFICANT CONTRIBUTION IN GEOTECHNICAL EARTHQUAKE ENGINEERING” FOR THE YEAR 2022**
- **ISET V.H. JOSHI AWARD FOR SIGNIFICANT CONTRIBUTIONS IN STRUCTURAL DYNAMICS – 2022**
- **ISET BIOT AWARD FOR SIGNIFICANT CONTRIBUTIONS IN EARTHQUAKE ENGINEERING WITH EMPHASIS ON BIOT RESPONSE SPECTRUM METHOD – 2022**
- **ISET T.G. SITHARAM MID-CAREER RESEARCH AWARD FOR INNOVATIONS IN GEOTECHNICAL EARTHQUAKE ENGINEERING IN INDIA-2022**
- **ISET B.K. MAHESHWARI RESEARCH AWARD FOR BEST PH.D THESIS IN SOIL-STRUCTURE INTERACTION IN INDIA – 2022**
- **ISET D.K. PAUL RESEARCH AWARD FOR BEST PH.D THESIS IN EARTHQUAKE RISK REDUCTION IN INDIA – 2022**

10. Geotechnical Earthquake Eng. (GEE) Webinar Series (Nov. 2021 to Oct. 2022)

Dept. of Earthquake Engineering, IIT Roorkee and **Indian Society of Earthquake Technology** (ISET) as part of its Diamond Jubilee Celebration are organizing the webinars during November 2021 to October 2022. Also this is supported by the Indian Geotechnical Society (IGS) Roorkee Chapter and CSIR - Central Building Research Institute (CBRI), Roorkee. The webinars are also supported by TC203 of ISSMGE. Prof. Kenji Ishihara, Chuo University, Japan has inaugurated the GEE webinars on Dec. 8, 2021.

- 1st GEE Webinar Inaugural lecture has been delivered by Prof. Misko Cubrinovski, University of Canterbury, New Zealand and Chair of TC203 of ISSMGE entitled “**Mechanics-based Evaluation of Soil Liquefaction**” on December 8, 2021. While more than 366 people have registered. Total of 293 has participated in the webinar including 59 foreign delegates from 13 countries.
- 2nd GEE Webinar lecture has been delivered by Prof. Ikuo Towhata, Prof. Emeritus, University of Tokyo, Japan entitled “Ground Water is More Important in Triggering Landslides than so far Supposed” on January 27, 2022. While more than 595 people have registered. Total of 251 has participated in the webinar including 50 foreign delegates from 11 countries.
- 3rd GEE Webinar lecture has been delivered by Prof. Scott J. Brandenberg, University of California at Los Angeles, USA entitled “Seismic Analysis of Levee Systems” on February 10, 2022. While more than 686 people have registered. Total of 209 has participated in the webinar including 32 foreign delegates from 7 countries.
- 4th GEE Webinar Inaugural lecture has been delivered by **Prof. Sebastiano Foti**, Politecnico di Torino, Italy entitled “**Stochastic Analysis of Seismic Ground Response**” on March 24, 2022. While more than 700 people have registered. Total of 125 has participated in the webinar including 26 foreign delegates from 5 countries.
- 5th GEE Webinar Inaugural lecture has been delivered by **Prof. Ioannis Anastasopoulos**, ETH Zurich, Switzerland entitled “**Vulnerability Assessment and Retrofit of Existing Bridge Foundations**” on April 13, 2022. While more than 860 people have registered. Total of 155 has participated in the webinar including 29 foreign delegates from 6 countries.

- 6th GEE Webinar Inaugural lecture has been delivered by **Prof. Jonathan D Bray**, University of California, Berkeley, USA entitled “**Selection of Seismic Coefficient in Assessing Seismic Slope Stability**” on May 11, 2022. While more than 1005 people have registered. Total of 178 has participated in the webinar including 37 foreign delegates from 8 countries.
- 7th GEE Webinar Inaugural lecture has been delivered by **Prof. Deepankar Choudhury**, Prof. T. Kant Chair Professor, IIT Bombay entitled “**Design Solutions for Complex Geostructures under Dynamic Loadings: Case Studies**” on June 07, 2022. While more than 1305 people have registered. Total of 239 have participated in the webinar including 23 foreign delegates from 7 countries

GEE Webinar Series has been chaired by Prof. B.K. Maheshwari, Vice-President ISET and Shamsheer Prakash Chair Professor, IIT Roorkee. Details about the event can be found on the website: www.iitr.ac.in/geewebinars

11. Highlights of the 7ICRAGEE

The 7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics (7ICRAGEE) was successfully organized in exclusively virtual mode, by the Indian Society of Earthquake Technology (ISET), in association with IISc Bengaluru, and Dept. of Earthquake Engg., IIT Roorkee during 12-15 July, 2021.

