

Read Online Core
Statistics

(Institute Of
Mathematical

Core

Statistics

Statistics
(Textbooks)

(Institute Of

Mathematical

Statistics

Textbooks)

*This book aims
to provide
theoretical*

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Statistics
Textbooks)

*discussions of
assessment
development and
implementation
in mathematics
education
contexts, as
well as to
offer readers
discussions of
assessment
related to
instruction and*

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Statistics

Textbooks)

affective areas, such as attitudes and beliefs. By providing readers with theoretical implications of assessment creation and implementation, this volume demonstrates

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*how validation
studies have
the potential
to advance the*

*field of
mathematics
education.*

*Including
chapters
addressing a
variety of
established and
budding areas*

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within

Mathematical

assessment and

Statistics

evaluation in

Textbooks)

mathematics

education

contexts, this

book brings

fundamental

issues together

with new areas

of application.

Stochastic

differential

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Statistics

Textbooks)

*equations are
differential
equations whose
solutions are
stochastic
processes. They
exhibit
appealing
mathematical
properties that
are useful in
modeling
uncertainties*

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(Institute Of
Mathematical
Statistics
Textbooks)
*and noisy
phenomena in
many*

disciplines.

*This book is
motivated by
applications of
stochastic
differential
equations in
target tracking
and medical
technology and,*

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Statistics

Textbooks)

*in particular,
their use in
methodologies
such as
filtering,
smoothing,
parameter
estimation, and
machine
learning. It
builds an
intuitive hands-
on*

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Mathematical
Statistics
Textbooks)

*understanding
of what
stochastic
differential*

*equations are
all about, but
also covers the
essentials of
It calculus,
the central
theorems in the
field, and such
approximation*

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Statistics
Textbooks)

*schemes as
stochastic
Runge-Kutta.*

*Greater
emphasis is
given to
solution
methods than to
analysis of
theoretical
properties of
the equations.*

The book's

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Statistics
Textbooks)

*practical
approach
assumes only
prior
understanding
of ordinary
differential
equations. The
numerous worked
examples and
end-of-chapter
exercises
include applica*

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Statistics
Textbooks)
*tion-driven
derivations and
computational
assignments.*

*MATLAB/Octave
source code is
available for
download,
promoting hands-
on work with
the methods.*

*A readable,
digestible*

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Mathematical
Statistics
Textbooks)

*introduction to
essential
theory and
wealth of
applications,
with a vast set
of examples and
numerous
exercises.*

*This open
access textbook
provides the
background*

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Mathematical

Statistics,
needed to
correctly use,
interpret and

understand

statistics and

statistical

data in diverse

settings. Part

I makes key

concepts in

statistics

readily clear.

Parts I and II

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Mathematical
Statistics
Textbooks)

give an
overview of the
most common
tests (t-test,
ANOVA,
correlations)
and work out
their
statistical
principles.

Part III

provides

insight into

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Mathematical
Statistics
Textbooks)
*meta-statistics
(statistics of
statistics) and
demonstrates
why experiments
often do not
replicate.*

*Finally, the
textbook shows
how complex
statistics can
be avoided by
using clever*

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Statistics
Textbooks)

*experimental
design. Both
non-scientists
and students in
Biology,
Biomedicine and
Engineering
will benefit
from the book
by learning the
statistical
basis of
scientific*

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Statistics
Textbooks)

*claims and by
discovering
ways to
evaluate the
quality of
scientific
reports in
academic
journals and
news outlets.
Basic Concepts
in*

Computational

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(Institute Of
Physics

The New Walford

Bulletin -

Institute of

Mathematical

Statistics

Your

Mathematics

Standards

Companion, High

School

Guide to

Reference

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Mathematical
Statistics
Textbooks)
*Resources
What They Mean
and How to
Teach Them*

The fundamental
mathematical tools
needed to understand
machine learning
include linear
algebra, analytic
geometry, matrix
decompositions,

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Statistics
Textbooks)

vector calculus,
optimization,
probability and
statistics. These

topics are
traditionally taught
in disparate courses,
making it hard for
data science or
computer science
students, or
professionals, to

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Statistics
Textbooks)

efficiently learn the
mathematics. This
self-contained
textbook bridges the
gap between
mathematical and
machine learning
texts, introducing the
mathematical
concepts with a
minimum of
prerequisites. It uses

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these concepts to
derive four central
machine learning
methods: linear

Mathematical
Statistics
Textbooks)

regression, principal
component analysis,
Gaussian mixture
models and support
vector machines. For
students and others
with a mathematical
background, these

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Mathematical
Statistics
Textbooks)

derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical

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Statistics
Textbooks)

concepts. Every chapter includes worked examples and exercises to test understanding.

