



SRESA *Newsletter*

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Editors

Prabhaka V. Varde
P.Vaishnavi

A point to think about

Safety is an overriding consideration and should be given top priority in any organization – there is no doubt about it. But in practice we work on risk modelling, risk reduction and risk mitigation ..why because risk has mathematical connotation. So why not leave safety as ideal and upward moving target while use risk in all our engineering and other matters as risk can be measured

From the President's Desk

I am happy to inform you that SRESA's International Journal, also referred as flagbearer of SRESA at national and international level will be completing 10 years of its publication in December 2021



There is proposal to celebrate successful completion of LRSE (Life Cycle Reliability & Safety Engineering. In fact, SRESA is organizing the 5th National Conference on Reliability and Safety (NCRS) during March 10 – 12, 2022. It was discussed in the SRESA managing committee that a slot can be reserved to commemorate a decade of LRSE publication and the proposal was discussed and approved.

As mentioned, preparation of the 5th NCRS has been in full swing. Since, its Covid time the virtual model is the only option that is available. The SRESA managing committee also approved organization by the SRESA-Chennai Chapter with the SRESA's Indian Institute of Risk and Reliability, Safety Critical Systems at IIT Madras as lead and the Centre for Reliability, CSIR-SERC and SSN University Chennai as the co-organizers. Prof. Raghu Prakash, the Chairman of SRESA-Chennai Chapter alongwith Dr. K. Balaji Rao, Emeritus Scientist, CSIR-SERC will be the Conference-Co-Chair for NCRS-5.

I am also happy to share with you, that the draft of the SRESA's First Standard on Probabilistic Risk Assessment has been received from the Chairman of the committee Shri S.P. Dharne and further procedure has been initiated for peer and other administrative and technical approval.

Prof. Prabhakar V. Varde

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Risk-Conscious Culture – A New Paradigm and Possibility : Prabhakar V Varde

We all have heard about the 'Safety Culture' specially in the context of Nuclear Power Plants. In fact, International Atomic Energy Agency has been promoting the implementation of safety culture philosophy for application in nuclear plants. Even though the nuclear industry is credited with maintaining the highest standard of safety, the three major nuclear accidents, TMI in 1978, Chernobyl in 1986 and Fukushima in 2011, became focus for in-depth analysis and learning for safety improvement. The second, vital development is, even though the 'traditional defence-in-depth philosophy still provides the fundamentals of safety, the increased confidence in probabilistic risk assessment methodology led to growth of risk-informed approach in regulatory applications. In a way this approach provided a scientific basis for addressing and optimizing safety and by addressing issues associated with over conservatism that poses at times limitation in regulatory reviews. When we think of an operational eco-system in a nuclear plant, we realize that, even though optimized approach to automation is adopted, there are areas where human intervention is either consciously resorted due to complex nature of automation, or the available human window, particularly, during emergency situation might increases stress levels amongst the staff. Here, we come across one insight that operation eco-system tends to be human-interaction intensive and might result into the enhanced chances of error, especially during emergency condition.

Further, the Indian philosophy asserts that consciousness is fundamental to human existence and in many ways to ensure the required human abilities, that include, cognitive, physical, psychological and spiritual – as human is basically a spirit. These insights gave an impetus to develop a risk-conscious operations management system. Research and development so far has shown exciting results to the extent that it has inspired me to write a book on 'risk-conscious approach to operational management. I will cover this subject in more details and share my experience in an article.

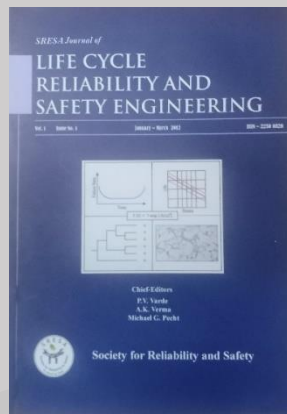
SRESA's Flag bearer – The Int. Journal of Life Cycle Reliability and Safety Completes 10 year of Publication - Prabhakar V Varde, Editor



