

1. Record Nr.	UNINA9910409987503321
Autore	Kirkland Earl J.
Titolo	Advanced Computing in Electron Microscopy // by Earl J. Kirkland
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-33260-8
Edizione	[3rd ed. 2020.]
Descrizione fisica	1 online resource (XII, 354 p. 146 illus., 8 illus. in color.)
Disciplina	502.825
Soggetti	Spectrum analysis Microscopy Optical data processing Materials science Spectroscopy and Microscopy Image Processing and Computer Vision Characterization and Evaluation of Materials Biological Microscopy Spectroscopy/Spectrometry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- The Transmission Electron Microscope -- Some Image Approximations -- Sampling and the Fast Fourier Transform -- Calculation of Images of Thin Specimens -- Theory of Calculation of Images of Thick Specimens -- Multislice Applications and Examples -- The Programss -- App. A: Plotting Transfer Functions -- App. B: The Fourier Projection Theorem -- App. C: Atomic Potentials and Scattering Factors -- App. D: The Inverse Problem -- App. E: Bilinear Interpolation -- App. F: 3D Perspective View.
Sommario/riassunto	This updated and revised edition of a classic work provides a summary of methods for numerical computation of high resolution conventional and scanning transmission electron microscope images. At the limits of resolution, image artifacts due to the instrument and the specimen interaction can complicate image interpretation. Image calculations can help the user to interpret and understand high resolution information

in recorded electron micrographs. The book contains expanded sections on aberration correction, including a detailed discussion of higher order (multipole) aberrations and their effect on high resolution imaging, new imaging modes such as ABF (annular bright field), and the latest developments in parallel processing using GPUs (graphic processing units), as well as updated references. Beginning and experienced users at the advanced undergraduate or graduate level will find the book to be a unique and essential guide to the theory and methods of computation in electron microscopy.

2. Record Nr.	UNINA9910132307803321
Autore	Fraillon Julian
Titolo	Preparing for Life in a Digital Age : The IEA International Computer and Information Literacy Study International Report // by Julian Fraillon, John Ainley, Wolfram Schulz, Tim Friedman, Eveline Gebhardt
Pubbl/distr/stampa	2014 Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	9783319142227 3319142224
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (305 pages) : illustrations
Collana	Humanities, Social Sciences and Law Series
Classificazione	EDU011000EDU039000EDU043000
Disciplina	370.285
Soggetti	Educational tests and measurements Education - Data processing International education Comparative education Assessment and Testing Computers and Education International and Comparative Education
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Foreword -- List of Tables and Figures -- Executive Summary -- 1. Introduction -- 2. The Contexts for Education on Computer and

Information Literacy -- 3. Students' Computer and Information Literacy -- 4. The Influence of Students' Personal and Home Background on Computer and Information Literacy -- 5. Students' Use of and Engagement with ICT at Home and School -- 6. School Environments for Teaching and Learning Computer and Information Literacy -- 7. Teaching with and about Information and Communication Technologies -- 8. Investigating Variations in Computer and Information Literacy -- 9. Conclusions and Discussion -- Appendices -- References -- Tables and Figures.

Sommario/riassunto

Ability to use information and communication technologies (ICT) is an imperative for effective participation in today's digital age. Schools worldwide are responding to the need to provide young people with that ability. But how effective are they in this regard? The IEA International Computer and Information Literacy Study (ICILS) responded to this question by studying the extent to which young people have developed computer and information literacy (CIL), which is defined as the ability to use computers to investigate, create, and communicate with others at home, school, the workplace and in society. The study was conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA) and builds on a series of earlier IEA studies focusing on ICT in education. Data were gathered from almost 60,000 Grade 8 students in more than 3,300 schools from 21 education systems. This information was augmented by data from almost 35,000 teachers in those schools and by contextual data collected from school ICT-coordinators, school principals, and the ICILS national research centers. The IEA ICILS team systematically investigated differences among the participating countries in students' CIL outcomes, how participating countries were providing CIL-related education, and how confident teachers were in using ICT in their pedagogical practice. The team also explored differences within and across countries with respect to relationships between CIL education outcomes and student characteristics and school contexts. In general, the study findings presented in this international report challenge the notion of young people as "digital natives" with a self-developed capacity to use digital technology. The large variations in CIL proficiency within and across the ICILS countries suggest it is naive to expect young people to develop CIL in the absence of coherent learning programs. Findings also indicate that system- and school-level planning needs to focus on increasing teacher expertise in using ICT for pedagogical purposes if such programs are to have the desired effect. The report furthermore presents an empirically derived scale and description of CIL learning that educational stakeholders can reference when deliberating about CIL education and use to monitor change in CIL over time.