Programming tutorials are offered on the book's web site.

This Bayesian modeling book provides a self-

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Mathematical
Statistics
Textbooks)

contained entry to
computational
Bayesian statistics.

Focusing on the
most standard
statistical models
and backed up by
real datasets and an
all-inclusive R
(CRAN) package
called bayess, the
book provides an

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(Institute Of

operational
methodology for
conducting Bayesian
inference, rather

than focusing on its
theoretical and
philosophical
justifications.

Readers are
empowered to
participate in the real-
life data analysis

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Mathematical
Statistics
Textbooks)

situations depicted here from the beginning. The stakes are high and the reader determines the outcome. Special attention is paid to the derivation of prior distributions in each case and specific reference

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Statistics
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solutions are given for each of the models. Similarly, computational details are worked out to lead the reader towards an effective programming of the methods given in the book. In particular, all R codes are discussed with

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Statistics
Textbooks)

enough detail to
make them readily
understandable and
expandable. This

works in conjunction
with the bayess
package. Bayesian
Essentials with R
can be used as a
textbook at both
undergraduate and
graduate levels, as

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Statistics
Textbooks)

exemplified by
courses given at
Université Paris
Dauphine (France),
University of
Canterbury (New
Zealand), and
University of British
Columbia (Canada).
It is particularly
useful with students
in professional

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Statistics
Textbooks)

degree programs and
scientists to analyze
data the Bayesian
way. The text will
also enhance
introductory courses
on Bayesian
statistics.

Prerequisites for the
book are an
undergraduate
background in

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Textbooks)

probability and
statistics, if not in
Bayesian statistics.

A strength of the text
is the noteworthy
emphasis on the role
of models in
statistical analysis.

This is the new, fully-
revised edition to the
book Bayesian Core:
A Practical

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Statistics
Textbooks)

Approach to
Computational
Bayesian Statistics.
Jean-Michel Marin
is Professor of
Statistics at
Université
Montpellier 2,
France, and Head of
the Mathematics and
Modelling research
unit. He has written

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over 40 papers on
Bayesian
methodology and
computing, as well
as worked closely
with population
geneticists over the
past ten years.

Christian Robert is
Professor of
Statistics at
Université Paris-

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Textbooks)

Dauphine, France.

He has written over
150 papers on

Bayesian Statistics
and computational
methods and is the
author or co-author
of seven books on
those topics,

including The
Bayesian Choice
(Springer, 2001),

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winner of the ISBA
DeGroot Prize in
2004. He is a Fellow
of the Institute of
Mathematical
Statistics, the Royal
Statistical Society
and the American
Statistical Society.
He has been co-
editor of the Journal
of the Royal

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Statistical Society,
Series B, and in the
editorial boards of
the Journal of the
American Statistical
Society, the Annals
of Statistics,
Statistical Science,
and Bayesian
Analysis. He is also
a recipient of an
Erskine Fellowship

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from the University
of Canterbury (NZ)
in 2006 and a senior
member of the

Institut Universitaire
de France
(2010-2015).

The idea of writing
this book arose in
2000 when the first
author was assigned
to teach the required

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course STATS 240
(Statistical Methods
in Finance) in the
new M. S. program
in Financial
mathematics at
Stanford, which is an
interdisciplinary
program that aims to
provide a master's-
level education in
applied mathematics,

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statistics, computing,
finance, and
economics. Students
in the program had
different

backgrounds in
statistics. Some had
only taken a basic
course in statistical
inference, while
others had taken a
broad spectrum of

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Textbooks)

M. S. - and Ph. D.
-level statistics
courses. On the other
hand, all of them had
already taken
required core
courses in
investment theory
and derivative
pricing, and STATS
240 was supposed to
link the theory and

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Statistics
Textbooks)

pricing formulas to
real-world data and
pricing or
investment

strategies. Besides
students in the progra
m, the course also attra
cted many students fro
mother departments
in the university,
further increasing
the heterogeneity of

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Statistics
Textbooks)

students, as many of them had a strong background in mathematical and statistical modeling from the mathematical, physical, and engineering sciences but no previous experience in ?nance. To address

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the diversity in
background but
common strong
interest in the

subject and in a
potential career as a
"quant" in the financi
al industry, the course
material was carefully
chosen not only to pres
ent basic statistical
methods of

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Statistics
Textbooks)

importance to
quantitative finance
but also to
summarize domain
knowledge in finance
and show how it can
be combined with
statistical modeling
in financial analysis
and decision
making. The course
material evolved

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Statistics
Textbooks)

over the years,
especially after the
second author helped
as the head TA
during the years
2004 and 2005.