The Genesis

Today, when I am writing this article, on SRESA's International Journal entitled 'Life Cycle Reliability and Safety Engineering', (LRSE) as proud, one of the Chief-Editors for this journal, I am overwhelmed with

emotions. The reason is that many challenges were involved in publishing this journal but the major issues were related to keep it going without missing deadline for even single issue of LRSE while maintaining the standard required for an international journal on one hand while the minimal or no experience in publishing a journal on the other. But the positive side that made that made everything going was the cooperation that we received from colleagues, seniors and organizations and supporters and last but not least the researchers, scholars who showed their strong faith and commitment for publishing their research in LRSE. We feel proud to declare that the Journal has completed 10 successful years with the publication of Issue no 4 for the October-December quarter of 2021. I feel glad to take you down the memory lane ..as for the important developments associated with LRSE preparation for launching by SRESA and later publication through the reputed international publisher - Springer or may be say Springer-Nature.



Initial Experience and Associated Memories

Once SRESA was registered with Charity Commissioner of Mumbai in 2010 the first SRESA activity was to start a quarterly SRESA newsletter. Whatever, little confidence we got with the publication of the NEWS Letter, We embarked on this idea to start publishing a SRESA's International Journal. Why this idea?

Publishing a Journal that too with an eye on international reach, that too without any experience and knowledge on publishing was the biggest bottle neck and launching the first was such a big achievement in 2012.

There were many reasons but the major reason was to create a publishing platform for, primarily Indian researchers, academicians, scholars to publish their research work and thereby share their ideas with their peers such that an ecosystem of exchange of ideas, research, results and insights can be created – that is very vital for the growth of a field – here it was risk and reliability. There is a quote that

"नदी जब निकलति है, उसके पास कोई नक्शा नहीं होता, कि सागर कहां है। बिना नक्शे के सागर तक पहुँच ही जाती है। इसलिये कर्म करते रहिये नक्शा तो पृकृति पहले से ही बनाकर बैठी है। हमको तो सिर्फ बहना है। (meaning: A river while starts its

journey and makes its way through various terrains does not flow holding a map to reach its destination – the ocean. But still reaches and merges with the ocean. In the same way we human have only 'Karma' or actions in our hand our destiny is already written by nature, so perform the actions and you will attain your goal.

A policy for review of the manuscript was worked out. A two-tier review was considered adequate with final decision of acceptance of the manuscript that rests with the one of the three Chief-Editors. The major organizational structure for review includes team of three Chief-editors, Further, the Advisory team and Editorial team, comprised 24 members and 18 members, respectively along with outside peer reviewers provided the needed support for review of the manuscripts submitted to the journal.

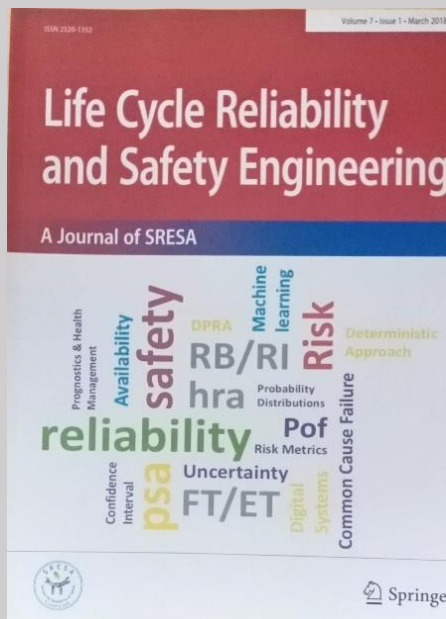
The formatting of each manuscript based on the standard format was the responsibility of the production team. The production services, responsible for formatting of the manuscript in two column layout was the responsibility of production service. Once the manuscript was formatted the softcopy of the manuscript was came back to the Chief-Editor Checks and for final approval. Once the Chief editor approved the manuscript, the front, second, third pages providing the purpose, sub-topics of journals, along with list of advisory, editorial and managing teams. The last page of the journal provided list of papers that formed that particular issue. A Vendor, Ebenezer, in Mumbai worked for SRESA for production activities.

Since the journal was published on quarterly basis, the one issue comprised of 5 – 6 papers, four issue comprised of a Volume, i.e. papers published in an year formed a volume. Accordingly a paper identified for referencing as Author list (e.g. Mathur, D.), paper title under quote, Life Cycle Reliability and Safety Engineering, Vol. XX and Issue. Once a paper is published, provision was made to send one hardcopy to the first author of the manuscript by speed post.

