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Immunology

Eco

Immunology

Concepts from evolution, ecology, parasitology, and immunology have informed a new synthesis of host-parasite interactions. The book builds on

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Immunology

**these
established
approaches
whilst including
some of the most
successful
interdisciplinary
areas of modern
biology -
evolutionary
epidemiology
and ecological
immunology.
Eco-immunology**

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Immunology

***Evolutionary
Aspects and
Future Perspectives
Springer
Science &
Business Media
Birds are the
most diverse
group of land
vertebrates and
have evolved to
exploit almost
every terrestrial
niche on earth.***

They also serve as a natural reservoir for an array of different pathogens that pose serious health risks to human and domestic animal populations, including West Nile virus, highly pathogenic avian influenza

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Immunology

viruses,

Newcastle

Disease virus,

and numerous

enteric

pathogens. Avian

diseases are also

critically

important to the

conservation of

endemic bird

species in many

places around

the world. This

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Immunology

**accessible
textbook focuses
on the dynamics
of infectious
diseases for wild
avian hosts
across every
level of
ecological
hierarchy, from
the way
pathogens
interact with the
physiology and**

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Immunology

***behavior of
individual hosts,
the evolutionary
and ecological
dynamics of the
host-parasite
interactions
occurring within
populations, up
to the complex
biotic and abiotic
interactions
occurring within
biological***

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Immunology

communities and ecosystems.

Parasite-bird interactions are also increasingly occurring in rapidly changing global environments - thus, their ecology is also changing - and this shapes the complex ways by

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Immunology

which parasites influence the inter-connected health of birds, humans, and shared ecosystems. Given the key role of birds in ecological communities more broadly, and as the primary host to

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Immunology

so many zoonotic pathogens, an understanding of the ecological and evolutionary principles underlying the maintenance, amplification, transmission, and dispersal of these infectious agents is crucial to understanding

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Immunology

***how to mitigate
the negative
global impacts of
the ever-
increasing
number of
emerging
infectious
diseases.***

***Although the
topics and
principles
discussed in this
book relate to***

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Immunology

birds, they have a far wider relevance and can also be applied to non-avian, wildlife host-pathogen systems. The COVID-19 pandemic has shown that understanding of disease ecology in wild animal

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Immunology

***populations is
paramount to
global health.
Infectious
Disease Ecology
of Wild Birds is
suitable for both
senior
undergraduate
and graduate
students taking
courses in avian
disease ecology,
ecoimmunology,***

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Immunology

**ecology, and
conservation. It
will also appeal
to the many
professional
parasitologists, e
coimmunologists
, ornithologists,
behavioural
ecologists,
conservation
biologists, and
wildlife
biologists**

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Immunology

***requiring a
concise overview
of the topic.***

Publisher

Description

***The Integrated
Study of
Infections,
Immunology,
Ecology, and
Genetics***

***Advances in
Comparative
Immunology***

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Immunology

Systems

Immunology

Pertussis

Papers of a

Theme Issue

**This book is
published on the
occasion of the
Royal**

**Entomological
Society's**

**Symposium on
Insect infection**

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Immunology

**and immunity in
Sheffield, July
15-17 2009.**

**Disease in
natural
populations
depends on the
interaction
between a host
and a parasite,
but the
environment may
also modify this
interaction. In**

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Immunology

**this dissertation,
I explore how
abiotic and biotic
components of a
host's
environment
alter health and
disease in the
sea fan
octocoral,
Gorgonia
ventalina. As
ectotherms,
corals are**

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Immunology

particularly sensitive to the environment and thus a priority for studying broader questions about environmental drivers of disease. The microbiome is an essential component of the holobiont that

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Immunology

can shift under stressful conditions and alter host susceptibility. In Chapter 1, I compare sea fan and scleractinian bacterial communities across the warm thermal anomaly of 2010. Bacterial

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Immunology

**communities
shifted in sea
fans, but not in
the more bleachi
ng-susceptible,
reef-building
scleractinian,
Orbicella
faveolata. In
Chapter 2, I
further explore
the role of
organisms
infecting sea**

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Immunology

**fans by studying
co-infecting
macroparasites.
Co-infection is
common in
nature and has
ecological and
evolutionary
consequences for
disease
outbreaks. I
surveyed 10 sites
in Puerto Rico
and determined**

that one parasite suppressed host immunity, yet did not facilitate a second parasite due to the overriding influence of the environment and host demography. A primary goal at the intersection of eco-

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Immunology

**immunology and
disease ecology
is to understand
how the
environment
influences host
immunity in
multi-parasite
systems. I
investigate this
interplay in
Chapter 3 by
measuring both
cellular**

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Immunology

**immunity and
immune gene
expression.**

**Laboratory
experiments
reveal distinct
immune
responses to two
parasites, but
immune
responses in field
populations are
dominated by the
influence of**

Bookmark File

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Immunology

environment and demography.

There were no signs that the

parasites

influence each

other in nature.

