

A Brief Report On RGNIYD's One-week Online Lecture Series for

**Indian Students by Experts from
RWTH Aachen University, Germany**

March 29 – April 02, 2021

Organised By



RAJIV GANDHI NATIONAL INSTITUTE OF YOUTH DEVELOPMENT

Institution of National Importance by the Act of Parliament No.35/12

Ministry of Youth Affairs and Sports,

Government of India, Sriperumbudur – 602 105.



In Collaboration With



**RWTH Aachen University
Germany**

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Preface and Acknowledgements

Exchange of knowledge is imperative both for the teachers and learners that upholds life-long learning. With an objective to provide the youth of India wide opportunities to enhance their versa of knowledge and to interact with leading intellectuals across the globe, RGNIYD made a maiden attempt to institute an International Lecture Series to bring in prominent faculty who can inspire the underprivileged Indian Youth and serve as role models in various spheres of education and careers.

Thus, the ever first RGNIYD's Week-Long Lecture Series was organised in collaboration with the RWTH Aachen University, Germany. The idea was to bring in highly accomplished and eminent speakers of global stature to interact with the Youth of India who have very rare and sporadic opportunities to either study in a university abroad or listen to illustrious researchers speaking to them. This idea sparked the institution of the a Lecture Series at RGNIYD to foster international dialogues and exchange of learning to keep oneself abreast of the modern advancements in diverse fields.

The Lecture Series was kept open for any youth in the country which was offered free of charge to take optimal benefits such as obtaining guidance to pursue higher education in universities abroad, undertake research under the guidance of high-profile researchers and to update knowledge which will potentially transform the lives of youth at large.

I am glad to learn that more number of Youth including a sizable segment of teachers in higher educational institutions participated in the lecture series and got the benefit. It is heartening to spot that youth from far-flung villages of north-east part of India who are deprived of such opportunities also participated. This gives immense satisfaction that the Institute is able to meet the aspirations of the disadvantaged youth in a small manner of this kind.

I take this opportunity to abundantly thank the authorities of the RWTH Aachen University, Germany for choosing to collaborate with RGNIYD in offering the One-Week Lecture Series without any cost to help the marginalized sections of youth in India. I express my sincere gratitude to the Director, Faculty and Staff of the Institute of General Mechanics, RWTH Aachen University, Germany for extending their fullest support by way of delivering the distinguished lectures and coordinating the lecture series online from Germany. In particular, I wish to thank Dr. Tusharika Mukherjee, Work and Organisational Psychologist, Justus Liebig University Giessen (JLU), Münster, North Rhine-Westphalia, Germany for her kind help in linking RWTH Aachen University with RGNIYD. I appreciate the contributions of Dr.-Ing. Sandeep P. Patil, Group Leader, Institute of General Mechanics, RWTH Aachen University in coordinating with the staff of RGNIYD in organising this week-long lecture series. I acknowledge the support rendered by the staff of RGNIYD in organising this programme.

I cannot miss to thank the team of dedicated officials of the Ministry of Youth Affairs and Sports, Government of India – The Secretary, The Joint Secretary and all the Officials concerned with RGNIYD at the Ministry for their indefatigable zeal and enthusiasm bestowed upon RGNIYD and rendering their expert guidance and support in all the endeavours of the Institute, especially, in elevating the stature of the Institute. Shri. P. David Paul, Training Officer, RGNIYD deserves special mention for preparation of this report.

PROF. SIBNATH DEB, PhD, DSc

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Introduction

RGNIYD organised one-week lecture series for Indian Students by Experts from RWTH Aachen University, Germany from March 29, 2021 to 02 April, 2021 to create an appropriate platform for the youth who do not have avenues to update their knowledge and keep abreast with the modern developments in various fields across the world. The lectures were delivered by accomplished experts and academicians who have achieved pre-eminence in the fields of Engineering and Technology followed by interactions. The effort also aimed to facilitate the youth to realize their potential and unleash their creativity through exchange of innovative ideas, with an ultimatum to transform the young people as 'world ready youth' to face futuristic professional challenges.

Objectives

- To create a platform for the underprivileged students to get acquainted with the latest technological developments and update themselves
- To enable the youth participate in the academic sessions by experts from illustrious foreign universities to gain modern knowledge
- To provide the youth with the opportunity to interact with highly accomplished Academicians and Researchers
- To enable the students get academic and research guidance from international experts
- To make the youth know about the study and work opportunities abroad

Distinctiveness

This was a very exclusive lecture series in which experts from highly reputed technological university interacted with the Indian students who never had any international exposure and had no chance to participate in any international programme being facilitated by experts from foreign universities.

Expected Outcome

The lecture series was an attempt to orient the under-privileged students and youth to gain new insights from prolific experts from foreign university and to get academic guidance for their higher studies and research.

Collaborating Institution

For the purpose of this lecture series, RGNIYD collaborated with the RWTH Aachen University, which is a public research university located in Aachen, North Rhine-Westphalia, Germany. With over 45,000 students currently enrolled in 144 study programs, it is the largest technical university in Germany. RWTH Aachen has been accredited as a University of Excellence among nine other universities in Germany. RWTH Aachen is a founding member of IDEA League, a strategic alliance of five leading



universities of technology in Europe. The university is also a member of TU9, DFG (Deutsche Forschungsgemeinschaft) and the Top Industrial Managers for Europe network.

Participants

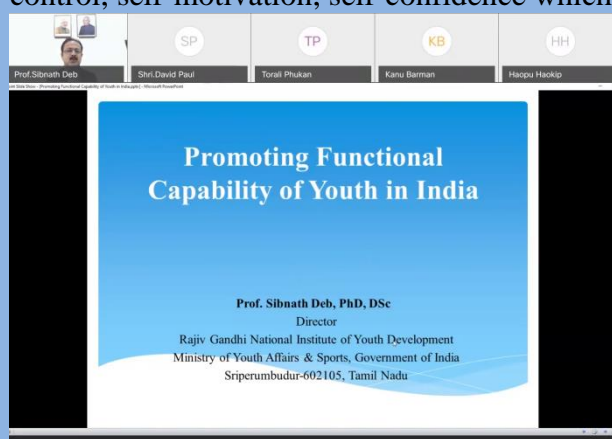
The participants of the lecture series were Indian students pursuing their studies in various colleges and universities besides young budding professionals in the field of technology. Particularly, students from the north-eastern part of the country also participated in the lecture series.

Inaugural Session

The lecture series was inaugurated by Prof. Sibnath Deb, Director, RGNIYD on March 29, 2021 through online mode. During the inaugural session, the Director, RGNIYD reiterated that the lecture series of this kind was a very rare opportunity for the participating students to get academic exposure from highly accomplished universities and experts. Therefore, he exhorted the participants to take maximum benefit from the lecture series and to closely interact with the experts to seek guidance relating to the technical subjects.