Intended as the text
for a sequence of
advanced courses,
this book covers
major topics in
theoretical statistics

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Statistics
Textbooks)

in a concise and
rigorous fashion.

The discussion
assumes a

background in
advanced calculus,
linear algebra,
probability, and
some analysis and
topology. Measure
theory is used, but
the notation and

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Mathematical
Statistics
Textbooks)

basic results needed are presented in an initial chapter on probability, so prior knowledge of these topics is not essential. The presentation is designed to expose students to as many of the central ideas and topics in the

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(Institute Of

discipline as

Mathematical

possible, balancing

Statistics

various approaches

Textbooks)

to inference as well

as exact, numerical,

and large sample

methods. Moving

beyond more

standard material,

the book includes

chapters introducing

bootstrap methods,

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Statistics
Textbooks)

nonparametric
regression,
equivariant
estimation, empirical
Bayes, and
sequential design
and analysis. The
book has a rich
collection of
exercises. Several of
them illustrate how
the theory developed

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Mathematical
Statistics
Textbooks)

in the book may be
used in various
applications.

Solutions to many of
the exercises are
included in an
appendix.

Applied Stochastic
Differential
Equations

Subject Index of
Current Research

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Mathematical
Statistics
Textbooks)

Grants and Contracts
Administered by the
National Heart,
Lung and Blood

Institute

Computer Age

Statistical Inference

Statistics in Early

Childhood and

Primary Education

Principles of

Statistical Analysis

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Mathematical
Statistics and Data
Analysis
Textbooks)

***When it comes to
math, standards-
aligned is achiev
ement-aligned...***

***Since The
Common Core
Mathematics
Companions for
grades K-2, 3-5***

Read Online Core Statistics

and 6–8 burst on the scene, they have been lauded as the best resources for making critical math ideas easy to teach. With this brand-new volume, high school mathematics

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(Institute Of
Mathematical
Statistics
Textbooks)

***success is at
your fingertips.
The authors lay
out the pieces of
an in-depth
explanation,
showing the
mathematical
progression of
each conceptual
category, how
standards***

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*connect within
and across
domains, and
what teachers
and students
should be doing
every day to
foster deep
learning.
This book
presents a
collection of*

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*selected papers
that represent the
current variety of
research on the
teaching and
learning of
probability. The
respective
chapters address
a diverse range
of theoretical,
empirical and*

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Mathematical
Statistics
Textbooks)

***practical aspects
underpinning the
teaching and
learning of
probability,
curricular issues,
probabilistic
reasoning,
misconceptions
and biases, as
well as their
pedagogical***

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Statistics

(Institute Of
Mathematical
Statistics
Textbooks)

implications.

***These chapters
are divided into***

THREE main

sections, dealing

with: TEACHING

PROBABILITY,

STUDENTS'

REASONING AND

LEARNING AND

EDUCATION OF

TEACHERS. In

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*brief, the papers
presented here
include research
dealing with
teachers and
students at
different levels
and ages (from
primary school to
university) and
address
epistemological*

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Mathematical
Statistics
Textbooks)

***and curricular
analysis, as well
as the role of
technology,
simulations,
language and
visualisation in
teaching and
learning
probability. As
such, it offers
essential***

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Statistics

(Institute Of
Mathematical
Statistics
Textbooks)

***information for
teachers,
researchers and
curricular
designers alike.
This Bayesian
modeling book is
intended for
practitioners and
applied
statisticians
looking for a self-***

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Statistics

(Institute Of
Mathematical
Statistics
Textbooks)

***contained entry
to computational
Bayesian
statistics.***

***Focusing on
standard
statistical models
and backed up by
discussed real
datasets
available from the
book website, it***

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(Institute Of
Mathematical
Statistics
Textbooks)

provides an operational methodology for conducting Bayesian inference, rather than focusing on its theoretical justifications. Special attention is paid to the derivation of

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(Institute Of

prior

distributions in

each case and

specific

reference

solutions are

given for each of

the models.

