



## Advanced Materials Sciences Promising Sustainable Development of Remote Island of Fernando De Noronha in Brazil

The use of renewable energy is an essential issue in modern society. At this symposium, we have invited Professor Shinohara, Federal University of Pernambuco, to discuss the role that advanced materials science can play in the use of renewable energy in Brazil.

Organizer: Center for Mineral Processing and Metallurgy, IMRAM, Tohoku University

Sponsor: The Japan Iron and Steel Association, Tohoku Branch

Date: 2026. 06.16

Venue: South Multidisciplinary Research Laboratory 2

Institute of Multidisciplinary Research for Advanced Materials, Tohoku Univ. (IMRAM)  
Katahira 2-1-1, Aoba-ku, Sendai 980-8577, Japan

Opening address Tohoku University Hiroyuki Shibata and Kazumasa Sugiyama

13:15-13:45 OTEC and DOWA for Sustainable Development of Remote Island: Fernando De Noronha in Brazil

Federal University of Pernambuco, Armando Hideki Shinohara

13:45-14:05 Structural Control Technologies of Materials Expected to Contribute to Carbon Neutrality

Tohoku University; Fukuda Crystal Laboratory, Shigeru Suzuki

14:05-14:25 Cutting-Edge Strain Analysis Technology: The Hidden Dangers in Steel Materials

Ibaraki University, CROSS Tokai Shigeru Sato

14:25-14:50 Coffee Break

14:50-15:10 Resource Recycling, and Environmental Remediation: Systematization of the Wet Recycling Process for Manganese

Tohoku University, Kozo Shinoda

15:10-15:30 The Role of Mg in the Circular Economy and its Potential as an Energy Carrier

Tohoku University, Hiroyuki Shibata

15:30-15:50 Control of the Microstructure of Sintered Ore: Toward the Realization of Low-Carbon Steel

Tohoku University, Kazumasa Sugiyama

15:50-16:20 General Discussion

Ibaraki University, Hiromichi Ota



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