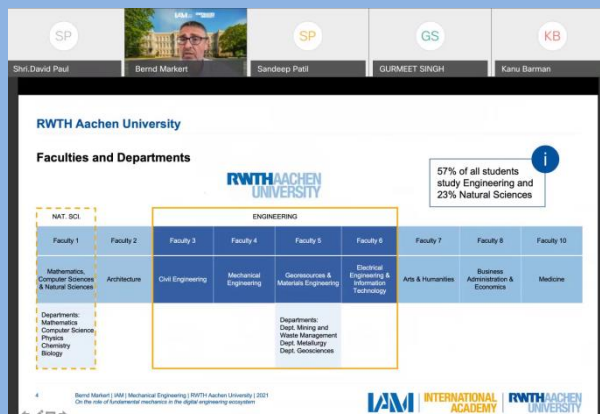
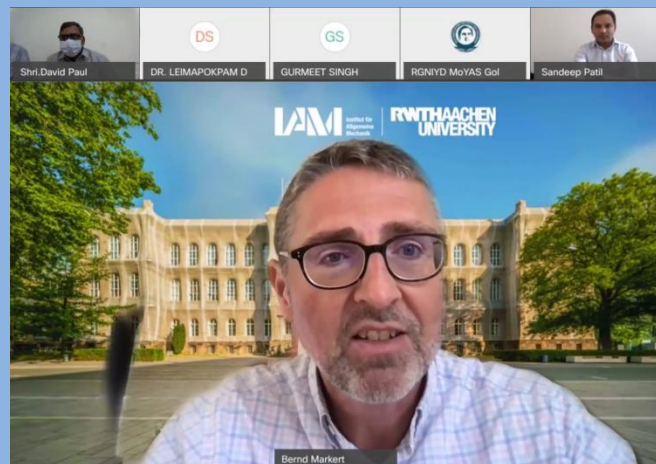
Proceedings of the Technical Sessions

Prof. Sibnath Deb, PhD, DSc, Director, RGNIYD delivered the first lecture in the Series which was of paramount significance to the youth before they embark on the road to build their knowledge and technical competencies and spoke on the topic “Promoting Functional Capability of Youth in India”. During his lecture, the Director, RGNIYD explained in detail the psychological perspectives of functional capabilities and its relevance to the youth of today’s world. He delineated the set of skills required to enhance functional capabilities among the youth and delved on the ways and means of honing such skills, besides internalizing them and applying them in day to day life. He further presented a comprehensive picture of self-awareness and its dimensions such as self-realization, self-knowledge or self-exploration, self-purpose, self-control, self-motivation, self-confidence which are imperative for building a good self-esteem and building a better self-image citing various examples. While working towards this direction, Prof. Deb reiterated that these assets and characteristics will enable to position oneself with distinct individuality and uniqueness. He later accentuated the need for youth to shape their critical thinking and creative thinking processes. He outline the positive attitudes for creativity and the negative attitudes that blocks creativity quoting illustrations. The Director, RGNIYD educated the participants on the



effective means of dealing with problem solving and decision making which makes one feel stress free. He impressed upon the participants by augmenting two tested model of decision making based on his clinical psychology experience viz., the DECIDE and 3C Models using case studies. The acronym DECIDE he explained as **D**escribe the problem situation, **E**xplore all the possibilities, **C**ross out the negative alternatives, **I**nvestigate the positive choices, **D**etermine best course of action, and **E**valuate the results as a consequence of implementing the action plan determined for making an effective decision. The discretionary model that he explained for making operative decisions was the 3Cs Model which includes: **C**hallenging the problems, **C**hoices and opportunities available and the **C**onsequences which involve evaluating the positive and negative consequences of each option. He also dealt with the aspects of effective communications and interpersonal relationships which are essential components in personal effectiveness. Endeavouring at promoting positive mental health among the youth, Prof. Deb zeroed down on significant psychological - component managing emotions and brought out the effective ways for coping with emotions and stress. In conclusion, he recounted the methods to achieve effectiveness in a target area that will ensure success.

The second lecture was delivered by Prof. Dr.-Ing. Bernd Markert, Director, Institute of General Mechanics, RWTH Aachen University on the “Role of fundamental mechanics in the digital engineering ecosystem” on 29th March 2021. Before making a presentation on his topic, he gave an overview of RWTH Aachen University, Germany and its impact in higher technical education and illustrated how the university is



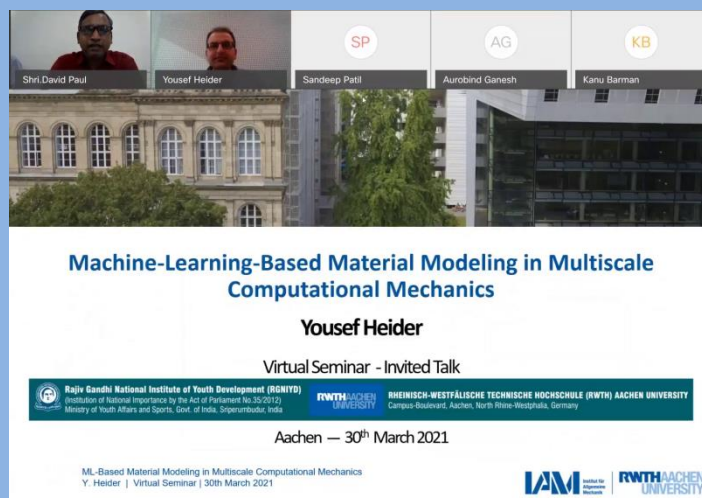
endeavouring to maintain its global standards in terms of providing quality education and preparing world leaders. He urged the participants to explore the possibilities for higher education with their university. He later delivered a lecture on how the digital engineering ecosystem is impacting the field of mechanics based on empirical research evidences he undertook at the RWTH Aachen University.

The third lecture was delivered on March 30, 2021 by Dr.-Ing. Yousef Heider, Group Leader, Institute of General Mechanics, RWTH Aachen University on the topic “Machine-Learning-Based Material Modeling in Multiscale Computational Mechanics. In his presentation he demonstrated the application of artificial neural networks (ANN) to multiscale modeling of solid and fluid-infiltrated porous materials through computational homogenization of microscopically heterogeneous representative volume elements (RVEs). He mentioned how this allows to capture complex material responses and to include important microstructural attributes, like porosity and structural tensor of porous materials or volume fractions of composite materials, in the constitutive modeling. He reiterated on the particular importance in the prediction accuracy of ML-based models and the way the data are represented. Citing an example he explained that an



objective ML material model for elastoplasticity, which predicts the stress components based on the strain components, can be generated via putting the stress and strain tensors in spectral form and use the Euler angles or the entities of the skew-symmetric counterpart in Lie Algebra. Moreover, he elucidated that using the same datasets but employing informed-graph-based neural networks allows to incorporate different amounts of human knowledge and generate intermediate predictions that help to improve the accuracy of the final ML

prediction. Equally important for the accuracy of the predictions is the right choice of the neural network settings (NN meta parameters). Applying deep reinforcement learning (DRL) as a tool to figure out the NN meta parameters in connection with maximizing the model score (e.g., prediction accuracy) is one of the issues to be presented. Finally he explained about the numerical experiment to show the integration of one of the resultant ML-generated material models into a finite element (FE) solver to solve initial-boundary-value problems as a replacement of the hand-craft constitutive law.

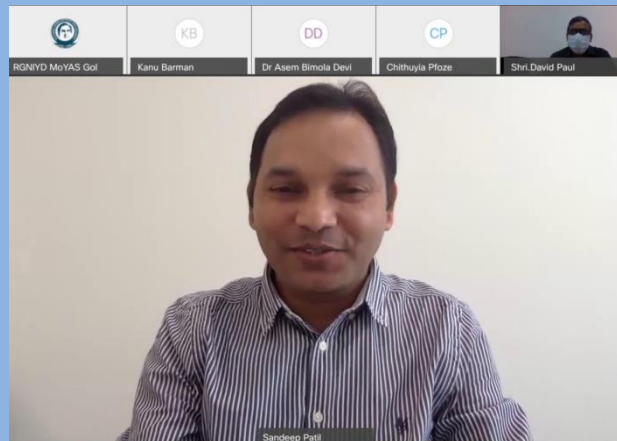


Dr. Franz Bamer, Group Leader, Institute of General Mechanics, RWTH Aachen University delivered the fourth lecture titled “Model order reduction and efficient meta-modeling in structural mechanics” on March 31, 2021. Detailing about the topic he mentioned that evaluating the solution function of complex mechanical problems is generally time-consuming. He dived at length on the mechanical

origin of the issue and then, he dealt at length on the new approaches to overcome the numerical burden including the linear and nonlinear model order reduction techniques, space-time integration schemes as well as machine learning-enhanced strategies.