Similarly,

computational

details are

worked out to

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*lead the reader
towards an
effective
programming of
the methods
given in the book.
Transforming the
standards into
learning
outcomes just
got a lot easier
This expansion of*

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Mathematical
Statistics
Textbooks)

***the popular
Common Core
Mathematics
Companions***

***provides a Cross-
Referencing
Index for states
implementing
their own specific
mathematics
standards. This
index allows you***

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*to see in an
instant which of
your standards
are the same as
CCSS-M, which
differ and
how—and which
page number to
turn to for
standards-based
teaching ideas.
Beyond that? It's*

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Statistics
Textbooks)

***the same great
go-to guide for
guide for
teaching,
planning,
assessing,
collaborating,
and designing
powerful high
school
mathematics
curriculum, in***

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Statistics

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Statistics
Textbooks)

***any state or
district.***

***International
Perspectives***

***How to Not Lie
with Statistics***

Statistical

Modelling by

Exponential

Families

Biomedical Index

to PHS-supported

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Statistics

(Institute Of

Research

Bayesian Core: A

Practical

Approach to

Computational

Bayesian

Statistics

Theoretical

Statistics

Computational

Analysis and

Understanding of

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Statistics
Textbooks)

Natural Languages:
Principles, Methods
and Applications,
Volume 38, the latest
release in this
monograph that
provides a cohesive
and integrated
exposition of these
advances and
associated
applications, includes
new chapters on

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Statistics
Textbooks)

Linguistics: Core
Concepts and
Principles, Grammars,
Open-Source
Libraries, Application
Frameworks,
Workflow Systems,
Mathematical
Essentials, Probability,
Inference and
Prediction Methods,
Random Processes,
Bayesian Methods,

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Textbooks)

Machine Learning,
Artificial Neural
Networks for Natural
Language Processing,
Information Retrieval,
Language Core Tasks,
Language
Understanding
Applications, and
more. The synergistic
confluence of
linguistics, statistics,
big data, and high-

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performance
computing is the
underlying force for
the recent and
dramatic advances in
analyzing and
understanding natural
languages, hence
making this series all
the more important.
Provides a thorough
treatment of open-
source libraries,

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Statistics
Textbooks)

application
frameworks and
workflow systems for
natural language
analysis and
understanding Presents
new chapters on
Linguistics: Core
Concepts and
Principles, Grammars,
Open-Source
Libraries, Application
Frameworks,

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(Institute Of
Mathematical
Statistics
Textbooks)

Workflow Systems,
Mathematical
Essentials, Probability,
and more

Based on a starter
course for beginning
graduate students,
Core Statistics
provides concise
coverage of the
fundamentals of
inference for
parametric statistical

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Mathematical
Statistics
Textbooks)

models, including both theory and practical numerical computation. The book considers both frequentist maximum likelihood and Bayesian stochastic simulation while focusing on general methods applicable to a wide range of models and

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Textbooks)

emphasizing the common questions addressed by the two approaches. This compact package serves as a lively introduction to the theory and tools that a beginning graduate student needs in order to make the transition to serious statistical analysis: inference;

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modeling;

computation, including

some numerics; and

the R language. Aimed

also at any quantitative

scientist who uses

statistical methods,

this book will deepen

readers' understanding

of why and when

methods work and

explain how to

develop suitable

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methods for non-
standard situations,
such as in ecology, big
data and genomics.

In recent years,
statistical techniques
and methods for data
analysis have advanced
significantly in a wide
range of research
areas. These
developments enable
researchers to analyze

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increasingly large datasets with more flexibility and also more accurately estimate and evaluate the phenomena they study. We recognize the value of recent advances in data analysis techniques in many different research fields. However, we also note

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that awareness of these different statistical and probabilistic approaches may vary, owing to differences in the datasets typical of different research fields. This book provides a cross-disciplinary forum for exploring the variety of new data analysis techniques emerging

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from different fields.

The mathematical sciences are part of nearly all aspects of everyday life--the discipline has underpinned such beneficial modern capabilities as Internet search, medical imaging, computer animation, numerical weather predictions,

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and all types of digital communications. The Mathematical Sciences in 2025 examines the current state of the mathematical sciences and explores the changes needed for the discipline to be in a strong position and able to maximize its contribution to the nation in 2025. It finds

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the vitality of the
discipline excellent
and that it contributes
in expanding ways to
most areas of science
and engineering, as
well as to the nation as
a whole, and
recommends that
training for future
generations of
mathematical
scientists should be re-

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assessed in light of the increasingly cross-disciplinary nature of the mathematical sciences. In addition, because of the valuable interplay between ideas and people from all parts of the mathematical sciences, the report emphasizes that universities and the

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government need to continue to invest in the full spectrum of the mathematical sciences in order for the whole enterprise to continue to flourish long-term.