While disease

outbreaks occur

even in healthy

populations,

anthropogenic

change may alter

disease risk. In

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Immunology

Chapter 4, I use field surveys and a laboratory experiment to test how warming and copper pollution influence sea fan immunity and disease. Higher copper and temperature increased disease risk, while also

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Immunology

**driving nonlinear
immune
responses to a
damaging
parasite. This
dissertation
provides insight
into the
mechanisms
through which
biotic and abiotic
factors structure
disease.**

Understanding

Page 28/219

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Immunology

sea fan health is also a look to the future, as octocorals are critical for reef habitat in a changing ocean.

**Myxomycetes:
Biology,
Systematics,
Biogeography
and Ecology,
Second Edition
provides a**

Page 29/219

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Immunology

**complete
collection of
general and
technical
information on
myxomycetes
microorganisms.
Its broad scope
takes an
integrated
approach,
considering a
number of
important**

Bookmark File

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Immunology

aspects

surrounding

their genetics

and molecular

phylogeny. The

book treats

myxomycetes as

a distinct group

from fungi and

includes

molecular

information that

discusses

systematics and

Bookmark File

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Immunology

**evolutionary
pathways.**

**Written and
developed by an
international
team of
specialists, this
second edition
contains updated
information on
all aspects of
myxomycetes. It
incorporates
relevant and new**

Bookmark File

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Immunology

**material on
current
barcoding
developments,
plasmodial
network
experimentation,
and non-STEM
disciplinary
assimilation of
myxomycete
information. This
book is a unique
and authoritative**

Bookmark File

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Immunology

**resource for
researchers in
organismal
biology and
ecology
disciplines, as
well as students
and academics in
biology, ecology,
microbiology,
and similar
subject areas.
Written in a
simple, concise**

Bookmark File

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Immunology

**and relatively
non-technical
style, allowing
for a broad
readership
within biological,
environmental
and life science
programs at
academic and
research
institutions
Contains the
comprehensive**

Bookmark File

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Immunology

**body of
information
available on
myxomycetes
under one cover,
with
contributions
from the leading
authorities in
their respective
areas of
expertise
Provides
straightforward,**

Bookmark File

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Immunology

**compiled
information
about
myxomycetes and
the potential of
this group for
basic and applied
research Offers
completely
updated material
in every chapter,
including new
material on
barcoding and**

Bookmark File

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Immunology

**Physarum
polycephalum
biological factors
Conservation
physiology is a
rapidly
expanding,
multidisciplinary
field that utilizes
physiological
knowledge and
tools to
understand and
solve**

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Immunology

conservation challenges. This novel text provides the first consolidated overview of its scope, purpose, and applications, with a focus on wildlife. It outlines the major avenues and advances by which

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Immunology

**conservation
physiology is
contributing to
the monitoring,
management,
and restoration
of wild animal
populations. This
book also defines
opportunities for
further growth in
the field and
identifies critical
areas for future**

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Immunology

investigation. By using a series of global case studies, contributors illustrate how approaches from the conservation physiology toolbox can tackle a diverse range of conservation issues including

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Immunology

**the monitoring of
environmental
stress, predicting
the impact of
climate change,
understanding
disease
dynamics,
improving
captive breeding,
and reducing
human-wildlife
conflict.**

Moreover, by

Page 42/219

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Immunology

**acting as
practical road
maps across a
diversity of sub-
disciplines, these
case studies
serve to increase
the accessibility
of this discipline
to new
researchers. The
diversity of taxa,
biological scales,
and ecosystems**

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Immunology

highlighted
illustrate the far-
reaching nature
of the discipline
and allow
readers to gain
an appreciation
for the purpose,
value,
applicability, and
status of the field
of conservation
physiology.

Conservation

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Immunology

Physiology is an accessible supplementary textbook suitable for graduate students, researchers, and practitioners in the fields of conservation science, eco-physiology, evolutionary and comparative

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Immunology

**physiology,
natural
resources
management,
ecosystem
health,
veterinary
medicine, animal
physiology, and
ecology.**

Evolutionary

Parasitology

Infectious

Disease Ecology

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Immunology

**of Wild Birds
Advances in
Virus Research
Recent Advances
and Applications
for Conservation
and Public
Health
Insect
Immunology
Ecology,
Molecular
Virology, and
Pathogenesis**

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Immunology

Ecology and Evolution of Cancer is a timely work outlining ideas that not only represent a substantial and original contribution to the fields of evolution, ecology, and cancer, but also

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Immunology

**goes beyond by
connecting the
interfaces of
these disciplines.**

**This work
engages the
expertise of a
multidisciplinary
research team to
collate and review
the latest
knowledge and
developments in**

Bookmark File

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Immunology

**this exciting
research field.
The evolutionary
perspective of
cancer has gained
significant
international
recognition and
interest, which is
fully
understandable
given that
somatic cellular**

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Immunology

selection and evolution are elegant explanations for carcinogenesis. Cancer is now generally accepted to be an evolutionary and ecological process with complex interactions

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Immunology

between tumor cells and their environment sharing many similarities with organismal evolution. As a critical contribution to this field of research the book is important and relevant for the

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Immunology

**applications of
evolutionary
biology to
understand the
origin of cancers,
to control
neoplastic
progression, and
to prevent
therapeutic
failures. Covers
all aspects of the
evolution of**

Page 53/219

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Immunology

**cancer, appealing
to researchers
seeking to
understand its
origins and
effects of
treatments on its
progression, as
well as to
lecturers in
evolutionary
medicine
Functions as both**