The hardcopies of the manuscripts were sent to the subscribers and organization's library by regular post as also by hand delivery. Here, I would say that staff at various levels they offered honorary services and this is the time to express gratitude to these great souls who worked and supported this journal. During initial five years each issue carried 5 – 7 articles and most of the time a well-known in a field related to reliability was appointed as the guest

editor(s). In fact, SRESA is grateful to these experts who willingly offered their services to work on their respective issues.

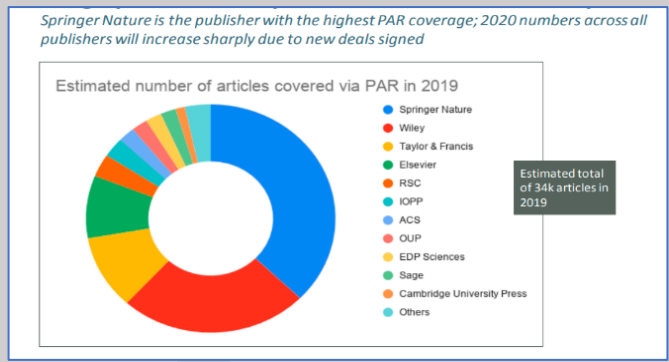
Some expert advises, some helping hand who understood our position and emotions they helped us not only through pricing annual charges but also supported in sales aspects. Two gentlemen who helped us through this complex task were Dr. N. Bhanumurthy and Dr. G. Ravikumar, (Head, SIRD, at BARC during the period 2012 - 2021) who guided us in the matters related to annual subscription (for national as well at international) as also about the sales related aspects. The net result was the sales fetched an amount annually to support the expenses involved in production and sales to various organizations in DAE in generally but also in various institutes in India.



Since this was the time only hardcopies were published, the expenses involved in editing and printing, transporting and posting required a modest budget. Even though initial publication expenses were met by the limited funds that were available with the society. However, this position does not guarantee sustainability for publishing the journal. The honorary staff had this worry as to how to generate the revenue such that the journal in-term of budget provision becomes self-standing.

The first issue i.e., for the period Jan - June, of the LRSE published in 2012 had all the above features. Publication of the first issue was an important milestone in the history of publication of LRSE as a) we had cleared all the challenges related to publication and b) it set the standards, procedures and outreach programme for LRSE publication.

I am happy to bring to your kind notice that the Journal was formally launched on January 2, 2012 by Shri S.S. Bajaj, Chairman, Atomic Energy Regulatory Board and the Chief Guest for the 'International Workshop on New Horizons in Nuclear Reactor Thermal Hydraulics and Safety' during the inaugural function of the workshop, organised jointly by AERB and SRESA at Safety Research Institute, Kalpakkam Chennai. Of course, it was a very low-key affair but a big step for SRESA. As we who were involved in starting LRSE did not have any experience with publication that too for an International Journal. I feel so sorry that I do not have even a photograph for this event.



However, this event set the ball in motion for publication of SRESA journal in India. The initial subscription for the journal was by high. i.e., Rs 15000 per annum, as compared to other Indian Journals. But still we went ahead with this subscription amount and many academic institutions subscribed LRSE and made the journey of SRESA publication in a self-sustaining model possible.

For over 5 years SRESA published the Journal in its original avatar till 2016, when springer invited SRESA to have the journal circulation inside India as well as outside India - at international level. That means SRESA retained the rights of a publisher including the copyrights for its publication. One interesting fact is, when springer showed interest for taking over marketing and distribution, initially they demanded an amount which SRESA thought too high.

