ISSN: 2689-5153

VOLUME 71 NO. 4 YEAR 2020

JOURNAL OF COSMETIC SCIENCE

The Official Journal of the Society of Cosmetic Chemists

Publishing technical papers on topics of interest to cosmetic scientists since 1947

PUBLISHED BY

75 YEARS

SOCIETY OF COSMETIC CHEMISTS

SERVING GREATER NORTH AMERICA SINCE 1945

WWW.SCCONLINE.ORG/JOURNAL

Purchased from Scholarly Stock Photo Scholarlast (unknown)
From: SCC Media Library & Resource Center (library.scconline.org)

CRODA sederma CRODAROM

By 2030 we will be Climate, Land and People Positive

Sustainability Requires Positive Impact - A Digital Conference Experience

Climate change and population growth are putting increasing demand on the Earth's natural resources. Tackling these challenges requires real change and it's critical for us to work together, collaborating and partnering across the industry to take action.

Want to understand how you can implement, execute or accelerate your commitment to a more sustainable future?

Sit back and prepare to join industry leaders, technical experts, and sustainability pioneers for two days of educational sessions and exciting conversations.

Registration Now Open!

When: September 9-10, 2020

Where: Your Desk

Register Here >

We'll explore together, joined by thought leaders from the industry, how to achieve, create, make and deliver solutions to some of the biggest challenges the world is facing and deliver a world that is **Climate, Land and People Positive by 2030**.

Small Science to Improve Lives™

CRODA

Purchased for the exclusive use of nofirst nolast (unknown)
From: SCC Media Library & Resource Center (library.scconline.org)

SOCIETY OF COSMETIC CHEMISTS
SERVING GREATER NORTH AMERICA SINCE 1945

Journal of Cosmetic Science

The Official Journal of the Society of Cosmetic Chemists

Journal Editor: **Paolo Giacomoni, PhD,** Consultant to the Skin Care Industry

Associate Editor: **Trefor Evans, PhD**, TRI-Princeton | *Hair Expert*

K.P. Ananthapadmanabhan, PhD, College of Pharmacy, University of Cincinnati | *Skin Expert*

President: **Mindy Goldstein, PhD**, Mindy S. Goldstein, PhD Consulting

Vice President: **Liz Streland**, Croda, Inc.

Vice President-Elect: **Michelle Hines, PhD**, Mary Kay, Inc.

Secretary: **Yulia Park, PhD**, Amway Corporation

Treasurer: **Mark Chandler**, ACT Solutions Corporation

Executive Director/CEO: **Erica L. O'Grady, CAE**, Society of Cosmetic Chemists HQ

© Copyright 2020 by the Society of Cosmetic Chemists. Permission is granted to readers and nonprofit libraries acting for them for fair use of the material contained in this Journal. Permission is further granted to quote from this Journal in scientific works with the customary acknowledgment of the source. Consent from EACH OF THE ORIGINAL AUTHORS along with notification to the Society of Cosmetic Chemists is required to reprint a figure, table or other excerpt. The republication, systematic or multiple reproduction of any material in this Journal (including abstracts) is permitted under written license from the Society of Cosmetic Chemists. The Society of Cosmetic Chemists may also require that permission must be obtained from EACH OF THE AUTHORS. Address inquiries to the Editor.

SUBSCRIPTION: JOURNAL OF COSMETIC SCIENCE, the Official Journal of the Society of Cosmetic Chemists, is published six times per year with January/February, March/April, May/June, July/August, September/October, November/December issues. Yearly subscription price is $250.00 for 1-10 users, $350 for 11-50 users, $490 for 51-100 users and $686 for 100+ users.
JOURNAL OF COSMETIC SCIENCE, the Official Journal of the Society of Cosmetic Chemists, is a registered trademark of the Society of Cosmetic Chemists.
POSTMASTER, MEMBERS AND SUBSCRIBERS: Send address changes to The Society of Cosmetic Chemists, 14 Wall Street, Suite 1620, New York, NY 10005.
RESPONSIBILITY FOR STATEMENTS PUBLISHED: The Society of Cosmetic Chemists, the Journal Advisory Group and the Board of Directors assume no responsibility for statements or opinions advanced by contributors to this Journal.
Missing issues will not be supplied if claims are received more than 60 days after the date of the issue, or if loss was due to failure to give notice of change of address. The JCS cannot accept responsibility for foreign delivery when its records indicate shipment was made.
EDITORS AND PUBLISHERS: Abstracts or digests of articles not exceeding 400 words may be published, duly credited to the author and JOURNAL OF COSMETIC SCIENCE, the Official Journal of the Society of Cosmetic Chemists.
AUTHORS: When using illustrations or quotations taken from copyrighted publications, authors must get written permission from the copyright holder to reproduce the same.
PAGE CHANGES: The authors of a manuscript will no longer be assessed a page or color photograph charge for printed manuscripts. Any material set into type but ordered deleted from the publication at the page proof stage must also be paid for by the author. These changes will be invoiced to the senior author at the time of publication.
MANUSCRIPTS: Manuscripts should be prepared in accordance with "Information for Authors," which can be found at the end of this issue.

Periodicals postage paid at New York, New York and additional mailing offices.

Publication office: 14 Wall Street, Suite 1620, New York, NY 10005 (212) 668-1500, Fax: (212) 668-1504. Email: journal@scconline.org

Purchased for the exclusive use of nonfirst nolast (unknown)
From: SCC Media Library & Resource Center (library.scconline.org)

SCC 74TH ANNUAL SCIENTIFIC MEETING & SHOWCASE

WE'RE STILL ON!

December 15-16, 2020 | Sheraton NY Times Square

www.scconline.org/annualmeeting2020

SAVE THE DATE

Interested in exhibiting? Visit

www.scconline.org/call4posters

chased for the exclusiv
n: SCC Media Librar

SOCIETY OF COSMETIC CHEMISTS
SERVING GREATER NORTH AMERICA SINCE 1945

Journal of Cosmetic Science

The Official Journal of the Society of Cosmetic Chemists
Volume 71 No. 4 | July/August 2020

ORIGINAL ARTICLES

Introductory Remarks

Paolo U. Giacomoni | pp. 187

Regular Application of Sunscreen Can Prevent Skin Cancer

Adèle C. Green | pp. 191

Formulation of Sunscreens for Optimal Efficacy

Dominique Moyal, Thierry Passeron, Martin Josso, Stéphane Douezan, Véronique Delvigne, Sophie Seité | pp. 199

Importance of DNA Repair: Recent Advances

Daniel B. Yarosh, Angela Tewari | pp. 209

Comparison of Skin Photoprotection by Pigmentation and Sunscreens

Antony R. Young | pp. 217

Impact of Sunscreen Regulations in the United States on Suncare Development

Nadim A. Shaath | pp. 227

Purchased for the exclusive use of nofirst nolast (unknown)
From: SCC Media Library & Resource Center (library.scconline.org)