Computational
Analysis and
Understanding of
Natural Languages:
Principles, Methods

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Mathematical
Statistics
Textbooks)
and Applications
Advances in
Probability Education
Research

Supporting Early
Statistical and
Probabilistic Thinking
With R Examples
Topics and Trends in
Current Statistics
Education Research
Guide to Information
Sources in

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(Institute Of
Mathematics and
Mathematical
Statistics
Textbooks)

***This
compilation
focuses on the
theory and con
ceptualisation
of statistics
and
probability in
the early
years and the***

Read Online Core
Statistics

*development of
young
children's
(ages 3-10)
understanding
of data and
chance. It
provides a
comprehensive
overview of
cutting-edge
international*

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Statistics

(Institute Of
Mathematical
Statistics
Textbooks)

**research on
the
development of
young
learners'
reasoning
about data and
chance in
formal,
informal, and
non-formal
educational**

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Statistics

(Institute Of
Mathematical
Statistics
Textbooks)

**contexts. The
authors share
insights into
young
children's
statistical
and
probabilistic
reasoning and
provide early
childhood
educators and**

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(Institute Of
Mathematical
Statistics
Textbooks)

**researchers
with a wealth
of
illustrative
examples,
suggestions,
and practical
strategies on
how to address
the challenges
arising from
the**

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Statistics

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Statistics
Textbooks)

***introduction
of statistical
and
probabilistic
concepts in
pre-school and
school
curricula.
This
collection
will inform
practices in***

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(Institute Of
Mathematical
Statistics
Textbooks)

***research and
teaching by
providing a
detailed
account of
current best
practices,
challenges,
and issues,
and of future
trends and
directions in***

Read Online Core
Statistics

(Institute Of

**early
statistical
and**

**probabilistic
learning**

worldwide.

**Further, it
will**

**contribute to
future**

**research and
theory**

Read Online Core Statistics

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Statistics
Textbooks)

***building by
addressing
theoretical, e
pistemological
, and
methodological
considerations
regarding the
design of
probability
and statistics
learning***

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Statistics

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Mathematical
Statistics
Textbooks)

**environments
for young
children.**

***This book is
about the role
and potential
of using
digital
technology in
designing
teaching and
learning tasks***

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Mathematical
Statistics
Textbooks)
*in the
mathematics
classroom.*

*Digital
technology has
opened up
different new
educational
spaces for the
mathematics
classroom in
the past few*

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*decades and,
as technology
is constantly
evolving,
novel ideas
and approaches
are brewing to
enrich these
spaces with
diverse
didactical
flavors. A key*

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Statistics
Textbooks)

***issue is
always how
technology
can, or
cannot, play
epistemic and
pedagogic
roles in the
mathematics
classroom. The
main purpose
of this book***

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Statistics
Textbooks)

***is to explore
mathematics
task design
when digital
technology is
part of the
teaching and
learning
environment.
What features
of the
technology***

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*used can be
capitalized
upon to design
tasks that
transform
learners'
experiential
knowledge,
gained from
using the
technology,
into*

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Textbooks)

**conceptual
mathematical
knowledge?**

**When do
digital
environments
actually bring
an essential (educationally,
speaking) new
dimension to
classroom**

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*activities?
What are some
pragmatic and
semiotic
values of the
technology
used? These
are some of
the concerns
addressed in
the book by
expert*

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Statistics

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Statistics
Textbooks)

***scholars in
this area of
research in
mathematics
education.***

***This volume is
the first
devoted
entirely to
issues on
designing
mathematical***

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**tasks in
digital
teaching and
learning
environments,
outlining
different
current
research
scenarios.
The twenty-
first century**

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***has seen a
breathtaking
expansion of
statistical
methodology,
both in scope
and in
influence.
'Big data',
'data
science', and
'machine***

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*Learning' have
become
familiar terms
in the news,
as statistical
methods are
brought to
bear upon the
enormous data
sets of modern
science and
commerce. How*

