

10th International Workshop on Simulation for Energy, Sustainable, Development and Environment (SESDE 2022)

Held at the 19th International Multidisciplinary Modeling and
Simulation Multiconference (I3M 2022)

Rome, Italy
19 – 21 September 2022

Editors:

Agostino G. Bruzzone
Janos Sebestyen Janosy
Letizia Nicoletti

Massimiliano Schiraldi
Gregory Zacharewicz

ISBN: 978-1-7138-6219-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 4.0 International License.
License details: <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination, and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2023)

For permission requests, please contact CAL-TEK S.r.l.
at the address below.

CAL-TEK S.r.l.
Via Umberto Nobile 80
87036 Rende (CS)
Italy

Phone: +39 333 7042 612
Fax: +39 0984 937849

info@cal-tek.eu

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Index

Experimental and numerical investigation of the heat transfer in helically coiled tubes heat exchanger and design optimization S. Missaoui, Z. Driss, R. Ben Slama, B. Chaouachi	001
A Social Media-driven Digital Twin of an Invasive Species J. Scheibmeir, Y. Malaiya	006
A comparative numerical simulation study for outdoor comfort indexes in courtyards V.P. Lopez Cabeza, E. Diz-Mellado, C. Rivera-Gómez, C. Galán-Marín	015
2D Simulations of Water Treatment with Upscaled Capacitive Deionization J. Nordstrand, J. Dutta	023
Agent-based modelling of a small-scale fishery in Corsica E. Innocenti, C. Idda, D. Prunetti, P.-R. Gonsolin	031
Visual Change Detection in Multi-Temporal Vegetation Transects of Alpine Plants S. Pritz, C. Praschl, R. Kaiser, G. Zwettler	041
How sustainability factors influence maintenance of water distribution systems feeding manufacturing industries S. Carpitella, A. Certa, G. Marcon	051
Sensor based IoT architecture for the indoor well-being M. De Vita, E. Laurini, V. Stornelli, G. Ferri, P. De Berardinis	058
Strategic Engineering for Enhancing Efficiency and Effectiveness of Water Management Systems A.G. Bruzzone, A. Giovannetti, H. Hatip	064
Simulation for evaluating New Polar Routes and their Strategic Impact on Port Networks and Shipping Lines A.G. Bruzzone, G. Genta, X. Sina, A. Taib, M. Arduini	071
Digital Twin for Pilot Plant for Water Treatment A.G. Bruzzone, K. Sinelshchikov, A. Giovannetti, A. De Paoli, R. Ferrari, F. Tarone, L. Piticchio	078
UGV Digital Twin for Supporting Innovative Environmental Treatments of Large Areas by using AI A. Giovannetti, M. Mashayekhizadeh, D. Cefaliello, F. Shamlu, H. Taib	082