Bookmark File

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Immunology

**an introduction
to cancer and
evolution and a
review of the
current research
on this
burgeoning,
exciting field,
presented by an
international
group of leading
editors and
contributors**

Page 55/219

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Immunology

Improves

**understanding of
the origin and the
evolution of
cancer, aiding
efforts to
determine how
this disease
interferes with
biotic
interactions that
govern
ecosystems**

Bookmark File

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Immunology

Highlights
research that
intends to apply
evolutionary
principles to help
predict
emergence and
metastatic
progression with
the aim of
improving
therapies

The Immune Self

Page 57/219

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Immunology

**is the first
extended
philosophical
critique of
immunology.
This volume
offers an
overview of the
processes of
zoonotic viral
emergence, the
intricacies of
host/virus**

Page 58/219

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Immunology

**interactions, and
the role of
biological
transitions and
modifying
factors. The
themes
introduced here
are amplified and
explored in detail
by the
contributing
authors, who**

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Immunology

explore the mechanisms and unique circumstances by which evolution, biology, history, and current context have contrived to drive the emergence of different zoonotic agents by a series of related events.

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Immunology

**Previously
published as: The
Immunological
basis of surgical
science and
practice, 1992.
The Limits of the
Self
Ecology and
Evolution of
Cancer
Ecological
Immunology**

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Immunology

**Epidemiology,
Immunology, and
Evolution**

Conservation

Physiology

Eco-immunology

Innate immunity
is a new branch
of immunology,
confirmed by
three Nobel
Prize winners in
2011. It is the

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Immunology

first line of defense against pathogens and is in a way the preliminary step of adaptive immunity which occurs later, and only present in vertebrates.

This book examines the way in which innate immunity was

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Immunology

discovered in invertebrates. As a starting point, it looks at the work of Louis Pasteur on silkworm disease and the findings of Ilya Metchnikov, discoverer of phagocytosis. It also investigates

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Immunology

André Paillot,
who in 1920
demonstrated the
existence of
humoral immunity
in insects,
unrelated to the
type of immunity
that was
initially
thought to be
present in all
vertebrates.
Finally, Innate

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Immunology

Immunity shows how the group directed by Jules Hoffmann found strong similarities between the innate immunity response of insects and mammals. The discovery of a receptor protein in *Drosophila*,

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Immunology

which is also found in humans, was what led to Jules Hoffmann being awarded the Nobel Prize in 2011.

Presents the transformations experienced by the domains of innate immunity
Shows the lineage of these

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Immunology

results Bridges
the gap between
innate immunity
of invertebrates
and that of
vertebrates
Pertussis, or
whooping cough,
is a respiratory
disease caused
primarily by
infection with
the bacterium
Bordetella

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Immunology

pertussis. It remains among the leading causes of death amongst vaccine-preventable diseases worldwide and recent years have seen its alarming re-emergence in many regions (including the

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Immunology

U.S. and much of Europe), despite sustained high levels of vaccine coverage. The causes of the resurgence remain contentious, in part due to inherent complexities of the pathogen's

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Immunology

biology, in part
due to
pronounced
variation in the
treatment and
prevention
strategies
between
different
countries and
regions, and in
part due to long-
standing
disagreement

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Immunology

amongst
scientific
researchers
studying
pertussis. This
edited volume
brings together
expert knowledge
from disparate
fields with the
overall aim of
synthesizing the
current
understanding of

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Immunology

this critically important, global pathogen. Volume II of this two-volume, interdisciplinary work is a unified presentation of a broad range of state-of-the-art topics in the rapidly growing field of

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Immunology

mathematical modeling in the biological sciences.

Highlighted throughout are mathematical and computational approaches to examine central problems in the life sciences, ranging from the organization

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Immunology

principles of individual cells to the dynamics of large populations. The chapters are thematically organized into the following main areas: epidemiology, evolution and ecology, immunology,

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Immunology

neural systems and the brain, and innovative mathematical methods and education. The work will be an excellent reference text for a broad audience of researchers, practitioners, and advanced

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Immunology

students in this rapidly growing field at the intersection of applied mathematics, experimental biology and medicine, computational biology, biochemistry, computer science, and

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Immunology

physics.

" Senior scholar Alfred Tauber argues in this bold account that common approaches to the study of immunology are inherently flawed in its strict dichotomy of the self and non-self, or

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Immunology

external
invaders. The
relationship
between what is
self and what is
non-self is in
reality a
complex,
dynamic,
relational one.
Autonomous
agents are
constantly in
the midst of

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Immunology

dialectical exchanges in which immunity mediates both noxious and benign encounters. Namely: rather than serving to defend an independent entity, immunity participates in an eco-system.

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Immunology

Contemporary transplantation biology and autoimmunity have demonstrated phenomena that upset rigid adherence to the self/non-self dichotomy. Placing tolerant immune mechanisms

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Immunology

within a broad ecological context has highlighted the balance of co-operative and competitive relationships in which immunity functions. By understanding immunity this way, as a 'symbiotic turn,

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Immunology

' we come to see that immune reactivity (rejection or tolerance) is a second-order response to the cognitive functions of the immune system. Organisms have a complex capacity to respond to environment,

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Immunology

and, through Tauber's insights, we appreciate them more fully when we grasp the flexibility of the borders of organisms. After first providing an overview of the history of immunology, and explaining why

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Immunology

the dominant understanding of it is incomplete and limiting, Tauber argues for this new approach to immunology and explains how it will usher in a new biology in which symbiosis is the rule, not the exception.