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***did we get
here? And
where are we
going? This
book takes us
on an
exhilarating
journey
through the
revolution in
data analysis
following the***

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***introduction
of electronic
computation in
the 1950s.***

***Beginning with
classical
inferential
theories -
Bayesian,
frequentist,
Fisherian -
individual***

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**chapters take
up a series of
influential
topics:**

**survival
analysis,
logistic
regression,
empirical
Bayes, the
jackknife and
bootstrap,**

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Statistics'
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***random
forests,
neural
networks,
Markov chain
Monte Carlo,
inference
after model
selection, and
dozens more.
The distinctly
modern***

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***approach
integrates
methodology
and algorithms
with
statistical
inference. The
book ends with
speculation on
the future
direction of
statistics and***

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**data science.
Teaching
Statistics in
School Mathema
tics-
Challenges for
Teaching and
Teacher
Education
results from
the Joint
ICMI/IASE**

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Statistics in
School
Mathematics:
Challenges for
Teaching and
Teacher
Education.
Oriented to
analyse the
teaching of
statistics in***

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Textbooks)

***school and to
recommend
improvements
in the
training of
mathematics
teachers to
encourage
success in
preparing
statistically
literate***

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Textbooks)

***students, the
volume
provides a
picture of the
current
situation in
both the
teaching of
school
statistics and
the pre-
service***

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Statistics

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**education of
mathematics
teachers. A
primary goal
of Teaching
Statistics in
School Mathema
tics-
Challenges for
Teaching and
Teacher
Education is**

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***to describe
the essential
elements of
statistics,
teacher's
professional
knowledge and
their learning
experiences.
Moreover, a
research
agenda that***

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*invites new
research,
while building
from current
knowledge, is
developed. Rec
ommendations
about
strategies and
materials,
available to
train*

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Mathematical
Statistics
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***prospective
teachers in
university and
in-service
teachers who
have not been
adequately
prepared, are
also
accessible to
the reader.
Statistical***

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Methods for
Financial
Markets**

**The Common
Core**

Mathematics

**Companion: The
Standards**

**Decoded, High
School**

Art And

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***Practice Of
Mathematics,
The:
Interviews At
The Institute
For
Mathematical
Sciences,
National
University Of
Singapore,
2010-2020***

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Textbooks)

**Bayesian
Essentials
with R**

**Subject CT3
A Course in
Mathematical
Statistics and
Large Sample
Theory**

Part of a three-volume
cycle, this book
presents a selection of

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key resources -
accessible via the web
and in print.

Resources within the
12 groupings are
divided between 100
generally recognizable
subject fields, and then
allocated to one of 13
standard resource
categories. It is
intended for LIS
professionals, research
workers and students.

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Core

Mathematical
Statistics
Cambridge
University Press

This book focuses on international research in statistics education, providing a solid understanding of the challenges in learning statistics. It presents the teaching and learning of statistics in various contexts, including designed

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settings for young children, students in formal schooling, tertiary level students, and teacher professional development. The book describes research on what to teach and platforms for delivering content (curriculum), strategies on how to teach for deep

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understanding, and includes several chapters on developing conceptual understanding (pedagogy and technology), teacher knowledge and beliefs, and the challenges teachers and students face when they solve statistical problems (reasoning and thinking). This new

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research in the field offers critical insights for college instructors, classroom teachers, curriculum designers, researchers in mathematics and statistics education as well as policy makers and newcomers to the field of statistics education. Statistics has become one of the key areas of study in

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the modern world of information and big data. The dramatic increase in demand for learning statistics in all disciplines is accompanied by tremendous growth in research in statistics education.

Increasingly, countries are teaching more quantitative reasoning and statistics at lower

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and lower grade levels within mathematics, science and across many content areas.

Research has revealed the many challenges in helping learners develop statistical literacy, reasoning, and thinking, and new curricula and technology tools show promise in facilitating the achievement of

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these desired
outcomes.

This book covers a highly relevant and timely topic that is of wide interest, especially in finance, engineering and computational biology. The introductory material on simulation and stochastic differential equation is very accessible and

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Textbooks)

will prove popular
with many readers.

While there are several
recent texts available
that cover stochastic
differential equations,
the concentration here
on inference makes
this book stand out. No
other direct
competitors are known
to date. With an
emphasis on the
practical

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implementation of the simulation and estimation methods presented, the text will be useful to practitioners and students with minimal mathematical background. What's more, because of the many R programs, the information here is appropriate for many mathematically well

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Statistics)
educated practitioners,
too.