Dr.-Ing. Sandeep P. Patil, Group Leader, Institute of General Mechanics, RWTH Aachen University delivered the fifth lecture in the series who spoke on the “Multiscale modelling of hierarchical biomaterials and advanced materials” on April 01, 2021. During his lecture he enlightened about the mechanical properties of hierarchically structured materials that rely on the characterization and understanding of their nanostructure. He cited the classic example of the dragline silk. He detailed that experimental studies have shown that the extraordinary mechanical properties of silk are conferred primarily to the nanostructure. In the first part, he detailed about his three dimensional (3D) finite element model of a silk fiber, which is based on the secondary (nanoscale) structure of the Araneusdiadematus silk fiber, taking into account the plasticity of the β -sheet crystals as well as the viscous behavior of the amorphous matrix. In his bottom-up approach to dragline silk fiber predicted mechanical properties agree with the experimental ones within the limits of the experimental accuracy. He designed the airbag model with spider silk material and performed an impact analysis. He explained that finally, the obtained results of his study were compared with the standard airbag test. Their study paves the way towards the new promising material for airbags. In the second part, he explained the mechanical properties of aerogels based on his study with molecular dynamics (MD) simulations. Silica aerogels have been considered for a broad scope of application areas, including but not limited to energy storage, aerospace, shock-absorbers,



Knudsen pumps, and high-energy-density. He also explained about another advanced material which is graphene aerogel, which is the lightest material that has ever synthesized, and it has 90-99% porosity. He concluded that MD simulations were effectively used to model the silica and graphene aerogels according to his synthesis procedure.

The sixth lecture in the series was facilitated by Dr.-Ing. Sandeep P. Patil, Group Leader, Institute of General Mechanics, RWTH Aachen University spoke on the academic career opportunities in Germany. During this session, a general overview on education abroad for the Indian students was presented and specific details on pursuing higher studies in Germany was dealt at length. Further, the eligibility criteria for pursuing various courses including arts, science,



commerce, technology, medicine etc at different levels such as under-graduation, post-graduation, Ph.D, Post-Doctoral Research programmes were discussed at length. Besides, the course equivalence at Germany, comparability with studies in other countries was also discussed. Job prospects, internship facilities in Germany after pursuing various programmes in Germany were also dealt with. Later, details on the most preferred universities and colleges by Indian Students in Germany and the criteria for application, the selection process, and study life in Germany etc. were explained by the resource persons.

RWTH Aachen University | RWTH International Academy

Facts and Figures

- Affiliated institute of RWTH Aachen University
- Personal career and administrative support
- 7 Master's programs Completely taught in English
- 95% International students Strong student/alumni community

CAREER IN GERMANY: OVERSEAS

QS World University Rankings: 44

JOB OFFER

21%

EMPLOYMENT RATE

90%

14 Academic Career Opportunities in Germany | Dr. Sandeep P. Patil | Guest Lecture - RGNIID | 02.04.2021

In particular, he highlighted the CAME (M.Sc Degree Programme in Computer Aided Conception and Production in Mechanical Engineering) and MME-CAME (M.Sc. Management and Engineering in Computer Aided Mechanical

Engineering) at RWTH programmes available for international students, particularly, the aspirants from India planning to pursue technical education in Germany which is a good gateway for pursuing job-oriented programmes which has tremendous potential for job absorption in RWTH University as well as globally reputed industries. For CAME programme, he mentioned that GRE is required for applying whereas, the M.Sc. MME-CAME is an interdisciplinary industrial engineering program. He also mentioned about the Hilti Corporation Scholarships which attracts a lot of India students to pursue higher education in Germany. Later, during the question and answer session, the resource person clarified all the doubts and queries of the participants.

Valedictory Session

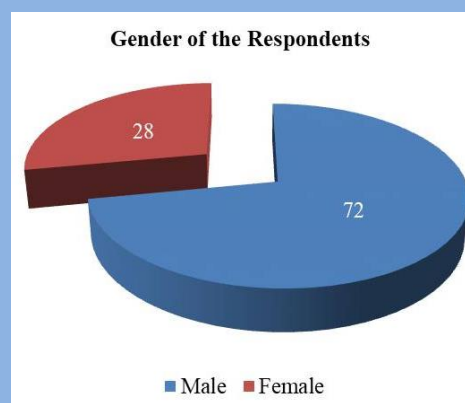
Prof. Sibnath Deb, Director, RGNIID delivered the presidential address during the valedictory address. He motivated the participants to take more academic and career benefits out of the lectures and to interact with the experts for further guidance relating to research and higher education in Germany.

Evaluation of the Course

As part of the evaluation of the one-week lecture series, a semi-structured feedback form was circulated among the participants to provide feedback on different dimensions of the lecture series. Among the participants a total of 39 students responded to the feedback form. The following sections provides the details on the feedback provided by the respondents.

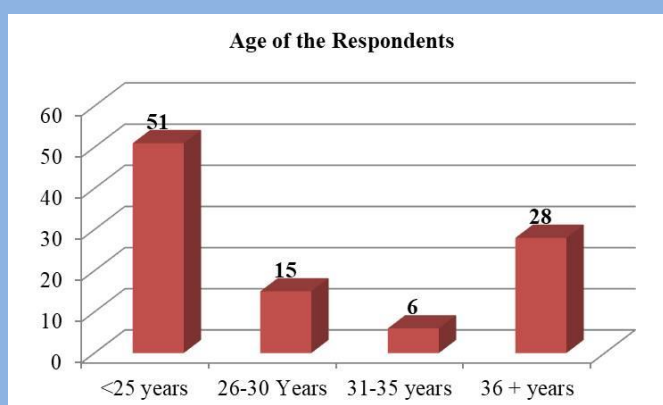
1. Gender of the Respondents

With regard to the gender of the respondents, out of the 39 participants who responded, 72% constituted male and the remaining 28% were female respectively.



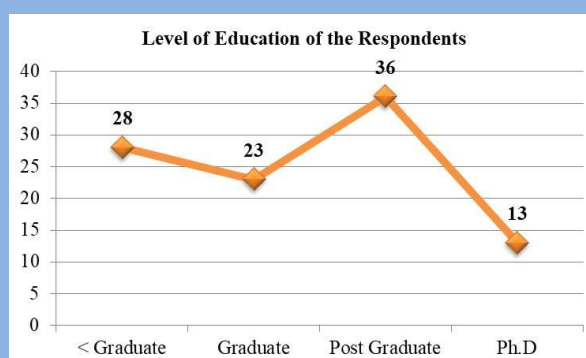
2. Age of the Respondents

As regard the age of the participants more than half of the respondents (51%) were below 25 years of age, while 28% of them were above 36 years followed by 15% of the respondents in the age brackets of 26-30 years and the remaining 6% in the age group of 31-35 years respectively.