The conference commenced, with the inaugural ceremony on 12th July at 9:00 AM, with the lighting of lamp by the dignitaries. Prof. TG Sitharam, Chairman, 7ICRAGEE, President, ISET and Director, IIT Guwahati delivered the welcome address in which he emphasized the role of ICRAGEE conferences in the advancement of Geotechnical Earthquake Engineering and thanked Prof. Shamsheer Prakash for handing over the responsibility of organizing ICRAGEE conferences to ISET. It was followed by messages from Prof. Shamsheer Prakash, and patrons: Prof. Ajit Chaturvedi, Director, IIT Roorkee, and Dr. N. Gopalakrishnan, Director, CBRI Roorkee. The conference was inaugurated by Dr. RK Bhandari, Chairman, Forum on Engineering Interventions for Disaster Mitigation, Indian National Academy of Engineering, and Shri Dr. Himanta Biswa Sarma, Hon'ble Chief Minister of Assam. Dr. R.K. Bhandari, in his address, emphasized the need to ensure quality in the enormous research output being generated and appealed to the geotechnical community at large to come together and make efforts to reduce the ever-increasing gap between research and practice. Shri Dr. Himanta Biswa Sarma, Hon'ble Chief Minister of Assam addressed the audience and dedicated the Centre for Disaster Management and Research (CDMR) at IIT Guwahati to the people of Assam and entire Northeast India. Conference exhibition Stalls were inaugurated by Prof. N.K. Samadhiya, President, IGS. Dr. Ravi Jakka, Organizing Secretary, 7ICRAGEE and Secretary, ISET presented the conference highlights, while the vote of thanks was proposed by Dr. Sreevalsa, Organizing Secretary, 7ICRAGEE.

More than 1200 participants registered for attending the conference. Around 600 abstracts were received, out of which 250+ papers were finally published, in the Springer book volumes. 7ICRAGEE marked the introduction of the ISET Shamsheer Prakash Distinguished Lecture as part of the ICRAGEE conferences. The 1st ISET Shamsheer Prakash Distinguished Lecture was delivered by Prof. Kenneth Stokoe on ‘The Increasing Role of Surface-Wave Measurements in Site Characterization’. A large number of invited lectures were planned to be delivered during the conference to benefit the participants from both the industry and the academia. Out of 55 planned invited lectures, 53 lectures were delivered. Two speakers could not deliver their talks due to some unexpected emergencies. Overall, 1 Distinguished Lecture, 10 Keynote Lectures, 26 State-of-the-Art-and-Practice Lectures and 16 Special Lectures were delivered during 7ICRAGEE. The invited lectures covered the entire gamut of Geotechnical Earthquake Engineering and Soil Dynamics. Care was taken, to ensure that, the participants gain global as well as Indian perspectives, on various research areas of Geotechnical Earthquake Engineering and Soil Dynamics, in equal measure. 140 papers were presented in 28 Technical Sessions. Best paper presentations were selected solely based on the recommendations of the Chairs and Co-chairs of the respective sessions.

The conference ended with a panel discussion moderated by Dr. Aswath, President, ACCE (India). The panel opined that, to improve collaboration among structural and geotechnical engineers, case histories in geotechnical engineering, in general, and Geotechnical Earthquake Engineering in particular, should be made a part of the education and training of every civil

engineer. The conference ended with the valedictory session, where stalwarts of Earthquake and Geotechnical Engg. were remembered. Overall, the conference was much appreciated by the delegates, speakers, and chairs, for facilitating the dissemination of a mammoth information on the topic and for the excellent management in organizing the sessions.

All six book volumes of 7ICRAGEE contributory papers including keynote contributions have been published in by the Springer. An amount of Rs. 27 lakhs have been received from sponsorships and delegate fee. After all the expenses, Rs. 11 lakhs (approx.) have been saved.

12. 17th Symposium on Earthquake Engineering

The Department of Earthquake Engineering and Indian Society of Earthquake Technology (ISET) are organizing the “**17th Symposium on Earthquake Engineering**” 17SEE-2022 during November 14-17, 2022 at Department of Earthquake Engineering, IIT Roorkee

13. ISET Diamond Jubilee Symposium

Today, on account of celebrating 60 glorious years of the Indian Society of Earthquake Technology (ISET), the Centre for Disaster Management and Research (CDMR), IIT Guwahati, North Eastern Space Application Centre (NESAC), Assam State Disaster Management Authority (ASDMA) are jointly organizing a two-day symposium on “**Socio-Technological Aspects of Seismic Disaster and Mitigation**” on 23rd and 24th June 2022 at IIT Guwahati. This 2-day event will encompass the social and technical aspects of earthquakes and disaster mitigation through plenary/invited lectures, presentations and panel discussions.

14. Membership Fee

The Society received a sum of Rs. 3,59,915/- in the financial year 2020-2021 in the form of fee for various categories of membership of the Society.

