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Nota di contenuto	Cover; Title Page; Contents; Foreword; Preface; Chapter 1 Introduction To Cold-Formed Steel Design; 1.1 General; 1.2 Cold-formed steel sections; 1.2.1 Types of cold-formed steel sections; 1.2.2 Manufacturing; 1.2.3 Some peculiar characteristics of cold-formed steel sections; 1.3 Peculiar problems of cold-formed steel design; 1.3.1 Buckling strength of cold-formed steel members; 1.3.2 Torsional rigidity; 1.3.3 Web crippling; 1.3.4 Ductility and plastic design; 1.3.5 Connections; 1.3.6 Design assisted by testing; 1.3.7 Design standards; 1.3.7.1 North American Cold-formed Steel Specification, 1.3.7.2 Australian/New Zealand Standard - AS/NZS 4600, 2005 Edition (AS/NZS, 2005)1.3.7.3 Eurocode 3 - Design of Steel Structures, Part 1.3 - General Rules, Supplementary Rules for Cold-formed Thin Gauge Members and Sheeting; 1.3.8 Fire resistance; 1.3.9 Corrosion; 1.3.10 Sustainability of cold-formed steel construction; 1.4 Main applications of cold-formed steel; 1.4.1 Advantages of cold-formed steel in

building construction; 1.4.1.1 Advantages during construction; 1.4.1.2 Advantages in service; 1.4.2 Applications; Chapter 2 Basis Of Design; 2.1 General; 2.2 Limit state design
2.3 Actions on structures. Combinations of actions 2.3.1 Verification at the Ultimate Limit State; 2.3.2 Verification at the Serviceability Limit State; 2.3.2.1 Deflections; 2.3.2.2 Dynamic effects; 2.4 Materials; 2.4.1 General; 2.4.2 Structural steel; 2.4.2.1 Material properties of base material; 2.4.2.2 Material properties of cold-formed sections and sheeting; 2.4.2.3 Thickness and thickness tolerances; 2.5 Methods of analysis and design; 2.5.1 Methods of analysis - Global frame analysis; 2.5.2 Finite Element Methods (FEM) for analysis and design; 2.5.3 Design assisted by testing
2.6 Imperfections 2.6.1 Imperfections for global analysis of frames; 2.6.2 Imperfections for analysis of bracing systems; 2.6.3 Role of imperfections in advanced numerical simulation; 2.6.3.1 Section imperfections; 2.6.3.2 Residual stresses; Chapter 3 Behaviour And Resistance Of Cross Section; 3.1 General; 3.2 Properties of gross cross section; 3.2.1 Nominal dimensions and idealisation of cross section; 3.2.2 Net geometric properties of perforated sections; 3.2.3 Dimensional limits of component walls of cold-formed steel sections; 3.2.4 Modelling of cross section component walls for analysis
3.3 Flange curling3.4 Shear lag; 3.5 Local buckling; 3.5.1 Sectional buckling modes in thin-walled sections; 3.5.2 Elastic buckling of thin plates; 3.6 Distortional buckling: analytical methods for predicting elastic distortional buckling stresses; 3.6.1 The method given in EN 1993-1-3:2006; 3.7 Design against local and distortional buckling according to EN 1993-1-3; 3.7.1 General; 3.7.2 Plane elements without stiffeners; 3.7.3 Plane elements with edge or intermediate stiffeners; 3.7.3.1 General; 3.7.3.2 Plane elements with edge stiffeners; 3.7.3.2.1 Conditions; 3.7.3.3.2 General procedure
3.7.3.3 Plane elements with intermediate stiffeners

Sommario/riassunto

The book is concerned with design of cold-formed steel structures in building based on the Eurocode 3 package, particularly on EN 1993-1-3.It contains the essentials of theoretical background and design rules for cold-formed steel sections and sheeting, members and connections for building applications. Elaborated examples and design applications - more than 200 pages - are included in the respective chapters in order to provide a better understanding to the reader.

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Titolo	Virus ecology and disturbances : impact of environmental disruption on the viruses of microorganisms / / topic editors, Heather K. Allen and Stephen T. Abedon
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Sommario/riassunto	Viruses infect numerous microorganisms including, predominantly, Bacteria (bacteriophages or phages) but also Archaea, Protists, and Fungi. They are the most abundant and ubiquitous biological entities on Earth and are important drivers of ecosystem functioning. Little is known, however, about the vast majority of these viruses of microorganisms, or VoMs. Modern techniques such as metagenomics have enabled the discovery and description of more presumptive VoMs than ever before, but also have exposed gaps in our understanding of VoM ecology. Exploring the ecology of these viruses – which is how they interact with host organisms, the abiotic environment, larger organisms, and even other viruses across a variety of environments and conditions – is the next frontier. Integration of a growing molecular understanding of VoMs with ecological studies will expand our knowledge of ecosystem dynamics. Ecology can be studied at multiple levels including individual organisms, populations, communities, whole ecosystems, and the entire biosphere. Ecology additionally can consider normal, equilibrium conditions or instead perturbations. Perturbations are of particular interest because measuring the effect of disturbances on VoM-associated communities provides important windows into how

VoMs contribute to ecosystem dynamics. These disturbances in turn can be studied through in vitro, in vivo, and in situ experimentation, measuring responses by VoM-associated communities to changes in nutrient availability, stress, physical disruption, seasonality, etc., and could apply to studies at all ecological levels. These are considered here across diverse systems and environments.