Two renowned and Experienced academics and faculties came forward to help us through their expert advises on nuances of publishing. Finally they even accepted our invitation to be the Chief-Editors. I thank Prof. A.K. Verma, and Prof. M.G. Pecht for helping me to discharge my duty as one of the Chief Editors along with them. I go on record to express my deep sense of gratitude to both my colleagues for their guidance and support in publishing matters

However, SRESA's position was that in any case we are publishing this journal in India and we were in self-sustaining mode, so the question of paying Springer as initial amount, I think it was couple of lakhs does not arise. After negotiations with springer, they not only agreed to take over this journals marketing and distributions at international level but also agreed to pay Royalty every year. Another goodwill gesture extended by Springer was that all the SRESA Life member will have access to the LRSE. Initial formalities, that included signing of contract between SRESA and Springer was completed, a cover was designed for this new avatar of the LRSE. From 2017 onward our partnership with Springer has been a very pleasant experience.

All through the publishing of LRSE, the managing editor, Mr N.S. Joshi, Dr. Gopika, Mr D. Mathur and Dr. Manoj Kumar from BARC

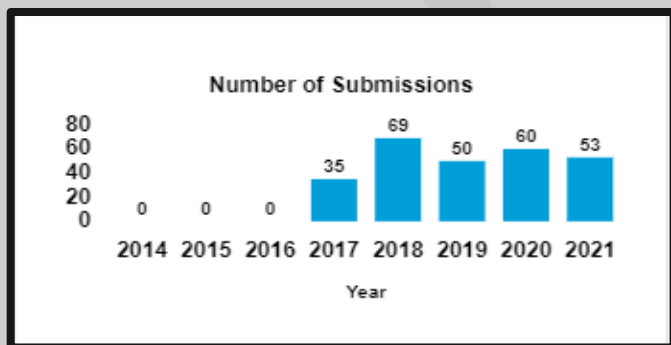
did a wonderful job for ensuring paper reviews, lining up of issues and finally overseeing production process and final distribution. Special help rendered, By Mr Meshram, Rg, BARC ensured copies distribution to all the subscribers. These people

Last but not the least our production partner, Ebenezer Printing House, located at Dadar (West), did wonderful job of formatting the manuscripts right from inception in 2012 for 5 years, till the journal production activities were passed on to Springer, i.e. up to 2016. Mr Soman and his editorial office did complex jobs with required perfection.

Publishing Partnership with Springer

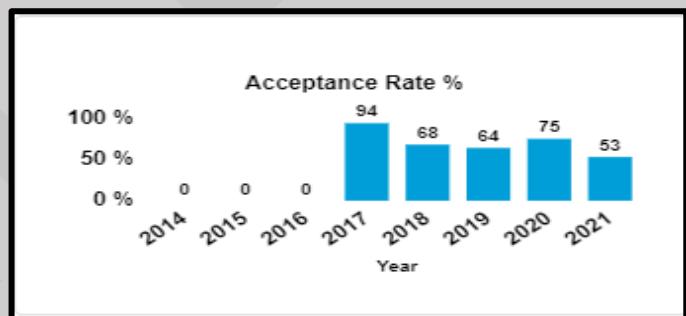
The first question as to Why Springer for LRSE ? It can be seen that Springer now the Springer-nature provides largest market reach for publication. The pie chart shows data for 2019. SRESA started publishing with Springer since 2017 and till 2021 we have done 20 issues in 5 years. The first step and major mile stone in the history of LRSE with springer was signing of contract for publication in 2016. One of the contract condition lays down for Royalty to be paid to SRESA annually. The LRSE website address is <https://www.springer.com/journal/41872>.

Before the publication started, some of the background and interesting activities included, redesign of the journal cover page and layout for back as well as other pages. Accordingly, a new cover page would fondly call the face of the journal was designed by us. One of the major upgrades, that was instituted, was that each issue will be comprised of 8 – 10 papers instead of earlier practice of 5 – 6 papers. One distinct advantage that came our way, in terms of operational part in publishing was, the availability of a professional software for automation of not only for review of the manuscript, but also many aspects like receipt of the manuscript (after initial processing at springer end), an integrated platform for communicating with Springer staff as also with managing editors and most importantly with the authors. This software reduced our operational and review efforts significantly.



