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Titolo	Histoire, espaces et marges de l'antiquité : hommages à Monique Clavel-Lévêque / éd., Marguerite Garrido-Hory et Antonio Gonzalès
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splitting schemes"; "TVD Schemes"; "Fluctuation-splitting schemes";  
 "Solution reconstruction"; "First- and second-order schemes";  
 "ENO/WENO Schemes"; "Central versus upwind schemes"; "Upwind  
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 Explicit schemes"; "3.2.2 Implicit schemes"; "3.3 Turbulence  
 Modeling"; "3.4 Initial and Boundary Conditions"; "References";  
 "Chapter 4: Structured Finite-Volume Schemes"; "4.1 Geometrical  
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 "4.1.1 Two-dimensional case"; "4.1.2 Three-dimensional case"; "4.2  
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 "4.2.2 Cell-vertex scheme: overlapping control volumes"; "4.2.3 Cell-  
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 "4.3.1 Central scheme with artificial dissipation"; "Scalar dissipation  
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 "4.3.3 Flux-difference splitting schemes"; "Roe upwind scheme";  
 "4.3.4 Total variation diminishing schemes"; "Upwind TVD scheme";  
 "4.3.5 Limiter functions"; "Limiter functions for MUSCL  
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 $\alpha=1/3$ "; "Limiter for CUSP scheme"; "Limiter for TVD scheme"; "4.4  
 Discretization of the Viscous Fluxes"; "4.4.1 Cell-centered scheme";  
 "4.4.2 Cell-vertex scheme"; "References"; "Chapter 5: Unstructured  
 Finite-Volume Schemes"; "5.1 Geometrical Quantities of a Control  
 Volume"; "5.1.1 Two-dimensional case"  
 "Triangular element"

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## Sommario/riassunto

Computational Fluid Dynamics: Principles and Applications, Third Edition presents students, engineers, and scientists with all they need to gain a solid understanding of the numerical methods and principles underlying modern computation techniques in fluid dynamics. By providing complete coverage of the essential knowledge required in order to write codes or understand commercial codes, the book gives the reader an overview of fundamentals and solution strategies in the early chapters before moving on to cover the details of different solution techniques. This updated edition includes new

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Autore	CoRoT Team
Titolo	The CoRoT Legacy Book / / Annie Baglin, CoRoT Team; CoRoT Team - Coord. By Annie Baglin
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stars -- IV.3 The wealth of stellar variability -- Part V. CoRoT paved the road to the future -- Introduction -- V.1 Lessons learned from CoRoT -- V.2 CoRoT heritage in future missions -- V.3 Present and future space missions for ultraprecision photometry

#### Sommario/riassunto

This book is dedicated to all the people interested in the CoRoT mission and the beautiful data that were delivered during its six year duration. Either amateurs, professional, young or senior researchers, they will find treasures not only at the time of this publication but also in the future twenty or thirty years. It presents the data in their final version, explains how they have been obtained, how to handle them, describes the tools necessary to understand them, and where to find them. It also highlights the most striking first results obtained up to now. CoRoT has opened several unexpected directions of research and certainly new ones still to be discovered.

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#### Nota di contenuto

Intro -- Organizing Committee -- Preface-50th Anniversary of ITM -- Contents -- Contributors -- Aerosols in the Atmosphere -- Role of Organic Aerosol Chemistry Schemes on Particulate Matter Modeling in Europe -- 1 Introduction -- 2 Method -- 3 Results and Discussion

