

EXPERT'S PROFILE

Name of Grantee : **RYAN G. BANAL, Ph.D.**
Area of Expertise : Electronic Science

Inclusive Date of Contract as BSP Awardee : Short-Term Program
01 October - 15 December 2018
03-16 January 2019

Host Institution : Ateneo de Davao University
Mindanao State University- Iligan Institute of Technology
Mindanao State University- General Santos City



EDUCATIONAL BACKGROUND

- **Doctor of Engineering**, Electronics Science and Engineering Kyoto University, JAPAN
- **Master of Engineering**, Materials Processing Tohoku University, JAPAN
- **Research Student**, Institute for Materials Research, Tohoku University, JAPAN
- **Bachelor of Science, Metallurgical Engineering**, University of the Philippines - Diliman Campus, PHILIPPINES

PROFESSIONAL EXPERIENCE

- Feb 2017-present **Assistant Manager (Excellent Young Researcher)**
Sumitomo Electric Industries, Inc. (Itami-shi, Japan)
- July 2014-Jan 2017 **Postdoctoral Researcher**
National Institute for Material Science (NIIVIS)
(Tsukuba-shi, Japan)
- Nov 2012-June 2013 **Research Associate**
NTT Basic Research Laboratories Nippon Telephone and Telegraph Corporation (NTT) (Atsugi-shi, Japan)
- Nov 2010-Oct 2012 **Postdoctoral Fellow**
Japan Society for the Promotion of Science (JSPS)
Host Institution: Kyoto University (Japan)
- Apr 2009-Oct 2010 **Postdoctoral Researcher**
Kyoto University (Japan)
- Apr 2002-Mar 2003 **Failure Analysis Engineer**
Texas Instruments Philippines, Inc.
(Baguio City, Philippines)

TO BE ACCOMPLISHED AS A BSP AWARDEE

Ateneo de Davao University Only

1. Provide technical expertise on "Microgrid Solar Photovoltaic (PV)" research project which seen to impact the Mandaya Indigenous People
2. Provide expertise on the development of BS Materials Engineering curriculum
3. Provide consultation and advise students on the development of research topics related to renewable energy

All host institutions

4. Explore possible research collaboration on renewable energy and energy efficiency generation with National Institute for Materials Science (NIMS) and Kyoto University in Japan
5. Deliver seminar-workshop:
 - a) Thin-film Growth and Characterization of AlN and AlGaN/AlN Quantum Well (QW) Structure
 - b) Fabrication and Optical Properties of deep-UV LEDs
 - c) Thin-film Growth, Characterization and Fabrication of Hydrogen-terminated Diamond (111) Field-effect Transistors
 - d) Optical Property and Characterization of AlN and AlGaN/AlGaN OWs

AdDU and MSU-IT Only

6. Write Research proposal to PCIEERD

MSU — III and GenSan Only

7. Provide consultation to students on the development of research topics related to optoelectronic and power electronic materials/devices research

MSU-IIT Only

8. Provide technical expertise on "12CIC: Design of Microcontroller Integrated with Energy Harvesting and Power Management" research project
9. Deliver lecture on:
 - a) "Preparation of Y2O3 and Al2O3 Films by Laser CVD"
 - b) "Optical Properties of AlN and AlGaN/AlN QWs and Nonpolar deep-UV LEDs"
10. Collaborate with in-house proposals "Sol-gel carbon based thin films for supercapacitor applications"

MSU — GenSan Only

11. Provide consultation and advise students on the development of research topics related optoelectronic and power electronic devices
12. Seminar on Scientific Writing