Some advantages that came our way were, wider publicity for LRSE at national as well as international level, increase in number of manuscript that we received on quarterly basis, this enabled wider pool for selecting manuscript for final acceptance which is must if the quality of publication is to be sustained. Here, our managing editorial team played key role. Of course, this is also an opportunity for me to go on record to thank the current editorial team members, Mr N.S.Joshi, Dr. V. Gopika, Mr D. Mathur, Dr. K Manoj Kumar, Dr, Tej Singh, and Prof. S. Chaturvedy. LRSE would not have travelled to this stage without their dedication, support and cooperation. Along with this, the Springer team that took care of editorial process and other activities was critical for publication of the LRSE without even single interruption (not even single issue was either delayed or missed) during these 5 years.

I cannot stop myself quoting these inspirational words told to me by one of very respected and renowned scientist and administrator in India, during the initial / formative stages of LRSE publication that *“Dr. Varde, it is easy to start a Journal but it is challenge to sustain it”*. His words were an inspiration and will remain an guiding light for our future ventures.



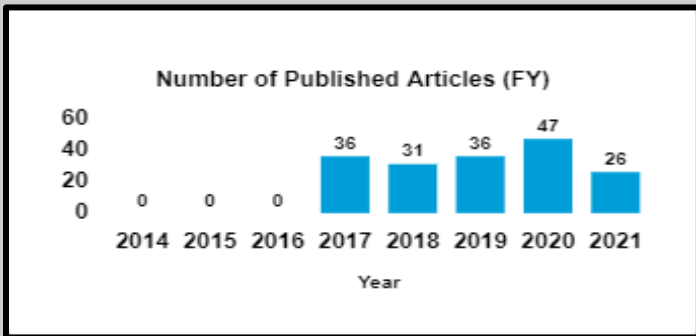
The Royalty the SRESA receives for the LRSE publication provides the needed finance to support SRESA academic and management activities. This also time to thank Ms Sonal Chowdhury, LRSE Journal Editorial Manager, Ms Aiswariya Satheeshan, Editor Planning and Processing, and Ms Somya, Editor-Production.

Performance Indicators for last 5 years

It was considered appropriate to consider performance indicators for last five years i.e. from 2017 – 2021 such that this input can be utilized for postulating the expected future trends. Of course, the data / trend monitoring done by springer (Courtesy Ms Sonal Chowdhury, Springer Editor) has been presented here in this section. We can see that, considering 10 manuscripts makes an issue of LRSE and quarterly publication period we need ~ 40 manuscripts accepted per year for sustaining the publication of LRSE on quarterly basis. That means we have to have minimum average 50 manuscript, as some

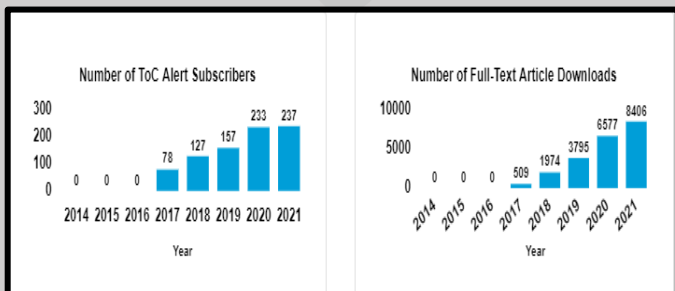
manuscript unfortunately do not meet the set standard criteria and eventually get rejected during the review process. Figure entitled number of submissions shows the submission trends. As can be seen only in the first year the submission to LRSE was 35 i.e., less than the critical number required for publication. Therefore, during this year each issue had 7 – 8 papers in each issue, however, for the remaining four years the manuscript received, were 69, 50, 60 and 53 during 2018, 2019, 2020 and 2021, respectively.

For further clarity, let us look at the number of articles actually published during 2017 to 2021. As can be seen in Figure on



'number of published articles' the average rate of 35 articles per issue could be maintained. There are two main reasons for this. The first reason, as shown in Figure showing the acceptance rate of the manuscript. The striking fact is that the rejection rate was rather high. One of the major factors responsible was maintenance of higher quality standards in acceptance of manuscript. Except for the year 2017 that is the first years of publication the where the acceptance rate was 94%, for the remaining four years the average acceptance rate was only 65%, i.e. the rejection rate was rather high at 35%. That means out of three manuscripts received one manuscript was rejected which is a higher rejection rate by all means.