15. Activities of Local Chapters

• ISET Roorkee Chapter

- (i) The Dept. of Earthquake Engg., IIT Roorkee in association with the ISET Roorkee Chapter has organized a commemorative workshop on “**Earthquake Engineering and Disaster Mitigation**”, in remembrance of Late Prof. D.K. Paul on his 1st death anniversary, 27th Dec. 2021. The workshop was conducted in hybrid mode. More than 75 delegates have taken part in the workshop online, while around 50 have attended the offline. The event was coordinated by Dr. Ravi S. Jakka, Associate Professor, Dept. of Earthquake Engg., IIT Roorkee and chaired by Prof. Yogendra Singh, Dept. of Earthquake Engg., IIT Roorkee. Glimpse of the workshop is available here: <https://photos.app.goo.gl/o2fCdoFfSZosuw758>
- (ii) Department of Earthquake Engineering & ISET Roorkee Chapter has organized a lecture on “**Analytics-Driven Models to Support the Design and Service-Life Management of Infrastructure Systems**” by Dr. Sujith Magalathu (Vice President of JP Morgan & Chase in Data Science wing) on May 16, 2022. The workshop was conducted in hybrid mode. The lecture was attended by large number of Faculty, Engineers, Academicians and Students. The event was coordinated by Dr. P.C. Ashwin Kumar, Assistant Professor, Dept. of Earthquake Engineering, IIT Roorkee.
- (iii) Department of Earthquake Engineering & ISET Roorkee Chapter has organized a lecture on “**Hybrid testing and Simulation of Structures under Earthquake and Fire Scenarios**” by Prof. Dipti Ranjan Sahoo, Department of Civil Engineering, IIT Delhi on June 08, 2022. The workshop was conducted in offline mode. The lecture was attended by large number of Faculty, Engineers, Academicians and Students. The event was coordinated by Prof. Pankaj Agarwal, Head, Department of Earthquake Engineering, IIT Roorkee.

16. Activities of Soil Dynamics Forum (ISET)

- (i) **Soil Dynamics Forum, ISET** and Indian Geotechnical Society, Aurangabad Chapter have organized jointly one week STTP on “**Advances in Geotechnical Earthquake Engineering (AGEE-2021)**” (online) during 25th – 29th October 2021, in association with Civil Engineering Department, Marathwada Institute of Technology, Aurangabad & Dr.

Babasaheb Ambedkar Technological University, Lonere, MS. The event was attended by large number of Faculty, Engineers, Academicians and Students.

- (ii) Department of Civil Engineering, S.R.K.R. Engineering College, Bhimavaram, Andhra Pradesh have organized the "Indo-Chile Workshop on Recent Advancements in Geotechnical Earthquake Engineering" (online) during 7th - 9th Sept 2021, in association with **Soil Dynamics Forum, ISET**, Department of Civil Engineering, University of Chile, and IGS Kakinada Chapter.

17. Activities of Hilti, Gurugram (Co-hosted by ISET)

Hilti, Gurugram, Haryana in association with the Indian Society of Earthquake Technology (ISET) has organized a webinar on "**Seismic Safety of Non-Structural Elements**" on March 23, 2022. The webinar was conducted in online mode. The webinar was attended online by large number of Faculty, Engineers, Academicians and Students. The event was coordinated by Mr. Shounak Mitra, Head - Codes & Approvals (Fastening Systems), Hilti (India) Pvt Ltd., Phase-II | Gurgaon, Dr. P.C. Ashwin Kumar, Assistant Professor, Department of Earthquake Engineering, IIT Roorkee.

18. Acknowledgements

The Society would like to thank the sponsors for their generous grants to support its activities. Society is also thankful to Head, Department of Earthquake Engineering, Indian Institute of Technology Roorkee and Director, Indian Institute of Technology Guwahati, Roorkee for extending the facilities required for the smooth functioning of the Society and carrying out its activities.

We are grateful to **Prof. Rajesh Dhakal**, Deputy Head of Department, Civil & Natural Resources Engineering, University of Canterbury, Christchurch, New Zealand for kindly accepting our invitation to deliver the 42nd ISET Annual Lecture today online mode on '**Beyond Life-Safety: The Quest Continues**'. The Society is also thankful to the authors and reviewers of papers published in the ISET Journal and the members of the Editorial Committee. Sincere thanks are also placed on record to all individuals and organizations, who have helped the Society directly or indirectly in furtherance of its objectives.

In the end, I would like to thank all the members of the Executive Committee, in particular, Prof. T.G. Sitharam, President; Prof. B.K. Maheshwari, Vice-President; Prof. Vasant A. Matsagar & Dr. Ravi S. Jakka, Editors; Dr. P.C. Ashwin Kumar, Co-Editor; Prof. Gopal Madabhushi, Prof. Subhamoy Bhattacharya, Dr. Anil C. Wijeyewickrema and Dr. Sujith Mangalathu, Associate Editors, who were always willing to help and advise me in carrying out my responsibilities as the Secretary of the Society. Thanks are also due to all the E.C. members, Chairmen/Secretaries of ISET Local Chapters and ISET Forum's for their suggestions. Also, I would like to thank the staff members of ISET Office, particularly Mr. Pawan Kumar for working hard for the Society.

Roorkee
June 22, 2022

Prof. Vishwas A. Sawant
Secretary, ISET