

Contents

Part I The Promises and Challenges of Integrated Science

1 In What Ways Can or Should Science and Government Be Integrated?	3
Al Gore, Former Vice President, United States of America (1993–2001); Nobel Laureate	3
Bruce Alberts, Former President (1993–2005), U.S. National Academy of Sciences	7
2 What Are the Promises and Challenges of Scientific Integration?	13
Elias A. Zerhouni, M.D., Director, National Institutes of Health	13
James J. Duderstadt, President Emeritus and University Professor of Science and Engineering at the University of Michigan	27

Part II The Integration of Academic Science and Industry

3 Should Business and Industry Create Integrative Partnerships with Academic Science?	41
Stanley Aronowitz, Distinguished Professor of Sociology and Director of the Cultural Studies Program at the Graduate Center, City University of New York	41
David L. Kirp, Professor, Goldman School of Public Policy, University of California, Berkeley	49
4 What Are the Institutional Obstacles to the Integration of Academic Science and Industry?	53
Henry Riggs, Founding President and Trustee, Keck Graduate Institute	53
William A. Haseltine, President, William A. Haseltine Foundation	65

Part III The Implications of Interdisciplinary Science on Education and Training

5 What Are the Long Term Implications of Integration/Interdisciplinary Science on Traditional Disciplines and Their Professional Associations (Turf Wars)?	69
Steven Brint, Professor of Sociology and Associate Dean, College of Humanities, Arts and Social Sciences at the University of California, Riverside	69
Paul Grobstein, Eleanor A. Bliss Professor of Biology, Bryn Mawr College	75
6 What Are the Implications of Integrated Science for Liberal Arts Education and Pedagogy at the Undergraduate Level?	77
William Wulf, University Professor, University of Virginia; President Emeritus, National Academy of Engineering	77
Donald Kennedy, President Emeritus, Stanford University.	83
7 Do the New Directions in Scientific Training Have an Impact on Developing a More Diverse Workforce?	91
Rita R. Colwell, University of Maryland and 11th Director of the National Science Foundation	91
Donald Kennedy, President Emeritus, Stanford University	97
8 What Are the Implications for Training at the Master's Level?	99
Rita R. Colwell, University of Maryland and 11th Director of the National Science Foundation	99
Sheila Tobias, National Outreach Coordinator for the Professional Science Master's (1997–2005)	103
9 What Are the Implications for Training at the Doctoral Level?	109
David Baltimore, Robert A. Millikan Professor of Biology at California Institute of Technology	109
Chris M. Golde, Associate Vice-Provost for Graduate Education, Stanford University	115
H. Alix Gallagher, Senior Researcher, SRI International	115
Thomas Cech, President of the Howard Hughes Medical Institute, Distinguished Professor of Chemistry and Biochemistry, University of Colorado	121
Gerald Rubin, Vice President and Director, Janelia Farm Research Campus, Howard Hughes Medical Institute	123

10 What Are the Architectural Implications of Integration? 129

 Robert Venturi, Pritzker Prize winner in Architecture and founding
 principal of the firm Venturi, Scott Brown and Associates 129

 Claire M. Fraser, Director, Institute for Genome Sciences (TIGR) 137

References 139

Index 141

Integrated Science

New Approaches to Education A Virtual Roundtable

Discussion

Brint, M.E.; Marcey, D.; Shaw, M.C. (Eds.)

2009, XIII, 148 p., Softcover

ISBN: 978-0-387-84852-5