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Immunology

Immunology and
Biological
Identity
Biology,
Systematics,
Biogeography and
Ecology
Innate Immunity
Immunology and
Evolution of
Infectious
Disease
Evolutionary

Bookmark File

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Immunology

Aspects and

Future

Perspectives

Molecular Plant

Immunity

Molecular Plant

Immunity provides an

integrated look at both

well-established and

emerging concepts in

plant disease resistance

providing the most

current information on

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Immunology

*this important vitally
important topic within
plant biology.*

*Understanding
the molecular basis of
the plant immune
system has implications
on the development of
new varieties of
sustainable crops,
understanding the
challenges plant life
will face in changing*

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Immunology

environments, as well as providing a window into immune function that could have translational appeal to human medicine. Molecular Plant Immunity opens with chapters reviewing how the first line of plant immune response is activated followed by chapters

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Immunology

*looking at the
molecular mechanisms
that allow
fungi, bacteria, and
oomycetes to
circumvent those
defenses.*

*Plant resistance
proteins, which provide
the second line of plant
immune defense, are
then covered followed
by chapters on the role*

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Immunology

of hormones in immunity and the mechanisms that modulate specific interaction between plants and viruses. The final chapters look at model plant-pathogen systems to review interaction between plants and fungal, bacterial, and viral pathogens.

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Immunology

Written by a leading team of international experts, Molecular Plant Immunity will provide a needed resource to diverse research community investigated plant immunity.

If you're experiencing discomfort, fatigue, or other symptoms that won't go away no

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Immunology

*matter what you do or
how many doctors you
see, chances are you're
one of the millions
unknowingly suffering
from a systemic
fungal/yeast infection,
"the hidden invader."*

*The result of an
imbalance starting in
your internal
ecosystem, this can be a
key factor in*

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Immunology

headaches, joint and muscle pain, depression, cancer, food allergies, digestive problems, autism, and other immune-related disorders. The Body Ecology Diet reveals how to restore and maintain the "inner ecology" your body needs to function properly, and eliminate

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Immunology

or control the

*symptoms that rob you
of the joy of living.*

*Tens of thousands of
people have already*

benefited from the

*Body Ecology way of
life—Donna Gates*

shows you, step-by-

step, how to eat your

way to better health

and well-being . . .

deliciously, easily, and

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Immunology

inexpensively! In this book, you will learn how to: use seven basic universal principles as tools to gain mastery over every health challenge you may encounter; focus on your inner ecology to create ideal digestive balance; conquer cravings with strategies for satisfying snacking

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Immunology

and for dining away from home; and plan meals with dozens of delectable recipes, an array of menus, and detailed shopping lists. The second edition of Avian Immunology provides an up-to-date overview of the current knowledge of avian immunology. From the ontogeny of the avian

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Immunology

immune system to practical application in vaccinology, the book encompasses all aspects of innate and adaptive immunity in chickens. In addition, chapters are devoted to the immunology of other commercially important species such as turkeys and ducks, and to ecoimmunology

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Immunology

summarizing the knowledge of immune responses in free-living birds often in relation to reproductive success. The book contains a detailed description of the avian innate immune system, encompassing the mucosal, enteric, respiratory and reproductive systems.

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Immunology

The diseases and disorders it covers include immunodepressive diseases and immune evasion, autoimmune diseases, and tumors of the immune system. Practical aspects of vaccination are examined as well. Extensive appendices summarize resources

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Immunology

for scientists including cell lines, inbred chicken lines, cytokines, chemokines, and monoclonal antibodies. The world-wide importance of poultry protein for the human diet, as well as the threat of avian influenza pandemics like H5N1 and heavy reliance on vaccination

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Immunology

to protect commercial flocks makes this book a vital resource. This book provides crucial information not only for poultry health professionals and avian biologists, but also for comparative and veterinary immunologists, graduate students and veterinary students with

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Immunology

an interest in avian immunology. With contributions from 33 of the foremost international experts in the field, this book provides the most up-to-date review of avian immunology so far. Contains a detailed description of the avian innate immune system reviewing

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Immunology

*constitutive barriers,
chemical and cellular
responses; it includes a
comprehensive review
of avian Toll-like
receptors Contains a
wide-ranging review of
the "ecoimmunology"
of free-living avian
species, as applied to
studies of population
dynamics, and reviews
methods and resources*

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Immunology

*available for carrying
out such research*

Published since 1953,

Advances in Virus

Research covers a

*diverse range of in-
depth reviews*

providing a valuable

overview of the current

field of virology. In

2004, the Institute for

Scientific Information

released figures

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Immunology

*showing that the series
has an Impact Factor
of 2.576, with a half-
life of 7.1 years,
placing it 11th in the
highly competitive
category of Virology.*

Henipavirus

The Immune Self

Edible Sea Urchins:

Biology and Ecology

Insect Infection and

Immunity

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Immunology

Theory Or Metaphor?

