Challenges for Implementation of Cross-Disciplinary Research in the Big Data Era

Merrill Series on The Research Mission of Public Universities

A compilation of papers originally presented at a retreat sponsored by The Merrill Advanced Studies Center July 2019

Mabel L. Rice, Editor

Technical editor: Suzanne Scales

MASC Report No. 123 The University of Kansas

© 2019 The University of Kansas Merrill Advanced Studies Center or individual author

TABLE OF CONTENTS MASC Report No. 123

Introduction
Mabel L. Ricev
Director, Merrill Advanced Studies Center, the University of Kansas
Executive summaryvii
Keynote address
Daniel Reed1
Senior Vice President for Academic Affairs, the University of Utah Big Data: Big Challenges, Big Opportunities The Reification of Consilience
Robert Simari7
University of Kansas Medical Center Growing Diversity in Data Science: Shared Lessons from Clinical Trials
Lisa Federer10
National Library of Medicine/National Institutes of Health Quantifying Biomedical Data Reuse in an Open Science Ecosystem
Marianne Reed
Daniel Sui and Jim Coleman23
University of Arkansas Convergence Research in the Age of Big Data: Team Science, Institutional Strategies, and Beyond
Dan Andresen and Eugene Vasserman
Jennifer Clarke and Bob Wilhelm
Carl Lejuez48
University of Kansas Protecting the Value of Interdisciplinary Collaborations in the Development of a New Budget Model

Christophe Royon, Tommaso Isidori and Nicola Minafra54
University of Kansas
Cross-Disciplinary Research: From Nuclear Physics to Cosmic Ray Detection and Medical Applications
Jennifer Larsen and W. Scott Campbell61
University of Nebraska Medical Center
Complexities of Conducting Cross-Disciplinary Biomedical Research
LIST OF PARTICIPANTS and CREDENTIALS65