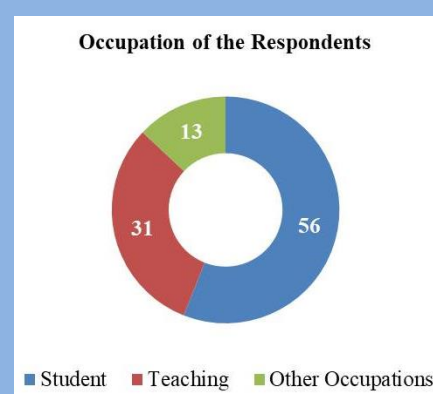
3. Level of Education of the Respondents

With reference to the education of the respondents, most of the participants who attended the lecture series were post graduates constituting a chunk of 36%, where as 23% of the respondents were under pursuing graduation studies while another 28% of the respondents were pursuing education below the level of graduation which include diploma programmes in technical institutions.



4. Occupation of the Respondents

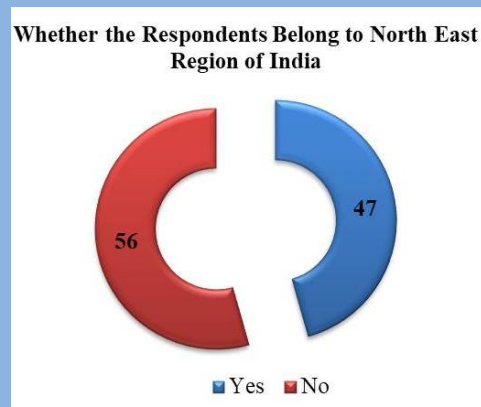
The occupation of the respondents who attended the one-week lecture series was profiled based on the feedback provided by the respondents. Among the respondents, majority of them who constituted 56% were students pursuing Diploma, Under Graduation and Post-Graduation studies, while 31% of the respondents were in teaching positions and the remaining 13% of the respondents were engaged in



other occupations.

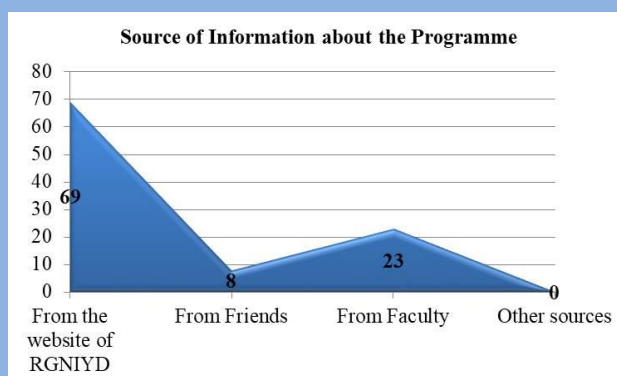
5. Whether belong to North East?

The participants were asked to indicate whether they belonged to north-eastern region. Based on the responses gathered, it was classified that about 47% of the respondents belonged to North-Eastern region of India while the remaining 56% of the participants were from the other states of the country. It was highly encouraging that almost half of the participants were from north-eastern region who took benefit of the opportunity provided by RGNIYD as the students lack such opportunities in that part of the region.



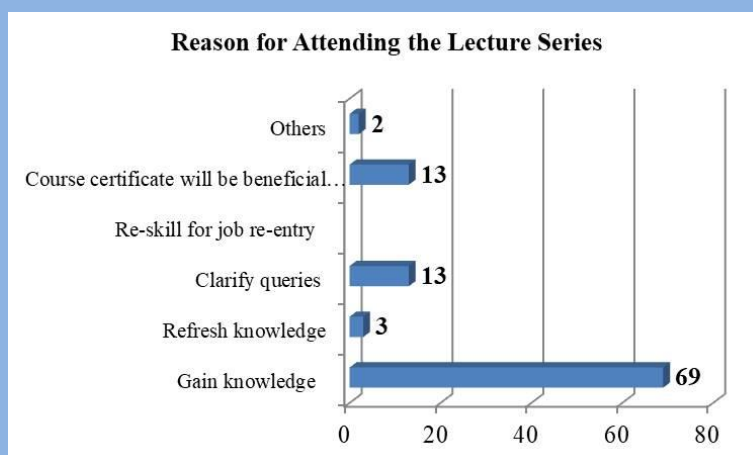
6. Source of Information about the Programme

The organising institution (RGNIYD) was particular about the source of information from which the participants came to know about the one-week lecture series programme. It was evident from the feedback that majority of the respondents (69%) came to know about the lecture series from the website of RGNIYD. About 23% of the respondents knew about the lecture series from their faculty members and another 8% of the respondents revealed that they got the information on the lecture series from their friends. From the information gathered under this head, it was observed that RGNIYD's website was a major source of information to the youth of the country who constantly look for various opportunities to upgrade their knowledge and skills. It is therefore vital for the organising institution (RGNIYD) to take note that frequent updates on the upcoming programmes and other youth pertinent information and data is to be uploaded on the website of RGNIYD for larger dissemination.



7. Reason for Attending the Lecture Series

As part of the feedback, the participants were asked to provide information on why they attended the lecture series? Majority of the respondents (69%) revealed that they attended the lecture series to gain knowledge, where as 13% of the respondents each mentioned that they attended the lecture series to clarify their queries or to secure a



participation certificate in the lecture series which will be beneficial for their future career respectively. 3% of the respondents said that they attended the lecture series to refresh their knowledge and the remaining 2% of the respondents had other reasons for participating in the lecture series such as: they wanted to study in a country abroad like Germany so that participation in this lecture series will add credit to their profile besides they can secure relevant information on the courses, eligibility criteria and to get oriented on the other requisite information for pursuing higher studies in Germany. Yet a few other participants mentioned that they wanted to gain information on the study facilities available in Germany for Indian students, the basic requirements, study life in Germany, cost aspects, information on scholarships for Indian students to pursue education in Germany etc.

If Others, please specify
4 responses
I want to study abroad like germany
To look forward the facilities available in Germany
Student
No

8. Whether attended all the Lectures in the Series?

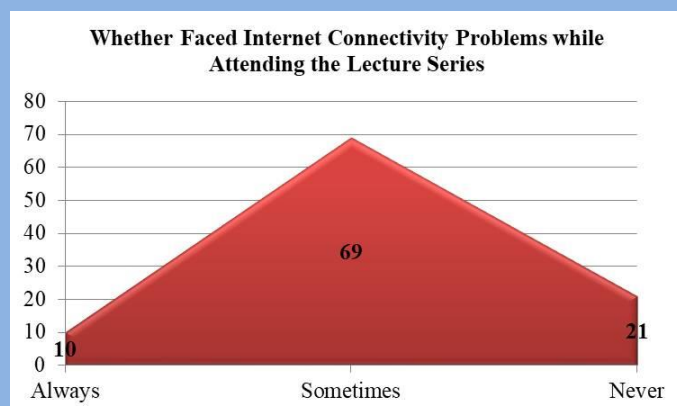
In the feedback, the participants were asked to indicate to mention whether they attended all the lectures of the series. From the feedback of the respondents, it was found that 87% of the respondents attended all the lectures of the series whereas, 13% of the respondents mentioned that they did not attend all the lectures in the series.

Whether attended all the Lectures of the Series?



