# **Journal of Microorganism Control**

The Journal of Microorganism Control (Formerly Biocontrol Science) is published quarterly (March, June, September and December) by the Society for Antibacterial and Antifungal Agents, Japan.

## **Editor-in-Chief**

Jun SAWAI, Kanagawa Institute of Technology, 1030 Shimogino, Atsugi, Kanagawa 243-0292, Japan E-mail: biocontrol-sci(a) saaai.jp

#### **Editor-in-Vice Chief**

Akihiro SHIRAI, Tokushima University Hiroshi MORITA, University of Kitakyushu Hiromu TAKAMATSU, Setsunan University

### **Editorial Board**

Noriko SHIMASAKI, Japan institute for Health Security
Tomonori SUZUKI, Tokyo University of Science
Hidemi IZUMI, Osaka Metropolitan University
Takuya MAEDA, Hyogo Medical University
Shoko HAMADA, Kobayashi Pharmaceutical Co., Ltd.
Satoshi FUKUZAKI, Graduate School of Bioresources, Mie University
Hiroaki INOUE, AQUAS Co., Ltd.

## **International Regional Editors**

M. Jahangir ALAM, University of Houston College of Pharmacy, USA
Maria Isabel GIL, Centro de Edafologia Aplicada del Segura, Spain
Tamrin Bin Mohamad LAL, Universiti Malaysia Sabah, Malaysia
Ivan LEGUÉRINEL, Université de Bretagne-Occidentale, France
Yaguang LUO, US Department of Agriculture-Agricultural Research Service, America
Asish K. MUKHOPADHYAY, ICMR-National Institute of Cholera and Enteric Diseases, India
Carlos RIQUELME, Centro Bioinnovacion de Antofagasta, Universidad de Antofagasta, Chile
Victor RODOV, Agricultural Research Organization, Volcani Institute, Israel
Varit SRILAONG, King Mongkut's University of Technology Thonburi, Thailand
Yohan YOON, Korea Aerospace University, Korea

#### **Advisory Editors**

Renata LEUSCHNER, European Food Safety Authority, Italy Yoshikazu SAKAGAMI, Former Professor, Kindai University Tetsuaki TSUCHIDO, Osaka Metropolitan University Kazuhito WATABE, Professor Emeritus, Setsunan University Satoshi FUKUZAKI, Graduate School of Bioresources, Mie University

## **Editorial Official**

Shinji TAKAGI, The Society for Antibacterial and Antifungal Agents, Japan, Nishi-honmachi 1-13-38, Shin-kosan Bldg., Nishi-ku, Osaka 550-0005, Japan. Tel. (+81) 6-6538-2166, Fax (+81) 6-6538-2169, e-mail: boukin(a) nifty.com

The Society for Antibacterial and Antifungal Agents, Japan [Founded 1973]

President Ritsuko KIKUNO

Vice-presidents Atsuo IWASAWA and Junji OKUNISHI

Chairman Yuko KUMEDA Secretary General Shinji TAKAGI

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the Society for Antibacterial and Antifungal Agents, Japan.