



# 5<sup>th</sup> ICAMST 2017

The 5<sup>th</sup> International Conference  
on Advanced Materials Science  
and Technology 2017

Dear Eko Hadi Sujiono  
(Universitas Negeri Makassar, Makassar 90224. Indonesia),

It is our pleasure to inform you that your paper #1-064 entitled "Crystal Structure and Morphology Analysis of NdFeO<sub>3</sub> Oxide Material Preparing by Solid State Method" for The International Conference on Advanced Materials Science and Technology 2017 (ICAMST2017) has been ACCEPTED for ORAL PRESENTATION on the conference.

Please be reminded, the full paper must be submitted through our system at <http://kosatem.org/epaper/> by 2017-09-08, following the template [here](#). The length of full paper must be 5 pages. It is also noted that there will be no presentation without full paper submission.

Thank you very much for contributing to the ICAMST2017. We are looking forward to welcoming you to the conference on September 19<sup>th</sup> – 20<sup>th</sup>, 2017 in Makassar.

For more information please contact us at email: [icamst2017@kosatem.org](mailto:icamst2017@kosatem.org). or WA number 085728152871

Kind regards,  
The Conference Chairman



Prof. Dr. Eko Hadi Sujiono, M.Si.

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# The 5<sup>th</sup> International Conference on Advanced Materials Science and Technology

# 2017

## **BOOK OF ABSTRACTS**

September 19-20, 2017

Makassar, Indonesia

# **Abstract Book**

## **The 5<sup>th</sup> International Conference on Advanced Materials Science and Technology (ICAMST) 2017**

**September 19-20, 2017  
Makassar, Indonesia**

**Konsorsium Sains Teknologi Material**

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**Direktorat Karier dan Kompetensi Sumber Daya Manusia  
KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI**

## Preface

The Consortium of Materials Science and Technology (KoSaTeM) and Materials Research Society of Indonesia (MRS-Id) in collaboration with HFI and HKI proudly present The 5<sup>th</sup> International Conference on Advanced Materials Science and Technology (ICAMST) on 19<sup>th</sup>-20<sup>th</sup> September 2017 at the Grand Clarion Hotel & Convention Centre, Makassar, Indonesia.

Reflecting back on the four previous ICAMST 2013-2016, which has annually been held in UGM, UNS, UNNES, and UM, and had been attended by about 300 participants. Now in 5<sup>th</sup> ICAMST, the total participants are 250, 265 authors with 108 papers. The 5<sup>th</sup> ICAMST 2017 will address among the many important issues and topics in materials sciences and technology. The topics are: **Nano Science and Technology, Minerals and Complex Materials, Functional Materials, Synthesis and Characterization Techniques, Theoretical and Analysis in Materials, Low-Temperature Physics, and Exotic Materials**, which all the submitted abstract collected in this booklet.

In this 5<sup>th</sup> ICAMST 2017 involved high level scientists as plenary speakers. They are: Prof. Dr. Seiichi Miyazaki (Nagoya University, Japan), Assoc. Prof. Dr. Ariando (National University of Singapore, Singapore), Prof. Dr. Mohamad Deraman (Universiti Kebangsaan Malaysia, Malaysia) and Assoc. Prof. Dr. Risa Suryana (Sebelas Maret University, Indonesia). **The 5<sup>th</sup> International Conference on Advanced Materials Science and Technology (ICAMST)** included invited presentations, and contributed presentations. The conference aims to help participants to develop a more in-depth understanding of recent developments in the materials sciences and technology while providing a forum for analysis and formulation of policy recommendations, it is also expected that from this conference can conduct a good collaboration research among the participants who come from all over the universities around the globe.

In the end, upon the implementation of this conference and the publication of this booklet, on behalf of the committee, our gratitude is sent to plenary speakers, speakers, participants, who have given their kind contribution in order to support this conference. Thank you and have a marvelous stay in Makassar, The City of Anging Mamiri.

5<sup>th</sup> ICAMST Chairman

Prof. Eko Hadi Sujiono

# Parallel Session

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[5-064]

Influence of Annealing Time Variation of Crystal Structure And Morphology From Oxide Material  $\text{Nd}_{1,2}\text{FeO}_3$  by Solid State Reaction Methode

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**Abstract.** Neodymium Ferrit Oxide ( $\text{NdFeO}_3$ ) was one of material oxide that can be detected various gas, like  $\text{S/O}_2$ ,  $\text{CO}$ ,  $\text{H}_2\text{S}$ , etc. In this research,  $\text{NdFeO}_3$  as material oxide was synthesized by solid state reaction with recurrent heat treatment. Solid state reaction was an easiest and cheapest method than to other methods that could use to synthesize material oxide. Result characterized by XRD shows that sample has form crystal structure with lattice spacing  $hkl$  (121) and FWHM for samples were  $0.22^\circ$ . The crystallite of the samples was determined using Debye Scherrer formula with the value were 393.08 nm, 393.10 nm, and 393.10 nm, respectively. SEM characterized shows surface morphology for all sample was homogenous with grain size estimates less than  $0.2 \mu\text{m}$ . These results show that the solid state reaction could obtain materials as nanoparticle criteria by repeating the heat treatment.

**Keywords :** Material Oxide, Solid State Reaction, Heat Treatment and Crystal Structure.

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