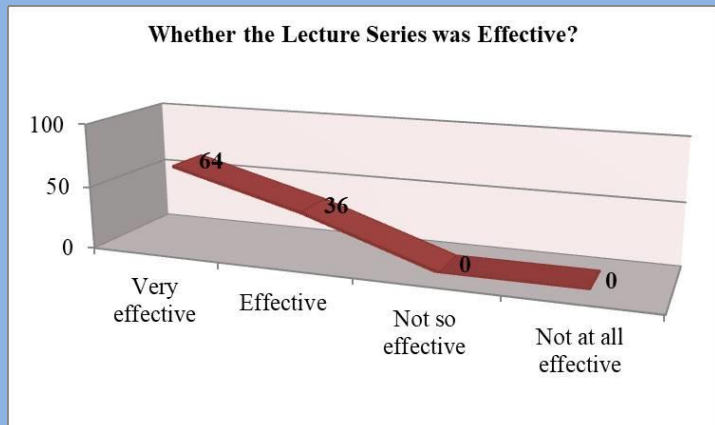
9. Whether Faced Internet Connectivity Problem?

The participants were required to indicate whether they faced internet connectivity problems while attending the lecture series. Based on the feedback provided by the respondents, it was ascertained that majority of the participants constituting over 69% mentioned that they sometimes faced internet connectivity problems which deterred them from attending the classes, while 21% of the respondents indicated that they never incurred any internet connectivity problem. However, 10% of the respondents, particularly from the rural areas including the north-eastern region mentioned that they always had the issue of internet connectivity and therefore, they could not attend all the lectures.



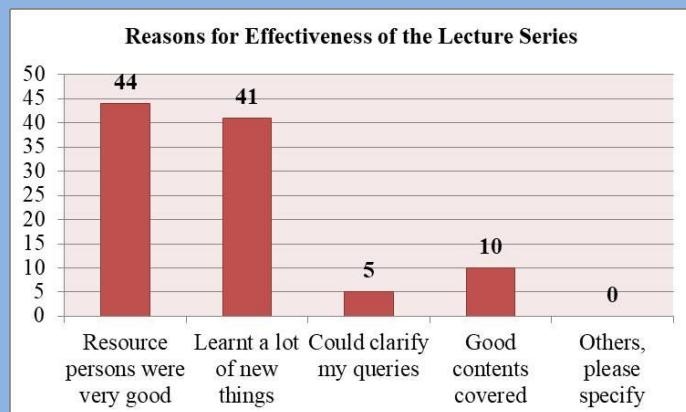
10. Was the lecture Series Effective?

The participants were requested to indicate whether the lecture series was effective. Based on the feedback obtained from the respondents, majority of the participants including 64% of them opined that the lecture series was very effective, while the remaining 36% of the respondents indicated that the lecture series was effective. None of the participants who attended the lecture series mentioned that the lecture series was not so effective or not at all effective.



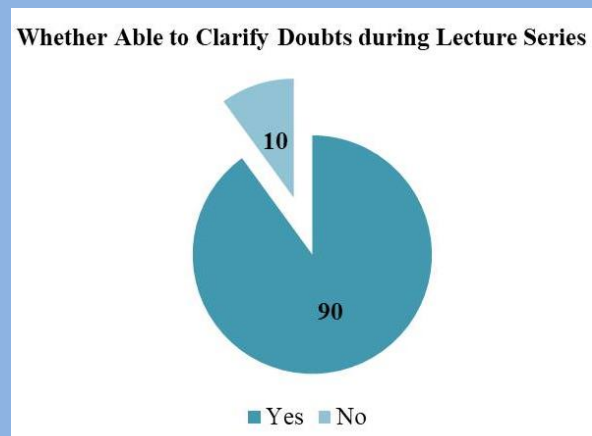
11. Reasons for Effectiveness of the Lecture Series

When the participants were asked to state the reasons for evaluating the lecture series as effective, various responses emerged in this regard. It was found that 44% of the respondents mentioned that the cause for the effectiveness of the lecture series was due to the fact that the resource persons of the lecture series were very good. While it was found that another 41% of the respondents mentioned that they learnt a lot of new things through the lecture series which was their prime reason to state that the lecture series was effective. Ten percent of the respondents mentioned that the lecture series covered good contents therefore they cited this as the reason for effectiveness of the lecture series. The remaining 5% of the respondents highlighted that they could clarify their queries through from the experts who delivered lectures in the series and therefore they claimed that the lecture series was effective.



12. Whether you were able to clarify your doubts during the Lecture Series?

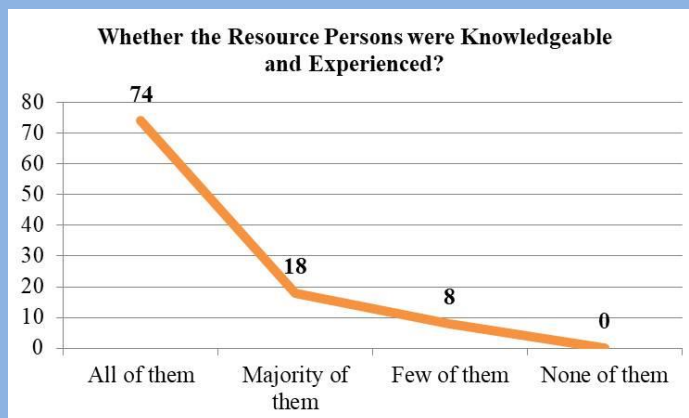
The participants were asked to provide feedback whether they could clarify their doubts with the resource persons during the lecture series. Over 90% of the respondents mentioned that they could clarify their doubts during the lecture series. However, a small segment of about 10% of the respondents felt that they could not get their doubts clarified during the lecture series. This may be due to the fact that the speakers in the lecture series were from Germany, while the language and



accent would have been difficulty for the participants to comprehend. Further, they might have felt inferior or afraid to ask questions to the experts of such high stature. Therefore, this could have been one of the major reason that the participants could not get their doubts clarified.

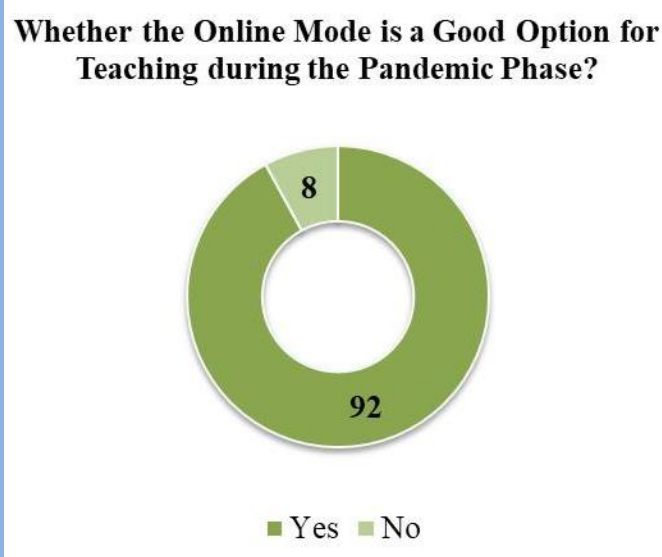
13. Participants' Ratings on the Quality of Resource Persons

In the feedback, participant's perceptions and evaluation of the resource persons is of paramount significance. Therefore, the participants were asked to evaluate the quality of resource persons in terms of their depth of knowledge and experience in their relative field of lecture based on the delivery of the lecture. There was an overwhelming response in favour of the guest speakers of the lecture series. A vast majority of the respondents of about 74% rated all the resource persons to be highly knowledgeable and experienced whereas, 18% of the respondents said that majority of the resource persons were knowledgeable and experienced while 8% indicated that few of the guest speakers were knowledgeable and experienced. While none of the participants mentioned that none of the guest speakers in the lecture series were knowledgeable and experienced.



