

1. Record Nr.	UNINA9910970044003321
Titolo	Academic careers for experimental computer scientists and engineers / / Committee on Academic Careers for Experimental Computer Scientists, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics, and Applications, National Research Council
Pubbl/distr/stampa	Washington, DC, : National Academy Press, 1994
ISBN	9786610211241 9781280211249 1280211245 9780309585682 0309585686 9780585085630 0585085633
Edizione	[1st ed.]
Descrizione fisica	1 online resource (152 p.)
Disciplina	004.2373
Soggetti	Computer science - Vocational guidance Computer engineering - Vocational guidance
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	""Academic Careers for Experimental Computer Scientists and Engineers""; ""Copyright""; ""Preface""; ""Contents""; ""Executive Summary""; ""THE NATURE OF EXPERIMENTAL COMPUTER SCIENCE AND ENGINEERING""; ""ECSE AND THE ACADEMIC ENVIRONMENT""; ""PROVIDING A NURTURING ENVIRONMENT FOR ECSE FACULTY""; ""1 What Is Experimental Computer Science and Engineering? ""; ""ORGANIZATION AND SCOPE OF THIS REPORT""; ""COMPUTER SCIENCE AND ENGINEERING""; ""DEFINING CHARACTERISTICS OF ECSE""; ""ECSE Is a Synthetic Discipline""; ""ECSE Focuses Primarily on Artifacts""; ""Proof of Performance"" ""Proof of Concept""""Proof of Existence""; ""Summary""; ""The Artifacts of ECSE Are Extraordinarily Complex""; ""ECSE Is Sensitive to Technological Developments""; ""Computing Artifacts Are Universal"";

""ECSE Is Not Strongly Coupled to Theoretical Computer Science""; ""A Succinct Definition of Experimental Computer Science and Engineering""; ""MORE ON ARTIFACTS""; ""COMPARISONS WITH OTHER FIELDS""; ""WHY UNIVERSITIES SHOULD PERFORM ECSE RESEARCH""; ""2 An Academic Career in ECSE ""; ""GOALS OF RESEARCH IN ECSE""; ""RESOURCES FOR ECSE RESEARCH""; ""Equipment and Software"" ""Staying on the Cutting Edge in Equipment"" ""Dedicated Computing Systems""; ""Specialized Systems""; ""Space""; ""Maintaining the Research Environment""; ""Graduate Students""; ""Staff Support""; ""Access to Collaborators and Other Experimental Systems""; ""Funding""; ""Time""; ""Building Complex Artifacts""; ""Building a Research Laboratory""; ""Building Industrial Relationships""; ""Graduating Doctoral Students""; ""Recovering from Wrong Turns and Dead Ends, and from Being Scooped""; ""Building a Reputation""; ""THE RELATIONSHIP OF RESEARCH SCALE TO INFRASTRUCTURE NEEDS""; ""SUMMARY""

""3 Educational Dimensions of Academic ECSE "" ""KEEPING COURSES CURRENT""; ""EVALUATING STUDENT WORK""; ""STUDENT-FACULTY RATIOS""; ""SUPERVISING NON-PH.D. GRADUATE STUDENTS""; ""4 Evaluating Research in ECSE ""; ""PUBLICATION AND OTHER FORMS OF DISSEMINATION""; ""Publications""; ""Journals""; ""Conferences""; ""Artifacts as a Medium for Dissemination""; ""THEORETICIANS' AND EXPERIMENTALISTS' VIEWS ON EXPERIMENTAL RESEARCH""; ""THE EFFECT OF EVALUATION ON PROBLEM CHOICES AND RESEARCH AREA""; ""A NOTE ON OTHER DISCIPLINES""; ""SUMMARY""; ""5 A Positive Environment for Academic ECSE ""

""MENTORING AND ADVOCACY"" ""Mentoring""; ""Advocacy""; ""DESIDERATA FOR THE TENURE AND PROMOTION PROCESS""; ""Publications""; ""Artifacts""; ""Review Letters""; ""Funding History""; ""Other considerations in the T&P Process""; ""Ph.D. Students""; ""Consulting""; ""Workshops""; ""Teaching""; ""Service""; ""INSTITUTIONAL CONTRIBUTIONS TO THE ENVIRONMENT""; ""6 Special Needs and Concerns of Non-Doctorate-Granting and Less Recognized Institutions ""; ""MISSION""; ""SIZE""; ""RESOURCES""; ""MODELS FOR CONDUCTING ECSE RESEARCH AT NPHD SCHOOLS""; ""Proof-of-Performance Research""

""Collaborative Research""

Sommario/riassunto

The information age has grown out of the work of experimental computer science, which is dedicated to the development of new hardware, software, graphics, interfaces, and other computer system technologies. While it is important to society in this larger sense, experimental computer science has found an awkward fit in university environments. This volume examines what is special about experimental computer science and what can be done to achieve a better fit for its practitioners in the academic context.