Lessons in Immunity

Patients are beginning

to benefit from

antibody based,

cellular and vaccine

approaches that are

effective against

genetically diverse and

therapy-resistance

cancers. BCG

immunotherapy is now

being used as a first

line treatment for

human bladder cancer and the introduction of prophylactic vaccination against Hepatitis B and HPV cancers is starting to show positive results. Following recent FDA approval for a vaccination against prostate cancer, and optimistic results in clinical trials for a vaccine targeting

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Immunology

cancer antigens in lung cancer, cancer immunotherapy is now significantly impacting patient clinical management. Tumor Immunology and Immunotherapy provides an up-to-date and comprehensive account of cancer immunity and immunotherapy. It discusses our adaptive

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Immunology

**and innate immunity
to cancer, the
mechanisms
underpinning our
immune response,
current approaches to
cancer
immunotherapy, and
how tumour and host
responses can
circumvent effective
anti-cancer immunity.
The book examines
recent results,**

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Immunology

publications and current areas of interest including 'immune editing' and the specific issues that are affecting the research and development of vaccines, providing insight into how these problems may be overcome, as viewed by world leaders in the field. Tumor

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Immunology

**Immunology and
Immunotherapy will
appeal to clinicians
working in oncology
and cancer
immunotherapy, and
research scientists
including PhD and
masters students, post-
doctoral researchers
and senior
investigators.**

**"Taken together, the
body of information**

Page 112/219

Bookmark File

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Immunology

**contained in this book
provides readers with
a bird's-eye view of
different aspects of
exciting work at the
convergence of
disciplines that will
ultimately lead to a
future where we
understand how
immunity is regulated,
and how we can
harness this knowledge
toward practical ends**

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Immunology

that reduce human suffering. I commend the editors for putting this volume together."

–Arup K.

**Chakraborty, Robert
T. Haslam Professor of
Chemical Engineering,
and Professor of
Physics, Chemistry,
and Biological
Engineering,
Massachusetts
Institute of**

Bookmark File

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Immunology

**Technology,
Cambridge, USA New
experimental
techniques in
immunology have
produced large and
complex data sets that
require quantitative
modeling for analysis.
This book provides a
complete overview of
computational
immunology, from
basic concepts to**

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Immunology

mathematical modeling at the single molecule, cellular, organism, and population levels. It showcases modern mechanistic models and their use in making predictions, designing experiments, and elucidating underlying biochemical processes. It begins with an

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Immunology

introduction to data analysis, approximations, and assumptions used in model building. Core chapters address models and methods for studying immune responses, with fundamental concepts clearly defined. Readers from immunology, quantitative biology,

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Immunology

**and applied physics
will benefit from the
following:**

**Fundamental
principles of
computational
immunology and
modern quantitative
methods for studying
immune response at
the single molecule,
cellular, organism, and
population levels. An
overview of basic**

Bookmark File

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Immunology

**concepts in modeling
and data analysis.**

**Coverage of topics
where mechanistic
modeling has**

**contributed
substantially to
current**

understanding.

**Discussion of genetic
diversity of the
immune system, cell
signaling in the
immune system,**

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Immunology

immune response at the cell population scale, and ecology of host-pathogen interactions.

This work is the first book-length publication on the topic of insect immunology since 1991, complementing earlier works by offering a fresh perspective on current

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Immunology

research. Interactions of host immune systems with both parasites and pathogens are presented in detail, as well as the genomics and proteomics, approaches which have been lacking in other publications. Beckage provides comprehensive coverage of topics

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Immunology

important to medical researchers, including *Drosophila* as a model for studying cellular and humoral immune mechanisms, biochemical mediators of immunity, and insect blood cells and their functions.

Encompasses the most important topics of insect immunology including mechanisms,

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Immunology

**genes, proteins,
evolution and
phylogeny Provides
comprehensive
coverage of topics
important to medical
researchers including
Drosophila as a model
for studying cellular
and humoral immune
mechanisms,
biochemical mediators
of immunity, and
insect blood cells and**

Bookmark File

PDF Eco

Immunology

**their functions Most
up-to-date information
published with
contributions from
international leaders
in the field**

**Lessons in Immunity:
From Single-cell
Organisms to
Mammals stems from
the activity of the
Italian Association of
Developmental and
Comparative**

Bookmark File

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Immunology

**Immunobiology
(IADCI), represented
by the editors. This
book is presented as a
series of short
overviews that report
on the current state of
various relevant fields
of immunobiology
from an evolutionary
perspective. The
overviews are written
by authors directly
involved in the**

Bookmark File

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Immunology

research, and most are members of the IADCI or have otherwise been involved in the related research for their respective overview.

This publication offers scientists and teachers an easy and updated reference tool.