14. Participants' Response on whether Online Mode of Teaching is a Good Option during the Pandemic Period?

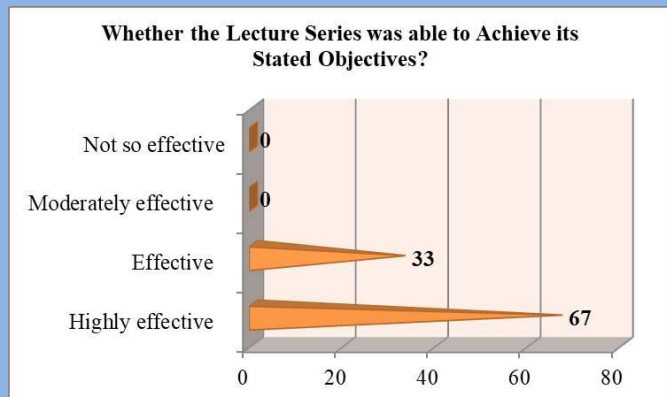
The organisers were keen on ascertaining from the participants whether the online method of teaching is a good option during the pandemic phase? Based on the response of the participants, it was assessed that most of the participants who constituted over 92% indicated that the online mode of teaching was a good option during the pandemic phase. A miniscule group of participants of 8% were of the opinion that online mode was not a good option for teaching during the pandemic phase for variety of personal reasons they ascribed. However, taking into consideration the majority of those indicating that online mode was the best option due to the reason that it was the singular best option to offer such programmes for the benefit of the youth to keep them engaged from misuse of time which will also enhance their knowledge and competencies besides adding value to their profile due to participation in such online activities. Therefore,



this gives the organisers an obvious indication that online method of teaching and learning was much effective during the COVID-19 pandemic period.

15. Whether the Lecture Series was able to achieve its Objectives?

As part of the feedback, the organisers wanted to ascertain from the participants whether the objectives of the lecture series was achieved? On assessing the ratings of the participants on the degree of achievement of the objectives of the lecture series, it was observed that majority of the respondents (67%) indicated that the lecture series could highly achieve its stated objectives and the remaining 33% of the respondents commented that the lecture series could effectively achieve its stated objectives. It was further observed that none of the participants have indicated that the lecture series was moderately effective or not so effective in achieving the stated objectives. The responses cumulatively portray that 100% of the respondents felt that the lecture series was either highly effective or effective in achieving its stated objectives which is a sign of success of the lecture series.



16. Which aspect/lecture of the Lecture Series was very stimulating?

For the query on which aspect or lecture during the Lecture Series was stimulating, most of the participants indicated that the detailed lectures by all the resource persons were very stimulating. In particular, the lecture by Dr. Franz Bamer, Group Leader, Institute of General Mechanics, RWTH Aachen University on the topic Model order reduction and efficient meta-modeling in structural mechanics was really good which provided understanding on the use of structural models which are earthquake resilient were enlightening. A few participants mentioned that learning about the foreign opportunities for the students was much stimulating.

Which aspect /lecture of the programme was very stimulating for you?	
39 responses	
Good	
All	
The lecture by sir bamer is really good in understanding us earthquake failure	
To learn about the foreign opportunities to students.	
All 4 lectures	
All the lecture	
The detailed lectures by experts	
Yes	
Last one	

17. What are the key messages you got by attending the Lecture Series?

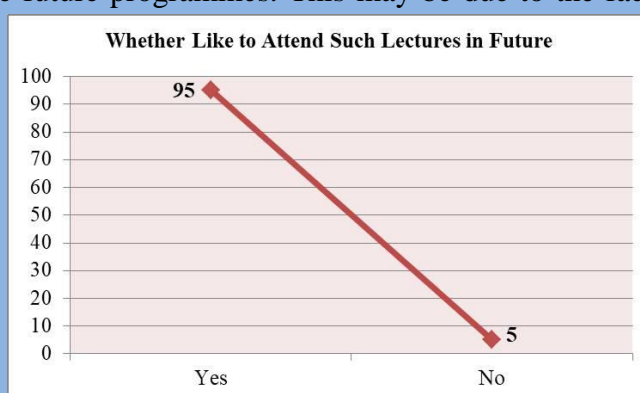
With regard to the feedback on key message the participants gained by attending the Lecture Series, the responses of the participants indicated that there were several takeaways. The participants mentioned that application value in the technical realm enlightened in each lectures, guidance rendered to approach a particular field of study and to undertake

What are the key messages you got attending the programme?	
39 responses	
To apply our knowledge in technical world	
To study in a specific way which help you to perform research in any particular area.	
How mechanics use in Machinery related works	
About studying abroad	
Research focus and level of education is great at RWTH Aachen University	
Good	
About the career opportunities ahead	
Career Growth	
Over all development of the youth.	

in-depth research in that particular area, lectures dealing with use of mechanics in machinery related works, insights on studying abroad and the career fields to pursue, information on opportunities for career growth and progression, research focussed education and educational standards of RWTH Aachen University and the lecture that provided an overview of holistic youth development were the key messages gained through the Lecture Series. Further, the overall youth development as detailed by Prof. Sibnath Deb, Director, RGNIYD, Tamil Nadu, India in the initial lecture of the series titled “Promoting Functional Capability of Youth in India” was enriching as mentioned by the participants.

18. Whether like to attend such Lectures in Future?

For the question in the feedback that whether you would like to attend any special lectures to be organised by RGNIYD in future, almost all the participants (over 95%) expressed their desire to participate in the future programmes to be organised by RGNIYD. While 5% mentioned their disinterest in attending the future programmes. This may be due to the fact that the participants were varied educational backgrounds and the lectures were too technical in nature. Further, a few participants experienced problems with language and barriers relating to accentuation by the resource persons. Therefore they might have indicated their disinterest. However, 95% were willing to take up future courses and attend special lectures which is an overwhelming response. Further, RGNIYD being a Government of India Institution of National Importance, the programmes carry its own value and branding. Further, the clientele for such programmes are not charged. Therefore, these factors always remain a great attraction for the participants’ desirability to attend future programmes of RGNIYD.



Profiles of the Speakers of the Lecture Series

Prof. Sibnath Deb, PhD, DSc

Director,

Rajiv Gandhi National Institute of Youth Development

(An Institution of National Importance by Act of Parliament No.35/2012)

Ministry of Youth Affairs and Sports, Government of India,

Sriperumbudur, Tamil Nadu, India

Member, Board of Directors, Institute for School-based Family Counseling, California, USA

Adjunct Professor, School of Justice, Faculty of Law, Queensland Univ. of Technology, Brisbane, Australia.



Prof. Sibnath Deb is Director at Rajiv Gandhi National Institute of Youth Development, Sriperumbudur, Tamil Nadu, Ministry of Youth Affairs and Sports, Government of India, Previously, he was Professor at the Department of Applied Psychology, Pondicherry University, and has also taught at the University of Calcutta, India. Currently, he is also Adjunct Professor at the School of Justice, Faculty of Law, QUT, Australia.

During 2004–2008, he served the International Society for the Prevention of Child Abuse and Neglect (ISPCAN) as Council Member. In brief, he has got 28 years of teaching, research and administrative experience and has produced 19 PhDs in addition to publishing more than 100 research articles/book chapters. Professor Deb has written seven books and edited six books.