-- 4 Conclusion -- References -- Questions and Answers -- Biogenic Emissions and Urban Air Quality -- 1 Introduction -- 2 Model Setup -- 3 Model Results -- 4 Conclusion -- References -- Questions and Answers -- Global Simulations of Ice Nuclei Particles Derived from Organics and Inorganics Particles -- 1 Introduction -- 2 Methods -- 2.1 The Global Model -- 2.2 Calculation of Potential INP Concentrations -- 3 Results -- References -- Questions and Answers -- Estimating Aerosol Loads and Aerosol-Cloud-Interaction in the 1980s and Today -- 1 Introduction and Motivation -- 2 Methods -- 3 Results and Discussion -- 4 Further Conclusions -- References -- Questions and Answers -- Characterisation of Light-Absorbing Particles in the Brussels Sub-urban Atmosphere and Implications for the Emission Scheme of a Regional Chemical Transport Model -- 1 Introduction -- 2 Methods -- 3 Results -- 4 Conclusion -- References -- Questions and Answers -- Emission Modeling and Processing -- Traffic Emissions 2040-Impact on Air Quality in Germany -- 1 Introduction -- 2 Traffic Emissions -- 3 Atmospheric Concentration Patterns -- 3.1 Situation in 2010 -- 3.2 Future Scenarios -- 4 Conclusion -- References -- Questions and Answers -- Biogenic VOC Emission Modeling for Spain: Adaptation of the National Forest Inventory as Input for MEGANv3 -- 1 Introduction -- 2 Methodology -- 2.1 Spanish National Forest Inventory -- 2.2 BVOC Emission Potentials Distribution -- 3 Results -- 4 Conclusion -- References -- Question and Answer.

Alteration of Vehicle Propellant Use and the Impact on CO<sub>2</sub> Emissions and NO<sub>2</sub> Concentrations in Gothenburg and Mölndal -- 1 Introduction -- 2 Method -- 3 Results and Discussion -- 3.1 Emission Calculations -- 3.2 Dispersion Simulations -- 3.3 Population Exposure -- 4 Summary and Conclusion -- References -- Regional and Intercontinental Modeling -- Improvements of Chemical Transport Modeling Over the Last 40 Years-A Personal Journey -- 1 Introduction -- 2 A Short History -- 3 Chemical Transport Modeling -- 4 Highlights of Ph.D.-Studies Over the Last 30 Years -- 5 Model Improvement -- 6 Conclusions -- References -- Questions and Answers -- Timely Update of Emission Inventories with the Use of Satellite Data -- 1 Introduction -- 2 Methodology -- 3 Results and Discussion -- 4 Conclusion -- References -- Questions and Answers -- Modeling Atmospheric Composition in the Summertime Arctic: Transport of North American Biomass Burning Pollutants and Their Impact on the Arctic Marine Boundary Layer Clouds -- 1 Introduction -- 2 Transport Cases During the 2014 NETCARE Field Campaign -- 3 Impact of NA Wildfire Pollutants on Arctic Low-Level Clouds -- References -- Questions and Answers -- Effect of Aerosol Nitrate Photolysis on Wintertime Air Quality -- 1 Introduction -- 2 Method -- 3 Results and Discussion -- 4 Conclusion -- References -- Questions and Answers -- Improved Estimation of Background Ozone and Emission Impacts Using Chemical Transport Modeling and Data Fusion -- 1 Introduction -- 2 Methods -- 3 Results and Discussion -- References -- Questions and Answers -- Same Model (CAMx6.50), Same Year (2010), Two Different European Projects: How Similar Are the Results? -- 1 Introduction -- 2 Method -- 3 Results and Discussion -- 4 Conclusion -- References -- Questions and Answers.

SMART Modeling Suite: Assessment of the Turbulence Parameterisation for the Simulation of Atmospheric Circulation and Dispersion -- 1 Introduction -- 2 The Parameterisations and the Simulations -- 3 Results and Discussion -- References -- Questions and Answers -- Analysis of the Zero-Out Method of Source Apportionment for Air Quality Modeling in Spain -- 1 Introduction -- 2 Materials and Methods

