



भाकृअनुप-राष्ट्रीय प्राकृतिक रेशा अभियांत्रिकी एवं प्रौद्योगिकी संस्थान
12, रीजेंट पार्क, कोलकाता – 700 040, (आईएसओ 9001: 2015)

ICAR-National Institute of Natural Fibre Engineering & Technology
12, Regent Park, Kolkata - 700 040, (An ISO 9001: 2015 Certified Institute)



PROFILE

1. Full Name: **Laxmikanta Nayak**
2. Educational Qualification: **Ph. D**
3. Designation: **Head, Transfer Of Technology Division**
4. ARS Discipline: **Agricultural Structure & Process Engineering**
5. Date of joining in ICAR: **19.08.2002**
6. Date of Joining in ICAR-NINFET: **19.08.2002**
7. Working experiences (in years)
 - a. Research : **22**
 - b. Teaching: **Nil**
 - c. Industry: **Nil**
8. Area of work (Five areas only)
 - a. **Design & development of jute & allied fibre Extractors**
 - b. **Processing and value addition to natural fibres**
 - c. **Energy from crop residues & industrial residues of jute**
 - d. **Dissemination of institute developed technologies/products**
 - e. **Business incubation & entrepreneurship development in natural fibres**
9. Contact details
 - a. Mobile No: **9433152846/9903521756**
 - b. Email (Including ICAR email): **laxmikanta8495@rediffmail.com, laxmikanta23924@gmail.com, laxmikanta.nayak@icar.gov.in**
10. Number of project completed (As PI)
 - a. **08 (As PI)**
 - b. **12 (As Co-PI)**
11. Professional Achievements (Awards / Best Papers/Appreciation)
 - a.
 - b.
12. List of publication (Numbers only)
 - a. Research papers in National journal (NAAS rated): **50**
 - b. Research papers in International journal (NAAS rated): **10**



भारत-अनुप-राष्ट्रीय प्राकृतिक रेशा अभियांत्रिकी एवं प्रौद्योगिकी संस्थान
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- c. Popular articles: **40**
 - d. Book Chapter: **33**
 - e. Books Edited: **06**
 - f. Seminar Papers: **15**
 - g. Bulletin: **13**
13. Seminar presentation (numbers only)
- a. Invited papers: **10**
 - b. Research papers: **90**
14. Patents Applied (Numbers only): **02**
15. Patents Granted (Details): **05**
- **A particle board from Date-palm leaves and method of preparing the same**
 - **A double roller banana pseudo-stem fibre extractor**
 - **A power ribboner machine for stripping of outer green bark/ribbons from jute and mesta**
 - **A Leaf fibre extractor for extraction of fibres from green sisal leaves**
 - **A Leaf processing device for extraction of fibre from pineapple leaves**
16. Technology Commercialised (five with details)
- **A double roller banana pseudo-stem fibre extractor**
 - **A power ribboner machine for stripping of outer green bark/ribbons from jute and mesta**
 - **A Leaf fibre extractor for extraction of fibres from green sisal leaves**
 - **A Leaf processing device for extraction of fibre from pineapple leaves**
 - **A system for extraction of fibre from flax stalk**
17. List the five major achievements in the career
- **Designed and developed banana pseudo-stem fibre extractor**
 - **Designed and developed pineapple leaf fibre extractor**
 - **Designed and developed sisal leaf fibre extractor**
 - **Designed and developed flax stalk fibre extractor**
 - **Developed process technology for extraction & value addition to palm seed fibre**
18. List the 10 best research publications in the whole career (Details)
- **Nayak, L.K., Mojumder, P. and Bhaduri, S.K. (2011), FTIR, XRD and SEM studies on Sugar Palm (*Borassus flabellifer* L.) seed fibre, Journal of Indian Chemical Society, Vol. 88, pp: 583-585.**
 - **Nayak, L.K. and Roy. A.K. (2011), Utilization of jute by-products: A Review, Agricultural Reviews, Vol. 32 (1): 63-69.**
 - **Nayak, L.K., Roy, A.K. & Das, S. (2011), Some characteristics of jute caddies with reference to briquetting and gasification, Journal of Indian Chemical Society, Vol. 88, pp: 599-601.**



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- Nayak, L.K. and Mujumdar, A.K. (2011), Evaluation of Jute-fibre based wetted pads in evaporative cooling operations, Journal of Indian Chemical Society, Vol. 88, pp: 1619-1623.
- Nayak, L.K. and Basak, M.K. (2012), Studies on characteristics of palm seed fibre: An agro-waste for application in textile & non-textile sectors, Journal of Indian Chemical Society, Vol. 89, pp: 573-575.
- Nayak, L.K. and Jha, S.N. (2012), Performance evaluation of jute fibre based pads in evaporative cooled storage structure, Journal of the Indian society of coastal agricultural research, Vol.29 (2): 43-46.
- Nayak, L.K., Ammayappan, L. and Ray D.P. (2012), Chemical treatments of jute stick for industrial Applications – A Review, Journal of Indian Chemical Society, Vol. 89: 1723-1727.
- Nayak, L.K., Saha, S.C. and Shambhu, V.B. (2016), Extraction, Grading and Utilization of fibre from banana (Musa sapientum) pseudo-stem, Journal of the Indian society of coastal agricultural research, Vol.34 (1): 51-54.
- Nayak, L.K., Nag, D. and Banik, S. (2016), Extraction, Characterization and application of pineapple leaf fibre, Journal of the Indian society of coastal agricultural research, Vol.34(1): 77-80.
- Nayak, L.K., Debnath, S., Shambhu, V.B., Swain, K., Baite, H and Kundu, T.K. (2020), Extraction of flax and sisal fibre through improved extractor and their chemical Characterization, Journal of the Indian society of coastal agricultural research, Vol.39 (1): 102-109.

19. Training program attended (Numbers only): **14**

20. Training program organized (Numbers only): **More than 100**

21. Professional Affiliations (Details)

- Fellow of The Indian Society of Agricultural Engineers (ISAE), New Delhi
- Fellow of Indian Chemical Society, Kolkata
- Fellow of The Institution of Engineers, India (IEI), Kolkata
- Life Member of the Society for Agriculture Innovation and Development
- Life Member of The Indian Society of Coastal Agricultural Research
- Life Member, The Indian Natural Fibre Society (TINFS), Kolkata