Last two indicators that shows the visibility of LRSE in the academic and research domain are Table of content (ToC) subscribers and the full text download articles. These two indicators shows that the outreach or the prevailing market position of the LRSE. Figure entitled 'Number of ToC alert Subscribers shows how fast the subscribers increased from 78 to 273 during the five years period of publication with Springer. Also the same encouraging trends are seen for the indicator 'Number of full-text article downloads' in the figure with this title.



These two indicators sum up the achievement of tall order for LRSE. However, for the editors this is not that we should become complacent. Therefore, further steps are required to take LRSE to new height and this is our next target that, 'Amongst the top notch international journal in coming years on the subject areas of reliability and risk'.

The Way forward

Obviously, all our efforts with Springer is to increase its outreach, i.e. LRSE entry or base is increased as also the citations for this journal also increase in that proportion. In fact, the idea is to attract more and more researchers to choose LRSE for their publication. Also, to have more quality articles having research and development base. In fact, there are conscious efforts that we create more section apart from 'Original and Review Article' to include 'applied category' and 'Technical Notes' such that without compromising the quality of journal, the opportunity is created for other category of articles also for ready reference for real-time applications.

Second, our objective is that in next 1 year we have UGC (University Grant Commission, India) as also Scopus registration / accreditations. Such that it LRSE is listed in more than one database for wider reference.

Further, resorting to more options such that it meets multiple objectives related to higher visibility of LRSE. One of them going to 'In Review' mode of publication. To this effect we have the proposal from Springer as follows:

Final Remarks

We at SRESA feel proud that the SRESA's Int. Journal of 'Life Cycle Reliability and Safety Engineering' has made its mark not only at national but also at international level given the number of countries the LRSE has its reach. Springer – An international publisher has provided the needed platform in our venture to make LRSE and international journal as also Springer extended not only its staff services but also the software platform for LRSE issue processing and publication. Our managing editors and our reviewers have played key role in taking LRSE to new heights. Last but not least our authors who chose LRSE for their publication deserve a big round of applause. It is my privilege and pleasant duty to remain associated with launching, publishing LRSE as one of the Chief-Editors of LRSE. Once again I take this opportunity to Prof. A.K. Verma and Prof. M.G. Pecht who served till middle of 2021 and Dr. Michael Osterman who replaced Prof. Pecht and now serving as one of the Chief-Editors.

The Author: Prof. Prabhakar V Varde



service from Research Square, Springer Nature, providing journal-transparency into the peer review process. This service is available on more than 490 Springer Nature journals, the service has been enthusiastically received with over 26% of authors opting in across these journals. We would like to work with you now to give your authors the option to take advantage of these exciting services. By adding In Review as an option on Life Cycle Reliability and Safety Engineering,

your authors will also be able to:

- Showcase their work to funders and others with a citable preprint while it is under review
- Track the status of their manuscript through the peer review process on a more granular level
- Indicate the quality control screening undertaken on their work
- Engage the wider community in discussion to improve their article
- Benefit from early sharing, such as more collaboration opportunities and earlier citations
- Access free resources and optional services which can help them improve their manuscript and promote their research on publication.

The peer review and editorial process will remain strictly independent of the optional services available through the Dashboard, and all author service transactions will be confidential between the author and Research Square.

For every journal on In Review, we also set up a browse page, like this one, where readers are able to view all the preprints currently under consideration at the journal. Through offering In Review, we aim to support early sharing of research through preprints, encourage wider involvement by the community in peer review, and give added visibility to potentially significant science that is being considered for publication.

Prof. Varde is the lead Chief-Editor for the International Journal of 'Life Cycle Reliability and Safety Engineering'. He has been performing the editorial operational activities and associated management for the LRSE. He is Visiting Professor, University of Maryland, College Park USA; Honorary Prof. of Practice at Dept. of Mechanical Engineering, Indian Institute of Technology Madras; Visiting Professor at Dept of AMITY Institute of Nuclear Science and Technology, Noida, UP. Presently Prof. Varde, working as Raja Ramanna Fellow (RRF) at BARC. He retired from BARC in July 2019 as Associate Director, Reactor Group after serving in various capacities for over 34 years at BARC. He has extensive experience in operations and management of research reactor and safety assessment of nuclear research and power reactors.

