

# **Best Practices for Chemistry REU Programs**



### Library of Congress Cataloging-in-Publication Data

Names: Griep, Mark A., editor. | Watkins, Linette M., editor. | American Chemical Society. Division of Chemical Education.

Title: Best practices for chemistry REU programs / Mark A. Griep, editor (University of Nebraska-Lincoln, Lincoln, Nebraska), Linette M. Watkins, editor (James Madison University, Harrisonburg, Virginia) ; sponsored by the ACS Division of Chemical Education.

Other titles: Best practices for chemistry research experience for undergraduates programs

Description: Washington, DC : American Chemical Society, [2018] | Series: ACS symposium series ; 1295 | Includes bibliographical references and index.

Identifiers: LCCN 2018023576 (print) | LCCN 2018031858 (ebook) | ISBN 9780841233522 (ebook) | ISBN 9780841233539 (hardcover OP) | ISBN 9781713889328 (pod)

Subjects: LCSH: Chemistry--Study and teaching (Higher)--United States. | National Science Foundation (U.S.)--Awards.

Classification: LCC QD453.3 (ebook) | LCC QD453.3 .B47425 2018 (print) | DDC 540.71/1--dc23

LC record available at <https://lcn.loc.gov/2018023576>

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

Copyright © 2018 American Chemical Society

Distributed in print by Oxford University Press

All Rights Reserved. Reprographic copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Act is allowed for internal use only, provided that a per-chapter fee of \$40.25 plus \$0.75 per page is paid to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA. Republication or reproduction for sale of pages in this book is permitted only under license from ACS. Direct these and other permission requests to ACS Copyright Office, Publications Division, 1155 16th Street, N.W., Washington, DC 20036.

The citation of trade names and/or names of manufacturers in this publication is not to be construed as an endorsement or as approval by ACS of the commercial products or services referenced herein; nor should the mere reference herein to any drawing, specification, chemical process, or other data be regarded as a license or as a conveyance of any right or permission to the holder, reader, or any other person or corporation, to manufacture, reproduce, use, or sell any patented invention or copyrighted work that may in any way be related thereto. Registered names, trademarks, etc., used in this publication, even without specific indication thereof, are not to be considered unprotected by law.

PRINTED IN THE UNITED STATES OF AMERICA

# Contents

<b>1. Overview of Best Practices for Chemistry REU Programs .....</b>	<b>1</b>
Mark A. Griep and Linette Watkins	
<b>2. Over Thirty Years of REU Programs in the Department of Chemistry and Biochemistry at The University of Alabama .....</b>	<b>17</b>
John B. Vincent and Stephen A. Woski	
<b>3. Professional Development for REU Students .....</b>	<b>33</b>
Holly C. Gaede	
<b>4. Summer REU Program Integrating Deaf and Hearing Participants in Chemistry Research .....</b>	<b>45</b>
Gina MacDonald, Kevin L. Caran, Christine A. Hughey, and Judy Johnson Bradley	
<b>5. The TIM Consortium: A Dispersed REU Site at Primarily Undergraduate Institutes .....</b>	<b>59</b>
KC Russell and Shannon M. Biros	
<b>6. Chemistry REU Leadership Group: Support for the Chemistry Undergraduate Research Community .....</b>	<b>73</b>
Linette M. Watkins and Jeffrey D. Evanseck	
<b>7. The Chemistry REU Program at West Virginia University .....</b>	<b>85</b>
Brian V. Popp and Michelle Richards-Babb	
<b>8. Summer International REU Program in the United Kingdom .....</b>	<b>107</b>
Terence A Nile and Anne G. Glenn	
<b>9. Entering Mentoring: A Mentor Training Seminar for REU Mentors .....</b>	<b>121</b>
A. E. Greenberg	
<b>10. Coordination of the Chemistry REU Program at the University of Nebraska–Lincoln .....</b>	<b>139</b>
Mark A. Griep, Marilyn Stains, and Jonathan Velasco	
<b>11. Importance of a Truly Cohesive Theme in a REU Program .....</b>	<b>157</b>
N. I. Hammer and G. S. Tschumper	
<b>12. A Distributed, Multi-Institution REU Site on Environmental and Green Chemistry .....</b>	<b>177</b>
James A. Rice	

**Editors' Biographies ..... 187**

**Indexes**

**Author Index ..... 191**

**Subject Index ..... 193**