Advances in Teaching Inorganic Chemistry Volume 1: Classroom Innovations and Faculty Development



## Library of Congress Cataloging-in-Publication Data

Names: Jones, Rebecca M., 1976-editor.

Title: Advances in teaching inorganic chemistry / Rebecca M. Jones, editor, Department of Chemistry and Biochemistry, George Mason University, Fairfax, Virginia, United States; sponsored by the ACS Division of Chemical Education.

Description: Washington, DC: American Chemical Society, 2021. | Series: ACS symposium series; 1370 | Includes bibliographical references and index. | Contents: volume 1: classroom innovations and faculty development

Identifiers: LCCN 2020048724 (print) | LCCN 2020048725 (ebook) | ISBN 9780841298583 (volume 1; hardcover OP) | ISBN 9780841298576 (volume 1; ebook other) | ISBN 9781713890225 (volume 1; pod)

Subjects: LCSH: Chemistry, Inorganic--Study and teaching.

Classification: LCC QD153 .A38 2021 (print) | LCC QD153 (ebook) | DDC

LC record available at https://lccn.loc.gov/2020048724 LC ebook record available at https://lccn.loc.gov/2020048725

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 Z39.48n1984.

Copyright © 2020 American Chemical Society

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**

1.	$\begin{tabular}{ll} \textbf{Teaching Inorganic Chemistry: A Story of Adaptation, Commitment, and Progress} \\ \textbf{Rebecca M. Jones} \end{tabular}$	1
2.	<b>The Literature Discussion: A Signature Pedagogy for Chemistry</b>	3
3.	Active Learning through Discussions of Current Research in Inorganic Chemistry Classes Sabrina G. Sobel	21
4.	Inspired by Communities of Practice: The Solid State Structures Tutorial and Literature-Based Assignments  Terrie Salupo-Bryant	31
5.	Teaching Molecular Orbital Theory Better	<b>4</b> 7
6.	<b>Designing Educational Tabletop Games for the Inorganic Chemistry Classroom</b> Zachary Thammavongsy	65
7.	Using Toys to Introduce Symmetry Analysis in a Senior-Level Inorganic Chemistry Course Brent J. Hamstra	77
8.	Inorganic Chemistry: Vibranium and Marvel Studios' Black Panther	87
9.	Promoting Inclusive Excellence in the Inorganic Chemistry Curriculum through Faculty Culture Shift	97
10.	Exploring Student Affective Experiences in Inorganic Chemistry Courses: Understanding Student Anxiety and Enjoyment.  Justin M. Pratt and Jeffrey R. Raker	117
11.	Building Community: A Reflection on the Interactive Online Network of Inorganic Chemists	131
Edi	tor's Riography	141

## Indexes

Author Index	145
Subject Index	147