

Associate professor at Physics Dept of Universitas Sebelas Maret Surakarta, Indonesia. Research interest: acoustics, metamaterials and phononic crystals, noise control, and energy harvesting. Teaching: Waves, Physical Acoustics, Applied Acoustics, Vibration Analysis, Electromagnetism, and Research Methodology. Lab Skills: more than twenty years working with Bruel&Kjaer instruments and other precision tools and analyzers. Professional experiences: experienced in some room acoustics projects, including custom design sound absorbers and diffusers and sonic crystals assisted sound absorbers. Involved as a professional expert in external noise certification of the brand new PTDI aircraft N219.



Research Interests

Acoustics, Metamaterials, Noise Control, Energy Harvesting



Professional Skills

Noise Control Acoustic materials Acoustics Metamaterials



Research Experience

- ◆ 2020 **Folded coplanar multi resonance resonator based sonic crystals scatterer**
Sebelas Maret University
An ongoing research project started in 2020. Some papers are currently under review for publication purposes.
- ◆ 2019 **Meta atoms and meta gratings in multi local resonance acoustic metamaterials design**
Sebelas Maret University
Detailed information about the research available upon personal communication with the researcher (IY)
- ◆ 2017 **Indonesian batik inspired acoustic metamaterials for noise control**
Sebelas Maret University
The research scheme started in 2017 to explore the acoustical response and properties. The specific and unique shapes of the Indonesian batik pattern adopted and transformed to become the basics shapes of a multi resonance metamaterials structure.

- ◆ 2017 **Sonic crystal assisted sound absorber**
Sebelas Maret University
- ◆ 2009 **Theoretical formulation and apparatus development for sound transmission loss measurement**
Sebelas Maret University
<https://downloads.hindawi.com/archive/2009/574604.pdf>



Work Experience

- ◆ 2019 **Acoustic expert partner of the Indonesian Aerospace Company**
Indonesian Aerospace Company (PTDI)
In charge as the acoustic expert in external noise certification and the other acoustical measurements of the brand new N219 aircraft of Indonesian Aerospace Company. This activity is part of the collaboration between Universitas Sebelas Maret with PTDI and also supported by the Indonesian Directorate General of Civil Aviation (DGCA), National Institute of Aeronautics and Space of Indonesia (LAPAN), and our leading industrial partner HBK.
- ◆ 1993 **Lecturer**
Sebelas Maret University
Early career as a junior lecturer in Educational Physics Dept 1993. Currently, the main job as an associate professor at Physics Dept.
- ◆ 2015 - 2017 **Professional partner for acoustic product development**
PT. RMA Jakarta
In charge as an acoustics expert advisor for automotive sound absorber materials development. PT. RMA is the major producer of a nonwoven felt-based product for automotive applications in Indonesia.
- ◆ 2012 - 2015 **Secretary of Quality Assurance Division**
Sebelas Maret University
In charge of the secretary of quality assurance division at Research Institute of Sebelas Maret University.
- ◆ 2007 - 2012 **Coordinator for Research Development**
Sebelas Maret University
Coordinator for research and community services development at Faculty of Mathematics and Natural Sciences (FMIPA).
- ◆ 2018 **Room acoustics design and treatment**
PD High School Surakarta

Design and implementation of custom design acoustical panels and diffusers for classroom and hall at PD Hugh School at Surakarta.

2013

Team Leader for IRIS1103 Development

Sebelas Maret University

In charge of the team leader and system creator on the development of Intelligent Research and Innovation Services (IRIS1103). IRIS1103 an IT database system for supporting research development and community services at the Research Institute of Sebelas Maret University.



Education

Universitas Sebelas Maret

Bachelor's Degree

Universitas Gadjah Mada

Master's Degree

Universitas Sebelas Maret

Doctoral Degree



Membership

2013 - 2016

Iwan Yahya

Acoustical Society of America

2013 - 2015

Iwan Yahya

IIAV

Iwan Yahya

Indonesian Physical Society - HFI

Iwan Yahya

Indonesian Acoustics and Vibration Institute - AAVI

Iwan Yahya

IEEE



Patents

Full-spectrum sound absorber with a pyramid-shaped element.



Media Publications

Apr, 2018

Biomass waste helps reduce in-cabin noise

Bruel&Kjaer Denmark

Customer news in B&K Waves magazine. A highlight of my laboratory advance and achievement on the development of green acoustic materials for room and automotive cabin noise.



Prizes and Awards

2017

Satya Lencana Karya Satya 20 Tahun

Silver medal for twenty years of outstanding services and dedication as state labor.

Sep 2016

Best Innovator Award

Award for leading achievement in research and proven innovation delivery ability.

Sep 2015

Best Innovator Award

Award for leading achievement in research and innovation delivery ability.



Project

Magnetorheological Braking System

Membrane supported multi resonant grating and acoustic metasurface

This project is emphasized on the acoustical response of multi resonant grating and metasurface supported by a flexible perforated membrane. Every single scatterer response will be analyse based on the electroacoustic analogy while the laboratory test conducted by using transfer function-based analysis. B&K impedance tube 4206 will be used in the experiment to get the alpha, reflection coefficient, sound transmission loss and the frequency response in regards to geometrical dimension, shapes, surface orifices, grating constant and membrane stiffness. The full-scale prototype will be analyzed by using near filed scanning technique to get scattering response.

Acoustics Physics



Teaching Experience

UNDERGRAD
UATE

Wave Phenomena

UNDERGRAD
UATE

Physical Acoustics

UNDERGRAD
UATE

Vibration Analysis

UNDERGRAD
UATE

Applied Acoustics

UNDERGRAD
UATE

Introduction to Electrodynamics

UNDERGRAD
UATE

Research Methodology



Consulting Experience

2018 - Present

Indonesian Aerospace Company (PTDI)

Acoustic expert on aircraft noise, including for external noise certification of N219.