Teaching and
Learning Stochastics
Simulation and
Inference for
Stochastic Differential
Equations
Understanding
Statistics and
Experimental Design
Computational
Bayesian Statistics
Advances in Statistical

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Methodologies and
Their Application to
Real Problems

Core Reading for the
2017 Exams.

Probability and
mathematical
statistics. Core
technical

This new edition is a
concise introduction
to the basic
methods of

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Textbooks)

computational
physics. Readers
will discover the
benefits of

numerical methods
for solving complex
mathematical
problems and for
the direct simulation
of physical
processes. The
book is divided into
two main parts:

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Deterministic methods and stochastic methods in computational physics. Based on concrete problems, the first part discusses numerical differentiation and integration, as well as the treatment of ordinary differential equations. This is

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extended by a brief
introduction to the
numerics of partial
differential

equations. The
second part deals
with the generation
of random numbers,
summarizes the
basics of
stochastics, and
subsequently
introduces Monte-

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Carlo (MC) methods. Specific emphasis is on MARKOV chain MC algorithms. The final two chapters discuss data analysis and stochastic optimization. All this is again motivated and augmented by applications from

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physics. In addition,
the book offers a
number of
appendices to
provide the reader
with information on
topics not discussed
in the main text.
Numerous problems
with worked-out
solutions, chapter
introductions and
summaries, together

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with a clear and application-oriented style support the reader. Ready to use C++ codes are provided online.

Publisher

description: This book is a reference for librarians, mathematicians, and statisticians involved in college

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and research level mathematics and statistics in the 21st century. Part I is a historical survey of the past 15 years tracking this huge transition in scholarly communications in mathematics. Part II of the book is the bibliography of

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resources recommended to support the disciplines of mathematics and statistics. These resources are grouped by material type. Publication dates range from the 1800's onwards. Hundreds of electronic resources-

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some online, both dynamic and static, some in fixed media, are listed among the paper resources. A majority of listed electronic resources are free.

Statistical design is one of the fundamentals of our subject, being at the

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core of the growth of statistics during the previous century. In this book the basic theoretical underpinnings are covered. It describes the principles that drive good designs and good statistics. Design played a key role in agricultural

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Textbook)

statistics and set
down principles of
good practice,
principles that still
apply today.

Statistical design is
all about
understanding
where the variance
comes from, and
making sure that is
where the
replication is.

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Textbooks)
Indeed, it is probably correct to say that these principles are even more important today.

Unique in that it collects, presents, and synthesizes cutting edge research on different aspects of statistical reasoning

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and applies this research to the teaching of statistics to students at all educational levels, this volume will prove of great value to mathematics and statistics education researchers, statistics educators, statisticians, cognitive

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psychologists,
mathematics
teachers,

mathematics and
statistics curriculum
developers, and
quantitative literacy
experts in education
and government.

Theoretical
Frameworks and
New Directions
A Joint ICMI/IASE

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Study: The 18th
ICMI Study
Learning from
Randomized
Experiments
Probability and
Mathematical
Statistics Core
Technical: Core
Reading for the
2012 Examinations
Statistical Design
Assessment in

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Mathematics

Education Contexts

This compact course is written for the mathematically literate reader who wants to learn to analyze data in a principled fashion. The language of

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Statistics
Textbooks)

mathematics
enables clear
exposition that
can go quite

deep, quite
quickly, and
naturally supports
an axiomatic and
inductive
approach to data
analysis. Starting
with a good
grounding in

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Statistics
Textbooks)

probability, the
reader moves to
statistical

inference via
topics of great
practical
importance -
simulation and
sampling, as well
as experimental
design and data
collection - that
are typically

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Statistics
Textbooks)

displaced from introductory accounts. The core of the book then covers both standard methods and such advanced topics as multiple testing, meta-analysis, and causal inference. This integrated

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Statistics
Textbooks)

introduction to
fundamentals,
computation, and
software is your
key to
understanding
and using
advanced
Bayesian
methods.

The Poisson
process, a core
object in modern

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Statistics

Textbooks)

probability,
enjoys a richer
theory than is
sometimes
appreciated. This
volume develops
the theory in the
setting of a
general abstract
measure space,
establishing basic
results and
properties as well

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as certain advanced topics in the stochastic analysis of the Poisson process. Also discussed are applications and related topics in stochastic geometry, including stationary point processes, the

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Boolean model,
the Gilbert graph,
stable allocations,
and hyperplane
processes.

