ISTRTC 4 NARES

ABSTRACT SUBMISSION

Thank you for your interest towards our conference. We request you to submit abstract of your talk/presentation. Please follow the following guidelines.

Submission Guidelines

- Abstracts should be no longer than one A4 page in portrait layout.
- Abstract must be written in English and content should have a maximum of 350 words (Font size: Times New Roman 12 point).
- The title of the abstract should be as concise as possible and should appear in bold, lower case and centred (Font size: Times New Roman 13 point, Bold).
- Authors and affiliations below the title in italics (the corresponding author's name should be marked with an asterisk (*), and the name of the presenting author should be underlined (Font size: Times New Roman 12 point, Normal font).
- Main body of text to be left aligned.
- Single spacing throughout the content.
- Please include your full address and contact details of the corresponding author and the presenting author in the email and indicate whether you are submitting an **oral or a poster presentation**.
- A confirmation mail will be sent in regards of receiving your abstract and if no mail has been received within one week, please contact the conference coordinator.
- In case of finding difficulty in online submission, abstracts should be sent as a MS Word email attachment to Conference mail id (istrtc2025@gmail.com) with the **subject line 'ISTRTC 4 NARES abstract'** .

Template for Abstract submission

Synthesis and characterization of high viscosity modified starches by phosphorylation of cassava starch with STMP/STPP

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Cassava (tapioca) starch is an important industrial starch in India and the major share of production is used for sago production. It is not widely exploited to produce diversified products such as modified starches and other starch-derived products. In the native form, starch possesses some drawbacks such as poor paste stability under conditions of high temperature, shear, pH variations etc. Modification of starch functionality by reaction with suitable chemicals is a widely used method for synthesising tailor-made starch derivatives for different end uses. In this study, cassava starch phosphates with high paste viscosity and extremely high paste stability were synthesised using a mixture of sodium trimetaphosphate (STMP) and sodium tripolyphosphate (STPP) in different concentrations and under pH conditions. The peak viscosity of the modified starches were in the range of 4023 cP to >10000 cP, whereas it was 2105 cP for the native cassava starch. The water binding capacity was also significantly higher for these modified starches (95- 425%). There was no loss of granularity after modification as seen from the scanning electron micrographic analysis. The X-ray diffraction analysis indicated no significant change in starch crystallinity also, due to modification. This modification enabled the production of starch derivatives without the loss of granularity and crystallinity, but with high viscosity and good paste stability, which can be used as thickening agent and viscosity modifier in different food products.