His latest published books are (a) Disadvantaged Children in India: Empirical Evidence, Policies and Actions (Springer, 2020); (b) Childhood to Adolescence: Issues and Concerns (PEARSON, 2020); (c) Social Psychology in Everyday Life (Sage, 2019); (d) Distance Education: Prospects, Challenges and Way Forward (PEARSON, 2019); (e) Positive Schooling and Child Development: International Perspectives (Springer, 2018); and (f) Child Safety, Welfare and Well-being: Issues and Challenges (2016). His three more books titled (a) Upholding Justice: Social, Psychological and Legal Perspectives (Routledge, 2020); (b) Delivering Justice: Issues and Concerns (Routledge, 2020); and (c) Community Psychology: Theories and Applications (Sage, 2020) are in press. Professor Deb has received three national and three international awards in recognition of his contribution in the field of psychology.

In 2019, Prof. Deb has received the “Visitor’s Award’ 2019” from the Hon’ble President of India Sri Ram Nath Kovind for his contribution in the field of health psychology, child protection and students mental health. His current areas of research interest include family dynamics, parenting styles, child safety, students’ mental health, adolescent reproductive health and applied social psychology.

Prof. Dr.-Ing. Bernd Markert

Director

Institute of General Mechanics

RWTH Aachen University

Germany



Prof. Bernd Markert holds a diploma degree (Dipl.-Ing.) in Civil Engineering from the University of Stuttgart. He finished his Ph.D. (Dr.-Ing.) at the Institute of Applied Mechanics (CE) at the University of Stuttgart in 2005. In 2013, he became a supernumerary professor (apl. Prof.) at the University of Stuttgart. In August 2013, Bernd Markert was appointed full professor at the RWTH Aachen University and Director of the Institute of General Mechanics in the Faculty of Mechanical Engineering. His present research focuses on the theory and numerics of general coupled problems, computational and experimental biomechanics and structural mechanics, as well as extended continuum methods, such as phase-field models.

Dr.-Ing. Yousef Heider

Group Leader
Institute of General Mechanics
RWTH Aachen University
Germany



Dr. Heider is working since May 2014 as a Lecturer at RWTH Aachen University in Germany and a team leader of the research group "Multi-field Mechanics". His research works cover topics like porous media mechanics, fracture mechanics, multiscale material modeling, and machine learning implementation in computational mechanics. He was, between Oct. 2018 and Sept. 2019, a visiting Associate Research Scientist at Columbia University, NYC, USA, and worked between July 2011 and April 2014 in the field of renewable energies (R&D) at the construction company Ed. Zueblin AG in Germany. He received his Ph.D. degree in Computational Porous Media Dynamics from the University of Stuttgart, Germany. He holds his Master's degree (2007) in Computational Mechanics of Materials and Structures from the University of Stuttgart and Bachelor's in Civil Engineering (2003) from Damascus University.

Dr. Franz Bamer

Group Leader

Institute of General Mechanics

RWTH Aachen University

Germany



Dr. Franz Bamer is a group leader at the Institute of General Mechanics at RWTH Aachen University. He holds a Ph.D. in Mechanics and a Master's degree in Civil Engineering from the Technical University of Vienna, both of which he finished with distinction. His research focuses on nonlinear structural dynamics and solid mechanics. He is particularly interested in self-organized critical processes in solid mechanics on different length and time-scales. This phenomenon ranges from the nonlinear behavior of amorphous solids on the nanoscale to nonlinear chaotic effects of plate tectonics on the macro-scale and their efficient treatment. He has published 34 peer-reviewed articles in highly reputable journals, over 20 of them in the last two years, 29 proceeding papers, and two book chapters.

Dr.-Ing. Sandeep P. Patil

Group Leader
Institute of General Mechanics
RWTH Aachen University
Germany



Dr. Sandeep P. Patil is a Group Leader at the Institute of General Mechanics at RWTH Aachen. In 2010, he finished his Masters of Science in Computational Mechanics of Materials and Structures at, University of Stuttgart, Germany. He obtained his Ph.D. (Dr.-Ing.) under the supervision of Prof. Markert at the Institute of General Mechanics in 2015. He is an Academic Study Advisor for M.Sc. Degree Programs (CAME and MME-CAME) at RWTH. His fields of interest are Continuum mechanics, Molecular dynamics simulation, Multiscale modeling, Advanced materials, Brittle fracture, Material forming, and Biomaterials. He is a recipient of a Hilti Scholarship 2010. Hilti Corporation offered a scholarship to the master thesis at Schaan, Principality of Liechtenstein.



RAJIV GANDHI NATIONAL INSTITUTE OF YOUTH DEVELOPMENT

Institution of National Importance by the Act of Parliament No.35/12
Ministry of Youth Affairs and Sports, Government of India
Sriperumbudur – 602 105.



RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE (RWTH) AACHEN UNIVERSITY

Campus-Boulevard, Aachen, North Rhine-Westphalia, Germany.

RGNIYD's One-week Lecture Series for Indian Students

Facilitated by Experts from RWTH University, Germany

List of Participants

S. No	Name
1	1842043240
2	20edp09 Anbarasan A
3	20edp19 Naveena Princy
4	Aakash S
5	Aaush Pradhan
6	Abhigyan Deka
7	Abhishek Kumar
8	Aboobacker Sidheeque
9	Adale Dailu Dovih
10	Adarsh J
11	Aditya
12	Ananda Murugan P
13	Ananda Murugan P
14	Ananda Murugan P
15	Ancy
16	Anish kumar
17	AnkurProtimMahanta
18	arjunprakash
19	ArunBalakumar
20	Arunkumar
21	AseenbaLongkumer
22	Asem Vikash Meitei
23	Ashwani Kumar Mishra
24	Aurobind Ganesh
25	Avinash Kumar Mishra
26	Balung
27	BangthaiNoklang
28	Boopathy M.

29	ChithuyiaPfoze
30	David Paul RGNIID
31	Dipak Kumar
32	Dipdarshan Borah
33	Dr AsemBimola Devi
34	Dr Sharmistha
35	Dr SharmisthaBhattacharjee
36	Dr. Arif Rasheed
37	Dr. Leimapokpam Dorendro Singh
38	Dr..ShripadUnde
39	Easter S
40	Ekai Y Konyak
41	Emimal S
42	Faizan
43	FidhaMariyam
44	G K Karthik
45	Gayathri Jagannath
46	Gurmeet Singh
47	HaopuHaokip
48	Harini
49	Harish M
50	Harsha Ajay
51	HP
52	Ibopishak Singh
53	isaac.sundarsingh
54	Jesulyn Divya E
55	Justin Benny
56	Kalpana
57	Kanu Barman
58	khrieketounuoBelho
59	KuvotoVadeo
60	lamztkr
61	Lungduk
62	Mangyangmenla
63	Manisha Sinha
64	Manu saivenkataratnam
65	marianus saga
66	Mirothali Chand C
67	Monjeet Singh Koiri
68	Mriganka Bora
69	Mriganka Bora
70	Mukund
71	NengneithemTouthang
72	Pattupogula Narasimhulu

73	Paul Immanuel
74	Phebe Evangeline
75	Prashanth
76	princylydia
77	Puneet Atal (Guest)
78	R. Swathi
79	Raghul
80	Raheena Bin Mohammed
81	Rakesh Dangi MCC Banswara
82	Ramesh Kumar Mahto
83	Ramkumar
84	Ramkumar
85	Rashmi KumariRajora
86	Rashmi priya Das
87	Ravi Raj
88	Razunu D vadeo
89	Rishi Chaudhary
90	Rohit Raj
91	sadil
92	Sagar
93	SagarBaitule
94	Sandra Thomas
95	SangtsoKhamniungan
96	Sanjeeta Rani
97	SarumathySaravanan
98	SAVIRAJ
99	ShahanaNasreem A
100	shivani Devi
101	Shri.David Paul
102	SivakumarSubbian
103	Sourabh Rathor
104	Subburam Manikandan
105	Subhendu Bera
106	suko
107	Sundaramoorthy K
108	Sunil Kumar
109	Suraj D
110	surya
111	Thazaba Po
112	ThulungaGoyary
113	TonishaTomy
114	ToraliPhukan
115	Tuikhang Chuongam Koren
116	Vanshkhera

117	Varsha
118	Vignesh
119	Yashasvi Jain



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RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE (RWTH) AACHEN UNIVERSITY

Campus-Boulevard, Aachen, North Rhine-Westphalia, Germany.