Provides simple and updated reviews on the immunobiology of a wide spectrum of

Bookmark File

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Immunology

**organisms, considered
in an evolutionary
context Focuses on
both cells and humoral
components of a
variety of non-classical
model organisms
Offers in a single
volume many
contributions which
can help with
understanding the
evolution of immune
responses and the**

Bookmark File

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Immunology

**main adaptations in
animal phyla Presents
a valuable holistic
cross-sectional
approach for teaching
immunology and its
applications**

**From Louis Pasteur to
Jules Hoffmann**

From Single-cell

Organisms to

Mammals

Ecoimmunology

Evolution, Ecology,

Page 128/219

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Immunology

and Mechanisms

Tumor Immunology

and Immunotherapy

Wildlife and Emerging

Zoonotic Diseases: The

Biology,

Circumstances and

Consequences of Cross-

Species Transmission

Modern

immunology

traditionally

conceives of

Bookmark File

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Immunology
the immune

system as

providing

defense

against

pathogens.

Alfred I.

Tauber

criticizes

this

conception of

immunity as

Bookmark File

PDF Eco

Immunology

too narrow,
because it
discounts much
of the immune
system's other
normal
functions.
These include
active
tolerance of
nutritional
exchanges with

Bookmark File

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Immunology

the

environment

and the

stabilization

of cooperative

relationships

with resident

micro-

organisms. An

expanded

account

extends

Bookmark File

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Immunology

immunity's

functional

role from

singular

'defense' to

broadened

discernment of

environmental

'exchange.'

This

ecological

perspective

Bookmark File

PDF Eco

Immunology

has profound
theoretical
implications,
for the basic
notion of
immune
identity is
reconfigured:
highlighting
the organism
as a holobiont
(a consortium

Bookmark File

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Immunology

of diverse
organisms
living in
cooperative
relationships)
challenges
prevailing
concepts of
individuality
and the
self/nonsel
dichotomy

Bookmark File

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Immunology

heretofore
organizing
immune theory.
Indeed, if
theoretical
interest is
focused on the
challenges of
maintaining
immune balance
in the full
ecological

Bookmark File

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Immunology

context of the
organism, then
immune
regulation
assumes new
complexity.

Tauber
maintains that
the key to
unravelling
that puzzle
requires a

Bookmark File

PDF Eco

Immunology

critical re-
assessment of
the cognitive
processes that
underlie
immune
effector
functions.
Accordingly,
he provides
the outline of
a re-

Bookmark File

PDF Eco

Immunology

formulated
'cognitive
paradigm' that
dispenses with
agent-based
models and
adopts an
ecologically
conceived
understanding
of perception
and

Bookmark File

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Immunology
information

processing.

The

implications

of this

revised

configuration

of immunity

and its

deconstructed

notions of

individuality

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Immunology

and selfhood
have wide
significance
for
philosophers
and life
scientists
working in
immunology,
ecology, and
the cognitive
sciences.

Bookmark File

PDF Eco

Immunology

Immunology

asserts that
an individual
can be defined
through self
and nonself.

Thomas Pradeu
argues that
this theory is
inadequate,
because immune
responses to

Bookmark File

PDF Eco

Immunology

self

constituents
and immune
tolerance of
foreign
entities are
the rule, not
the exception.

Henipaviruses
form a new
genus of
emerging param

Bookmark File

PDF Eco

Immunology
yxoviruses

that are the
deadliest
human

pathogens
within the Par
amyxoviridae
family. This
volume deals
with the many
facets of
henipavirus

Bookmark File

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Immunology

biology, and
covers our
current
understanding
regarding the
ecology,
molecular
virology, and
pathogenesis
of henipavirus
infections. It
is an

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Immunology

international
effort written
by a multidisc
iplinary panel
of experts at
the front
lines of
research into
this lethal
emerging group
of paramyxovir
uses. The

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Immunology

first section
introduces the
epidemiology
and ecology of
Nipah and
Hendra viruses
in their
respective
endemic areas,
including a
first-hand
account of the

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Immunology

discovery of
Nipah virus
during its
initial
outbreak in
Malaysia; the
next section
documents the
molecular
virology of
henipaviruses,
and the

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Immunology

substantial
advances made
towards
understanding
the unique
features of
henipavirus
entry and
tropism; and
this is
followed by
accounts of

Bookmark File

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Immunology

the clinical and pathologic features of henipavirus infections in their human and naturally infected animal hosts. The next sections on pathogenesis

Bookmark File

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Immunology

provide a
comprehensive
reference on
how
henipaviruses
counteract the
innate immune
system, and
the relevant
pathogenic
features in
animal

Bookmark File

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Immunology

challenge

models

developed to

test potential

therapeutic

strategies.

The final

sections

describe our

current and

future

capabilities

Bookmark File

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Immunology

for diagnosis and control, including an account of potentially effective immunization strategies that are currently being tested. This book will

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Immunology

not only serve
as a useful
reference for
the
henipavirus
field; it will
be useful to
basic and
animal
virologists,
ecologists, ep
idemiologists,

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Immunology

physicians,
and others
interested in
emerging
infectious
viral
diseases, as
it showcases
the multidisci
plinary
efforts
required to

Bookmark File

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Immunology

understand the
genesis,
spread and
hopefully,
control, of a
group of
lethal
emerging
zoonotic
pathogens.