-- 3 Results and Discussion -- 3.1 Ozone -- 3.2 Nitrogen Dioxide and Particulate Matter -- 4 Conclusions -- References -- Questions and Answers -- Spatio-Temporal Modeling of Grass and Birch Pollen in Belgium -- 1 Introduction -- 2 Data and Methods -- 3 Results and Discussions -- 4 Conclusions -- References -- Multi-compartment Chemistry Transport Models -- 1 Introduction -- 2 Mercury -- 3 Model and Domain -- 4 Conclusions -- References -- Climate Change Projections for Bulgaria According to RCP45 Scenario Until 2099 -- 1 Introduction -- 2 Data and Experiment Design -- 3 Results -- 4 Conclusion -- References -- Data Assimilation and Air Quality Forecasting -- Interpreting Measurements from Air Quality Sensor Networks: Data Assimilation and Physical Modeling -- 1 Introduction -- 2 Methodology -- 3 Operational Phase -- 4 Conclusion -- References -- Need and Potential Benefits of Improving Aloft Air Pollution Characterization: A Modeling Perspective -- 1 Introduction -- 2 Variations in Surface and Aloft O<sub>3</sub> -- 3 Impact of Assimilating Aloft O<sub>3</sub> -- 4 A Possible Aloft Monitoring Strategy -- References -- Optimal Interpolation Based Data Fusion Techniques to Improve Deterministic Air Quality Forecast -- 1 Introduction -- 2 Methodology -- 2.1 Weighted Mean Approach -- 2.2 Least-Square Error Approach -- 3 Case Study -- 4 Conclusion -- References -- Questions and Answers -- Eigenmode-Based Parameter Perturbation for Stochastic Chemistry Transport Modeling. 1 Introduction -- 2 Method -- 3 Results -- 4 Conclusion -- References -- Questions and Answers -- Evolution of the Performance of the Canadian Operational Regional Air Quality Deterministic Prediction System from 2010 to 2019 -- 1 Introduction -- 2 Evaluation Methodology -- 3 Results and Discussion -- 4 Conclusions -- References -- Questions and Answers -- Statistical Methods to Forecast Air Quality in Taipa Ambient and Taipa Residential of Macao -- 1 Introduction -- 2 Methodology -- 3 Results and Discussion -- 4 Conclusion -- References -- Modeling Air Pollution in a Changing Climate -- Impacts of Fine Particulate Matter and Climate Change on Human Health Over Europe-Present and Future Scenarios -- 1 Introduction -- 2 Methodology -- 2.1 Exposure-Response Functions -- 2.2 Simulation WRF-Chem -- 3 Results and Discussion -- 4 Conclusion -- References -- Questions and Answers -- Air Quality Effects on Human Health and Ecology -- Assessing the Impact of the Po Valley Air Quality Plan (Italy) -- 1 Introduction -- 2 Materials and Methods -- 3 Case Study -- 4 Conclusion -- References -- Question and Answer -- Innovative Atmospheric Dispersion Modelling in Support of Smart Farming Applications Within the Frame of the EU LIFE+GAIA SENSE Project -- 1 Introduction -- 2 Methodology -- 3 Modelling Methodology for Assessing Air Quality Impacts -- 4 Conclusion -- References -- Modeling Chain Set up for the Assessment of Policy Impacts on Air Quality and Human Health -- 1 Introduction -- 2 Materials and Methods -- 2.1 Models -- 2.2 Scenarios -- 3 Results and Discussion -- 4 Conclusion -- References -- Modeling of Pollutant Emissions from a Diesel Power Station and Dispersion Over Extremely Complex Topography -- 1 Introduction -- 2 Methodology -- 2.1 Study Area -- 2.2 Modelling Tools -- 2.3 MEMO Input Data -- 2.4 Emission Estimations and MARS-aero Input Data. 3 Results and Discussion -- 4 Conclusions -- References -- Local and Urban Scale Modeling -- The Lagrangian Approach to Dispersion Modeling: Why We Like It (and What We Did with It) -- 1 Introduction -- 2 Historical Trace -- 3 More Recent Developments and Our Work in the Meantime -- 4 Discussion and Conclusion -- References -- Questions and Answers -- Modeling Setup for Assessing the Impact

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PALM-4U Chemistry Implementation -- 3 Case Study for a City Quarter  
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Questions and Answers -- Urgency Management of Adverse  
Atmospheric Releases with a Forefront Multi-scale High Resolution  
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Downscaling and Upscaling Flow and Dispersion Modeling -- 3  
Validation of the Local Scale Modeling System -- 3.1 Description  
of the Experimental Test-Cases -- 3.2 Overview of PMSS Validation  
Against Michelstadt Wind Tunnel Results.  
3.3 Overview of PMSS Validation Against CUTE Field and Wind Tunnel  
Results.

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