RGNIYD's One-week Lecture Series for Indian Students

Facilitated by Experts from RGNIYD, India and RWTH University, Germany

Lecture Series Schedule

Lecture Series	Date	Time	Speaker	Topic
Lecture-1	March 29, 2021 (Monday)	6.30 Hrs Central European Time (CET), 11:00 Hrs Indian Standard Time (IST)	Prof. Sibnath Deb, PhD, DSc Director Rajiv Gandhi National Institute of Youth Development Ministry of Youth Affairs & Sports, Government of India Sriperumbudur, Tamil Nadu	Promoting Functional Capability of Youth in India
Lecture-2	March 29, 2021 (Monday)	10:00 Hrs Central European Time (CET)(13:30 Hrs Indian Standard Time (IST)	Prof. Dr.-Ing. Bernd Markert, Director, Institute of General Mechanics, RWTH Aachen University	On the role of fundamental mechanics in the digital engineering ecosystem
Lecture-3	March 30, 2021 (Tuesday)	10:00 Hrs Central European Time (CET)(13:30 Hrs Indian Standard Time (IST)	Dr.-Ing. Yousef Heider, Group Leader, Institute of General Mechanics, RWTH Aachen University	Machine-Learning-Based Material Modeling in Multiscale Computational Mechanics
Lecture-4	March 31, 2021 (Wednesday)	10:00 Hrs Central European Time (CET)(13:30 Hrs Indian Standard Time (IST)	Dr. Franz Bamer, Group Leader, Institute of General Mechanics, RWTH Aachen University	Model order reduction and efficient meta-modeling in structural mechanics

Lecture-5	April 01, 2021 (Thursday)	10:00 Hrs Central European Time (CET)(13:30 Hrs Indian Standard Time (IST)	Dr.-Ing. Sandeep P. Patil, Group Leader, Institute of General Mechanics, RWTH Aachen University	Multiscale modelling of hierarchical biomaterials and advanced materials
Lecture-6	April 02, 2021 (Friday)	10:00 Hrs Central European Time (CET)(13:30 Hrs Indian Standard Time (IST)	Dr.-Ing. Sandeep P. Patil, Group Leader, Institute of General Mechanics, RWTH Aachen University	Academic career opportunities in Germany

Lecture Series Sample Certificate Copy

			
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<h1>Certificate of Participation</h1> <p>This is to certify that</p> <p>has participated in the RGNIYD – RWTH Aachen University's One-week Lecture Series for Indian Students Facilitated by Experts from RWTH University, Germany organised by Rajiv Gandhi National Institute of Youth Development, Sriperumbudur, Tamil Nadu from March 29, 2021 to April 02, 2021 through online mode (Cisco Webex).</p> <table border="0" style="width: 100%;"><tr><td style="text-align: center;"> Prof. Sibnath Deb, PhD, DSc Director RGNIYD, Ministry of Youth Affairs & Sports Government of India</td><td style="text-align: center;"> Dr. -Ing. Sandeep P. Patil Group Leader Institute of General Mechanics RWTH Aachen University, Germany</td></tr></table>		 Prof. Sibnath Deb , PhD, DSc Director RGNIYD, Ministry of Youth Affairs & Sports Government of India	 Dr. -Ing. Sandeep P. Patil Group Leader Institute of General Mechanics RWTH Aachen University, Germany
 Prof. Sibnath Deb , PhD, DSc Director RGNIYD, Ministry of Youth Affairs & Sports Government of India	 Dr. -Ing. Sandeep P. Patil Group Leader Institute of General Mechanics RWTH Aachen University, Germany		



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Jointly Organise
One-week Lecture Series for Indian Students
To be Facilitated by Experts from RWTH University, Germany
March 29 - April 02, 2021



SPEAKERS



Prof. E. Subramanian
Director, RGNIYD
Sriperumbudur, India

Topic: Training, Skill and Leadership
Tech. skill 1



Prof. Dr.-Ing. Bernd Markert
Director
Institute of General Mechanics
RWTH Aachen University

Topic: On the role of mechanical vibrations
in engineering application



Dr.-Ing. Youssef F. Heider
Group Leader
Institute of General Mechanics
RWTH Aachen University

Topic: Understanding heat and mass transfer
in the design of industrial processes



Dr. Franz Bamer
Group Leader
Institute of General Mechanics
RWTH Aachen University

Topic: Application of finite element method in
mechanics (Structure of Materials)



Dr.-Ing. Sandeep P. Patil
Group Leader
Institute of General Mechanics
RWTH Aachen University

Topic: Application of finite element method in
mechanics (Structure of Materials)

Registration Link : <http://www.rgnyid.gov.in/reg/node/452>

Join us



Meeting Link : <https://rgnyid.webex.com>

March 29, 2021 Lecture - 1
A. Subramanian, RGNIYD, India

Meeting Number : 104 404 4424
Password : 30001021

March 30, 2021 Lecture - 2
B. Markert, RWTH Aachen University, Germany

Meeting Number : 104 404 4424
Password : 30001021

March 31, 2021 Lecture - 3
Y. F. Heider, RWTH Aachen University, Germany

Meeting Number : 104 707 2000
Password : 30001021

March 31, 2021 Lecture - 4
F. Bamer, RWTH Aachen University, Germany

Meeting Number : 104 588 8700
Password : 31010021

March 31, 2021 Lecture - 5
S. P. Patil, RWTH Aachen University, Germany

Meeting Number : 104 100 7011
Password : 101040101

April 01, 2021 Lecture - 6
S. P. Patil, RWTH Aachen University, Germany

Meeting Number : 104 204 1040
Password : 000400101

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About RGNIYD

The Rajiv Gandhi National Institute of Youth Development (RGNIYD), Sriperumbudur, Tamil Nadu, is an Institute of National Importance by an Act of Parliament No.35/2012 under the Ministry of Youth Affairs and Sports, Government of India.

The RGNIYD functions as a vital resource centre with its multi-faceted functions of offering academic programmes at Post Graduate level encompassing various dimensions of youth development, engaging in seminal research in the vital areas of youth development and coordinating Training Programmes for state agencies and the officials of youth organisation, besides the Extension and Outreach initiatives across the country.

The Institute serves as a think-tank of the Ministry and premier organization of youth-related activities in the country. As the apex institute, it works in close cooperation with the NSS, NYKS and other youth organizations in the implementation of training programmes. The Institute is a nodal agency for training youth as a facilitator of youth development activities in rural, urban as also tribal areas.

About RWTH Aachen University

RWTH Aachen University, which is a public research university located in Aachen, North Rhine-Westphalia, Germany. With over 45,000 students currently enrolled in 144 study programs, it is the largest technical university in Germany. RWTH Aachen has been accredited as a University of Excellence among nine other universities in Germany. RWTH Aachen is a founding member of IDEA League, a strategic alliance of five leading universities of technology in Europe. The university is also a member of TU9, DFG (Deutsche Forschungsgemeinschaft) and the Top Industrial Managers for Europe network.



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