XXI B-MRS Meeting

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October 1st to 5th

SBPMat B-MRS BRAZILIAN MATERIA RESEARCH SOCIET

Maceió-AL, Braz

October 1st to 5th, 2023

Booklet | Presentation Schedule | Mobile App

until ~~April 17th~~ May 1st	~~June 00th~~ June 25th	until ~~June 19th~~ June 29nd	~~June 26th~~ July 07th	until July 26th
Submission of Abstracts	Abstract status notification	Submission of Revised Abstract	Final Abstract Notification	Submission for Student Awards

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Welcome

The **Brazilian Materials Research Society (B-MRS)** and the
Committee of the XXI B-MRS Meeting invite the worldwide
community of materials research to attend the 2023 Meetir
be held at the Ruth Cardoso Cultural and Exhibition Center
Maceió-Alagoas, Brazil, October 1st to 5th, 2023.

This traditional forum is dedicated to recent advances and
perspectives in materials science and related technologies.
be an excellent opportunity to bring together scientists, eng
and students from academy and industry to discuss the sta
art of Materials Science discoveries and perspectives.

Maceió is one of the main Brazilian capitals that has receiv
tourists mainly due to the receptivity of its inhabitants, the
beaches with warm waters and extraordinary gastronomy. Y
very well welcome to Maceió. Do not miss this opportunity.

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Unlocking New Possibilities: Bacterial Cellulose-based Laser-Induced Graphene for Electrochemical Sensing Applications

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Electrochemistry and sustainable platforms like paper and bacterial cellulose offer portable, affordable, and user-friendly devices. However, current methods for creating electrochemical paper-based analytical devices (ePADs) can be cumbersome, poorly reproducible, and challenging to scale. We present a new simple, versatile, single-step technique for creating laser-induced graphene on bacterial cellulose surfaces, eliminating chemical reagents and controlled condition needs. The production process, including CO2 laser output and substrate functionalization, was optimized, and the resulting graphene was characterized, revealing a highly graphitized, porous material with a large specific surface area. The straightforward laser engraving process facilitated scalable electrode preparation and yielded outstanding reproducibility of potentiometric signals, with low variability between measurements (2.13%) and between devices (1.91%). The low-cost of the materials, the minimal equipment requirements, the single-step protocol, and the produced material's features offer a promising green, portable, and highly reproducible electrode fabrication method.

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