He served as expert in the area of reliability and probabilistic risk assessment for many national and international organizations, Atomic Energy Regulatory Board, IIT Bombay, IIT Kharagpur, IIT Madras, IIT Kanpur, Delhi University; Board of Radiation and Isotope Technology, Mumbai; International Atomic Energy Agency, Vienna, University of Maryland, USA, Eurocontrol, Brussel, Nuclear Energy Agency, France. Prof. Varde also is one of the editors for SRESA Newsletter. He is also serving in the capacity of Honorary President of SRESA and as Chairman and CEO for Indian Institute of Risk and Reliability - an ambitious next project of SRESA.

UPCOMING SRESA EVENT :

THE 5TH NATIONAL CONFERENCE ON RELIABILITY AND SAFETY - NCRS-2022

It is heartening that SRESA Chennai Chapter has been actively working on organizing the 5th National Conference on Reliability and Safety during March 10 - 12, 2022 in Video Conferencing mode. Along with the Center for Excellence in Safety Systems at IIT Madras, the other co-organizers are Center for Reliability, Chennai, CSIR-SERC, Chennai and SRESA's IIRR and many other organizations supporting the NCRS-2022. Anticipating a good response, it is proposed to organize this conference in parallel session mode. Some salient features of this conference are, apart from inaugural program, the commemoration of 10 years of publication of SRESA's flag bearer at national and international level - the Int. Journal of Life Cycle Reliability and Safety Engineering. The previous articles bring out the experience and proud moments associated with this SRESA's one of the important initiatives in India.

With the hosting of the NCRS-5 the experience suggests that NCRS has become a popular brand in India. Second even though NCRS is a national event, we expect participation of few international expert also. Our lead organizing team at IIT Madras, AERB, CSIR-SERC, SSNU and CFR Chennai are working very hard to make this conference a great success.

We plan to bring out an abstract book that before the conference. The proceedings of the conference will be published in the form of a edited proceedings after the conference. For more information kindly turn to next page for more information about the NCRS-5. SRESA invites all the risk and reliability experts to actively participate in NCRS-5.



Society for Reliability & Safety (SRESA)

(REG. No. : F-43051 (Mumbai))

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MEMBERSHIP APPLICATION FORM.

MEMBERSHIP NO*

Managing Committee (2018 - 2023)

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Prof. Prabhakar V Varde
Hon. Secretary
Dr. Alok Mishra
Hon. Treasurer
Dr. Manoj Kumar

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(Sangli Chapter)
Mr. A.S. Joshi (tbd)
(Indore Chapter)
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(Act.)
(Anushaktinagar Mumbai
Chapter)

1.	Name of applicant			Affix your stamp / passport size photograph and send a soft copy by email
2.	Qualification			
3.	Affiliation			
4.	Position held			
5.	Specialization			
6.	Official address <input type="checkbox"/> Residential Address <input type="checkbox"/> (Please tick the address to be used for official communication)			
7.	Brief Bio-data:			
8.	Cell phone number and email address	Email:	Cell No:	
9.	Date of birth (DD/MM/YY)			
10.	PAN Number (not applicable for student)			
11.	Type of membership (Tick applicable category)	Petron (By Invitation) : Nil Honorary Member (By Invitation): Nil Life membership : Rs. 2,200/- Membership (annual) : Rs 1200/- Student membership : Rs 500/- (Please tick the applicable category)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
12.	Payment mode: i) Cheque <input type="checkbox"/> ii) Demand draft <input type="checkbox"/> iii) On-line transfer: <input type="checkbox"/> Cheque /DD/online transfer details :.....Date: Amount: Name of the Bank:.....Account number.....ISFC code			
12.	Signature of applicant:			

- Please send the scanned copy of the form duly signed by email to Secretary, SRESA along with a soft copy of the passport size photograph to secretary@sresa.org.in and a copy to treasurer@sresa.org.in
- SRESA account details are as follow: Money to be transferred in favour of 'Society for Reliability and Safety', SRESA Account number: 3110442604, Bank Name: State Bank of India, Branch: Anushaktinagar, Mumbai 400094. Branch Code 010124, IFS Code: SBIN0010124.
- *will be allotted by SRESA Office.