Comprehensive,
rigorous, and self-
contained, this
text is ideal for
graduate courses
or for self-study,
with a substantial
number of

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Textbooks)

exercises for each
chapter.

Mathematical
prerequisites,
mainly a sound
knowledge of
measure-
theoretic
probability, are
kept in the
background, but
are reviewed
comprehensively

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(Institute Of

in the appendix.

The authors are

well-known

researchers in

probability

theory; especially

stochastic

geometry. Their

approach is

informed both by

their research

and by their

extensive

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Textbooks)

experience in
teaching at
undergraduate
and graduate
levels.

This textbook
offers a compact
introductory
course on
Malliavin calculus,
an active and
powerful area of
research. It

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Textbooks)

covers recent
applications,
including density
formulas,

regularity of
probability laws,
central and non-
central limit
theorems for
Gaussian
functionals,
convergence of
densities and non-

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Textbooks)

central limit
theorems for the
local time of
Brownian motion.
The book also
includes a self-
contained
presentation of
Brownian motion
and stochastic
calculus, as well
as Lévy processes
and stochastic

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Textbooks)

calculus for jump processes.

Accessible to non-experts, the book can be used by graduate students and researchers to develop their mastery of the core techniques necessary for further study.

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Introduction to
Malliavin Calculus
What They Say,
What They Mean,
How to Teach
Them
The Mathematical
Sciences in 2025
Lectures on the
Poisson Process
Teaching
Statistics in
School Mathemati

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Statistics
Textbooks)
cs-Challenges for
Teaching and
Teacher
Education

Topics for a Core
Course

***This graduate-level
textbook is primarily
aimed at graduate
students of statistics,
mathematics, science,
and engineering who
have had an***

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Statistics
Textbooks)*

*undergraduate course
in statistics, an upper
division course in
analysis, and some
acquaintance with
measure theoretic
probability. It
provides a rigorous
presentation of the
core of mathematical
statistics. Part I of
this book constitutes a
one-semester course*

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*on basic parametric
mathematical
statistics. Part II
deals with the large
sample theory of
statistics - parametric
and nonparametric,
and its contents may
be covered in one
semester as well. Part
III provides brief
accounts of a number
of topics of current*

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*interest for
practitioners and
other disciplines
whose work involves
statistical methods.
This is the first text in
a generation to re-
examine the purpose
of the mathematical
statistics course. The
book's approach
interweaves
traditional topics with*

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data analysis and reflects the use of the computer with close ties to the practice of statistics. The author stresses analysis of data, examines real problems with real data, and motivates the theory. The book's descriptive statistics, graphical displays, and realistic

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Textbooks)*

*applications stand in
strong contrast to
traditional texts that
are set in abstract
settings. Important
Notice: Media
content referenced
within the product
description or the
product text may not
be available in the
ebook version.*

This book constitutes

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*the second volume of
interviews with
prominent
mathematicians and
mathematical
scientists who visited
the Institute for
Mathematical
Sciences, National
University of
Singapore. First
published in the
Institute's newsletter*

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***Imprints during the
period 2010-2020,
they offer glimpses of
an esoteric universe
as viewed and
experienced by some
of the leading and
creative practitioners
of the craft of
mathematics. The
topics covered in this
volume are wide-
ranging, running***

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*from pure
mathematics (logic,
number theory,
algebraic geometry)
to applied
mathematics
(mathematical
modeling, fluid
dynamics) through
probability and
statistics,
mathematical physics,
theoretical computer*

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*science and financial
mathematics. This
eclectic mix of the
abstract and the
concrete should
interest those who are
enthralled by the
mystique and power
of mathematics,
whether they are
students, researchers
or the non-
specialists. By briefly*

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Textbooks)*

*tracing the paths
traveled by the
pioneers of different
national
backgrounds, the
interviews attempt to
put a cultural face to
an intellectual
endeavor that is often
perceived as dry and
austere by the
uninitiated. They
should also interest*

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*those who are
intrigued by the
influence of the
environment on the
creative spirit, and, in
particular, those who
are interested in the
psychology and
history of ideas.*

*Algorithms, Evidence,
and Data Science*

Research Awards

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Index

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*Digital Technologies
in Designing*

Mathematics

Education Tasks

*The Challenge of
Developing Statistical
Literacy, Reasoning
and Thinking*