This book
represents a

Bookmark File

PDF Eco

Immunology

cutting-edge
contribution
giving an all-
around
perspective of
eco-immunology
today. Beside
questions of
the utmost
importance for
the whole
community of

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Immunology

immunologists,
e.g, the
intrinsic
limits of
immunological
experiments
performed at
the bench on a
limited number
of selected
models, the
book covers

Bookmark File

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Immunology

several other facets of the eco-immunological approach, including host-parasite interactions, human aging and population immunology. Throughout the

Bookmark File

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Immunology

book the
importance of
population
dynamics and
evolutionary d
iversification
of immune
systems is
frequently
recalled, and
makes the
reader aware

Bookmark File

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Immunology

of the basic similarities and differences existing between humans and the models adopted for studying human immune system. The evidenced differences

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Immunology

have been
recently
challenging
the
reliability of
several
established
animal models
and in the
book it is
discussed for
the first time

Bookmark File

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Immunology

in analytical
terms whether
mice are
reliable
models of
human
inflammatory
disorders.

An

Introduction
to Modeling
Methods for

Bookmark File

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Immunology

Scientists

Mathematical

Modeling of

Biological

Systems,

Volume II

Essential

Immunology for

Surgeons

Avian

Immunology

Myxomycetes

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Immunology

The Body

Ecology Diet

Sea urchins are
a major

component of
marine

environments
found

throughout the
world's oceans.

A major model
for research in

Bookmark File

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Immunology

developmental biology, they are also of major economic importance in many regions and interest in their management and aquaculture has increased greatly in recent years.

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Immunology

This book provides a synthesis of biological and ecological characteristics of sea urchins that are of basic scientific interest and also essential for effective

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Immunology

fisheries

management and
aquaculture.

General

chapters

consider

characteristics

of sea urchins

as a whole. In

addition,

specific

chapters are

devoted to the

Bookmark File

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Immunology

ecology of 17 species that are of major commercial interest and ecological importance.

Features

include: • A synthesis of what is known about the basic biological

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Immunology

characteristics
of the sea
urchin, useful
for the
direction of
future
research. •

Case histories
of 17 species
that illustrate
their
ecological role
in a variety of

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Immunology

environments. •

With the catastrophic decline in fisheries resulting primarily from over-fishing, it is essential that the populations be managed effectively and

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Immunology

that

aquaculture be developed. This book provides knowledge of the biology and ecology of the commercially important sea urchins that will contribute to these goals.

- The only book

Bookmark File

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Immunology

available in
present
literature
devoted to sea
urchins. With
this new title
experts provide
a broad
synthetic
treatment and
in depth
analysis of the
biology and

Bookmark File

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Immunology

ecology of sea urchins from around the world, designed to provide an understanding of the group and the basis for fisheries management and aquaculture.

The Janeway's Immunobiology

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Immunology

CD-ROM,
Immunobiology
Interactive, is
included with
each book, and
can be
purchased
separately. It
contains
animations and
videos with
voiceover
narration, as

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Immunology

well as the figures from the text for presentation purposes.

The role of parasites and pathogens in the evolution of life history traits is of increasing interest to

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Immunology

both ecologists
and
evolutionary
biologists.

Immunology,
which was once
studied almost
exclusively by
immunologists,
has become an
important area
of proximate
investigation

Bookmark File

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Immunology

to animal
physiologists
as a means for
understanding
changes in
disease
susceptibility
and the neural
and
neuroendocrine
mechanisms that
mediate these
changes. The

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Immunology

coalescence of these different perspectives has given rise to the field of ecological immunology, an interdisciplinary research field that examines interactions among host

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Immunology

physiology and disease ecology in a wide range of environmentally relevant contexts. The goal of ecological immunology is to understand immune function in the context

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Immunology

of life-history traits across a wide range of organisms.

Research within the field combines diverse approaches from a wide range of scientific disciplines including

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Immunology

evolution,
ecology, and
life history
theory to
endocrinology,
neuroscience,
molecular
biology, and
behavior. This
book critically
reviews recent
advances in the
discipline of

Bookmark File

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Immunology

ecoimmunology.

Chapters are

written by

experts in

their

respective

fields and

cover diverse

topics

including how

environmental

factors can

affect host

Bookmark File

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Immunology

immune

function, the

complex

dynamics among

host immunity,

pathogen

prevalence and

disease

susceptibility,

and the

physiological

mechanisms that

lead to

Bookmark File

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Immunology

adaptive

changes in

immune

responses. By

integrating

analyses of

immune system

function within

animal biology,

investigators

will gain will

gain a more

comprehensive

Bookmark File

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Immunology

and satisfying
understanding
of organism-
environment
interactions at
both ultimate
and proximate
levels of
analysis.

This book
critically
reviews recent
advances in

Bookmark File

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Immunology

ecoimmunology,
a newly
emergent, inter
disciplinary
research field
that examines
interactions
among host
physiology and
disease ecology
in a wide range
of
environmentally

Bookmark File

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Immunology

relevant

contexts.

Immunity

The Evolution

of an Idea

Epidemiology,

Evolution and

Ecology,

Immunology,

Neural Systems

and the Brain,

and Innovative

Mathematical

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Immunology

Methods

The Environment
and Co-
infection

Mediate Disease
Risk in Corals
Through Impacts
on the

Microbiome and
Immunity

Specificity,
Genetics of

Resistance and

Bookmark File

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Immunology

Eco-immunology
in Daphnia-
microparasite
Interacions
Janeway's
Immunobiology
Under continual
attack from both
microbial
pathogens and
multicellular
parasites, insects

Bookmark File

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Immunology

must cope with

immune

challenges every

day of their lives.

