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# FOREWORD

APHERJ, 5(1)

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The global trend embraces Industry 4.0 (IR 4.0) that permeates in all aspects of the society. This era of unprecedented change emphasizes significant shift in various fields such as economy, R & D, technology, and education, as brought about by the needs of Industries.

Our latest issue feature, this global drift through the five articles in its list. Arce and colleagues blended the themes of education for Industry 4.0 with industry and humanity by augmenting reality to exemplify integrating technology in the teaching and learning process. Their ARSci (3D Augmented Reality-based learning tool in Earth Science) epitomizes “learning without lectures” (Ranai, 2018) and learning outside the four walls of the classroom, learning everywhere, anywhere, and anytime.

While technology provides an excellent arena for the teaching and learning, the strategy also requires calibration, which may be showcased as process-based or product-based. Profiling through perception of pre-service teachers-student-athletes may exhibit a process-based calibration. Our second article emphasizes pre-service teachers-student-athletes’ perception of performance to initiate performance profiling and calibration. In this study, Santos featured the process of performance profiling by deducing the perceptions of pre-service teachers-student-athletes to establish programs for calibration. The investigation demonstrated scientifically establishing calibration techniques for better humanity. Calibration may also be product-based, as manifested in the study of Pagtalunan, which established a system for uniformity and stability characterization of liquid calibration bath at above ambient conditions. Empirically, the study aimed at improving a metrological component in thermometer calibration in the Philippines that utilizes the direct proportionality of

electrical resistance against temperature through resistance-temperature detector such as Platinum Resistance Thermometer. Such calibration techniques may specifically be important in R & D.

R & D is a crucial aspect in the 4<sup>th</sup> Industrial Revolution. In fact, R & D pervades all fields including Agri/Fisheries of STEAM (Science, Technology, Engineering, Agri/Fisheries, and Mathematics) field. Two of our articles underscore the role of R & D in IR 4.0 and in the improvement of the fusion of education in industrial revolution, industry and humanity. In fact, both articles highlight better process and new materials, for better product to enhance the economic stance of the natives and the locale. Macabutas and colleagues developed a salt production apparatus that is capable of operating in all seasons. The process and product is expected to generate more goods for improved income and livelihood. Finally, Bungag investigated the raw material “corn zea mays husk fiber” for fabric making, providing alternative raw materials in the textile industry.

Apparently, our articles offer variety of strategies towards achieving IR 4.0. Though it may seem that these strategies pervade many fields, it appears that all contributors for this issue designed and developed their investigations within the bounds and for education. An education, known as the “Dawn of Digital Monarchy,” we move forward to Education 4.0, which we believe to accommodate the concept of curriculum recalibration to match the generation z learners’ (13-19 years old) required skill set for jobs-of-the-future (Dockkweiler, 2018).

Happy Reading!

The Editor







# TABLE OF CONTENTS

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	Page
Foreword . . . . .	vii
 <b>Research Articles</b>	
ARSci: A 3D Augmented Reality-Based Learning Tool in Earth Science . . . . .	1
<i>Crissel Lyka Arce<sup>1</sup>, John Jeric Cabuyaban<sup>2</sup>, Sandra Kate Gaces<sup>3</sup>, Wilben Christie Pagtaconan<sup>4</sup></i>	
Perceptions of “Pre-Service Teachers” Basketball Athletes on their Performance for Profiling . . . . .	12
<i>Aquilino Eduardo Santos</i>	
Establishment of a System for Uniformity and Stability Characterization of Liquid Calibration Bath Used Above Ambient Conditions: 50°C to 75°C Settings . . .	26
<i>Vilma C. Pagtalunan</i>	
Development of a Salt Production Apparatus . . . . .	36
<i>Estrella C. Macabutas<sup>1*</sup>, Ruden G. Bracero, Merbien A. Batiller</i>	
Acceptability of corn <i>zea mays</i> husk fiber as raw material in fabric making . . . . .	47
<i>Marcela M. Bungag</i>	
 Instructions to Authors . . . . .	 54
APA Format for References . . . . .	60
APA Citation Style . . . . .	63
APHERJ Review Process . . . . .	64
Publication Ethics . . . . .	65
Call for Articles . . . . .	69

## FOCUS AND SCOPE

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### THE JOURNAL DESCRIPTION

The **Asia Pacific Higher Education Research Journal (APHERJ)**, an international multidisciplinary refereed journal, publishes quality and high impact researches addressing issues and concerns of education and teacher education, social sciences, engineering and technology and educational policy and business education in the Asia Pacific Rim. It provides a forum for dissemination of qualitative and quantitative researches on theory and instructional model building, product development, policy studies, internationalization as well as local responsiveness from different countries and cultures. It aims to bridge the gap between theory and practice through the publication of empirical research which are relevant and contributory to solving higher education problems.

### STATEMENT OF PURPOSE

This journal aims at providing the HEIs venue to:

1. Share researches that have national and international impact;
2. Open opportunities for faculty, staff, students to publish their research and increase their academic visibility through publication;
3. Strengthen the academic synergy among members of HEIs in the region and in the international arena for research collaboration; and
4. Promote , utilize, apply, and commercialize researches for the benefits of global communities

