Introduction to Blender 3.0

Learn Organic and Architectural Modeling, Lighting, Materials, Painting, Rendering, and Compositing with Blender

Gianpiero Moioli

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Any source code or other supplementary material referenced by the author in this book is available to readers on GitHub. This is the codes repo link https://github.com/Apress/Introduction-to-Blender-3.0. For more detailed information, please visit http://www.apress.com/source-code.

Printed on acid-free paper

For Giancarlo Marchese, my professor of sculpture at the Brera Academy of Fine Arts.

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About the Author

Gianpiero Moioli is a sculptor, architect, and professor of sculpture and virtual architecture at the Brera Academy of Fine Arts in Milan. He has been a certified instructor (BFCT) with the Blender Foundation since 2008.

Gianpiero graduated with an MA in sculpture from the Brera Academy of Fine Arts in Milan and received his MA in architecture from the Polytechnic University of Milan.

In 2008, together with Stefania Albertini, he created the Brera Academy Virtual Lab, a virtual sculpture and architecture laboratory at the Academy of Fine Arts of Brera. He started using Blender in 2004 and presented his first results with this open source software in three Blender conferences in 2008, 2010, and 2011.

About the Technical Reviewer

Ajit Deolikar is a mechanical engineer from Pune, India, and has experience in new product design and development. Since his childhood he has been passionate about art and started making artistic videos for marketing industrial products using open source graphics software like Blender, GIMP, etc. He is also involved in Blender training, customization, and automation using Python scripting and is constantly re-learning Blender because of regular enhancements by developers.

He is currently creating various short animation projects in the education field using Blender. His mission is to extend his collective experience with animation tools and create training modules on various topics.

In his spare time, he likes to play chess and analyze game strategies played by great grandmasters. He would someday love to write at least one book on those approaches. He can be reached at `ajitb502@gmail.com`.

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I want to thank Ton Roosendaal and the Blender Foundation's and Blender Institute's team for maintaining this fantastic creative tool.

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Introduction

When you try Blender for the first time, you'll immediately notice its two main features: the open source license and the possibility to use it as a tool for expanded artistic and design expression. The first feature gives you the freedom to use and modify the software in every way including for commercial purposes. The second feature allows you to work with a myriad set of tools for many uses, from 3D modeling to simulation, from video editing to motion tracking, etc.

I teach sculpture and virtual architecture at the Brera Academy of Fine Arts in Milan, and Blender is essential to my academic activity. We use it for art, architecture, design, 3D printing, and exporting 3D objects and environments to online virtual worlds. It is a flexible software that adapts continuously to new design and communication needs and new technologies.

Due to its ability to adapt to the times and the rapid network changes, Blender follows real-time art and design modifications, even at the cost of essential changes in the interface and structure.

The improvements that Blender Foundation brings from time to time make it a software that is always in line with the current needs of people doing art, design, architecture, game development, physics, and many other disciplines.

This is why I decided to write this book.

This book is suitable for those who know the basics of Blender and want to switch to version 3.0 quickly, but it is also for those who have never used Blender and want to take advantage of the new features. I also introduce the theoretical foundation that underlies digital painting, sculpture, and architecture when necessary. These fundamentals, such as color theory, digital spaces principles, nodes, and material nodes theory, are essential to understanding what you are doing when you create in 3D spaces.

In this book, I have tried to demonstrate the wide range of realization and creative possibilities in Blender, limited only by the artist's imagination. I hope I have succeeded.