However, this has

not prevented

them from

becoming the most

successful group

of animals on the

planet. Insects

possess highly-

Bookmark File

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Immunology

developed innate immune systems which have been fine-tuned by an arms race with pathogens spanning hundreds of millions of years of evolutionary history. Recent discoveries are

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Immunology

revealing both an unexpected degree of specificity and an indication of immunological memory - the functional hallmark of vertebrate immunity. The study of insect immune systems

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Immunology

has accelerated rapidly in recent years and is now becoming an important interdisciplinary field. Furthermore, insects are a phenomenally rich and diverse source of antimicrobial chemicals. Some

of these are already being seriously considered as potential therapeutic agents to control microbes such as MRSA.

Despite a burgeoning interest in the field, this is the first

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Immunology

book to provide a coherent synthesis and is clearly structured around two broadly themed sections: mechanisms of immunity and evolutionary ecology. This novel text adopts an interdisciplinary

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Immunology

and concept-driven approach, integrating insights from immunology, molecular biology, ecology, evolutionary biology, parasitology, and epidemiology. It features contributions from

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Immunology

an international team of leading experts. *Insect Infection and Immunity* is suitable for both graduate students and researchers interested in insect immunity from either an evolutionary,

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Immunology

genetical,
physiological or
molecular
perspective. Due
to its
interdisciplinary
and concept-
driven approach, it
will also appeal to
a broader
audience of
immunologists,

Bookmark File

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Immunology

parasitologists and
evolutionary
biologists requiring
a concise
overview.

Parasites and
infectious diseases
are everywhere
and represent
some of the most
potent forces
shaping the

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Immunology

natural world. They affect almost every aspect imaginable in the life of their hosts, even as far as the structure of entire ecosystems. Hosts, in turn, have evolved complex defences, with immune systems being

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Immunology

among the most sophisticated processes known in nature. In response, parasites have again found ways to manipulate and exploit their hosts. Ever since life began, hosts and parasites have

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Immunology

taken part in this
relentless co-
evolutionary
struggle with far-
reaching
consequences for
us all. Today,
concepts borrowed
from evolution,
ecology,
parasitology, and
immunology have

Bookmark File

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Immunology

formed a new synthesis for the study of host-parasite interactions.

Evolutionary parasitology builds on these established fields of scientific enquiry but also includes some of the most

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Immunology

successful inter-disciplinary areas of modern biology such as evolutionary epidemiology and ecological immunology. The first edition of this innovative text quickly became the standard

Bookmark File

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Immunology

reference text for
this new discipline.
Since then, the
field has
progressed rapidly
and an update is
now required. This
new edition has
been thoroughly
revised to provide
a state-of-the-art
overview, from the

Bookmark File

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Immunology

molecular bases to
adaptive strategies
and their
ecological and
evolutionary
consequences. It
includes
completely new
material on topics
such as
microbiota,
evolutionary

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Immunology

genomics,
phylodynamics,
within-host
evolution,
epidemiology,
disease spaces,
and emergent
diseases.

Evolutionary
Parasitology is
suitable for
advanced

Bookmark File

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Immunology

undergraduates,
graduate level
students, and
interdisciplinary
researchers from a
variety of fields
including
immunology,
genetics, sexual
selection,
population
ecology,

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Immunology

behavioural
ecology,
epidemiology, and
evolutionary
biology. Those
studying and
working in
adjacent fields
such as
conservation
biology, virology,
medicine, and

Bookmark File

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Immunology

public health will
also find it an
invaluable
resource for
connecting to the
bases of their
science.

Immunologists,
perhaps
understandably,
most often
concentrate on the

Bookmark File

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Immunology

human immune system, an anthropocentric focus that has resulted in a dearth of information about the immune function of all other species within the animal kingdom. However,

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Immunology

knowledge of animal immune function could help not only to better understand human immunology, but perhaps more importantly, it could help to treat and avoid the blights that affect animals, which

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Immunology

consequently
affect humans.

Take for example
the mass death of
honeybees in
recent years – their
demise, resulting
in much less
pollination, poses
a serious threat to
numerous crops,
and thus the food

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Immunology

supply. There is a similar disappearance of frogs internationally, signaling ecological problems, among them fungal infections. This book aims to fill this void by

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Immunology

describing and discussing what is known about non-human immunology. It covers various major animal phyla, its chapters organized in a progression from the simplest unicellular

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Immunology

organisms to the most complex vertebrates, mammals.

Chapters are written by experts, covering the latest findings and new research being conducted about each phylum.

Edwin L. Cooper is

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Immunology

a Distinguished
Professor in the
Laboratory of
Comparative
Immunology,
Department of
Neurobiology at
UCLA's David
Geffen School of
Medicine.

Applications for
Wildlife

Page 218/219

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Immunology

Conservation and
Management
Thermal Variation
and Parasitology
of the Three-
spined Stickleback
Eco-immunology
and Oxidative
Stress of
Neotropical Bats