

**Autodesk®**  
Official Training Guide

Autodesk Certification Preparation

**Phil Read**  
**Eddy Krygiel**  
**James Vandezande**

Foreword by **Phil Bernstein**, FAIA, Vice-President,  
Strategic Industry Relations, Autodesk

# Mastering Autodesk Revit® Architecture 2013





The background image is a grayscale architectural rendering of a large, modern building. The building features a prominent curved glass facade with a grid-like pattern. A central courtyard is visible, containing a large tree and a paved area with some parked cars and pedestrians. The overall style is clean and professional, typical of architectural visualization.

# **Mastering Autodesk® Revit® Architecture 2013**





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**Phil Read**

**Eddy Krygiel**

**James Vandezande**



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Best regards,

A handwritten signature in black ink, appearing to read 'Neil Edde', with a stylized, flowing script.

Neil Edde  
Vice President and Publisher  
Sybex, an Imprint of Wiley

*Justine: You're a peace-loving Kiwi and mother who insists on handgun lessons and a concealed carry permit. I don't understand all the contradictions in the previous sentence, but the upside is I get to have friends like Eddy and James.*

*Harrison: High school is upon you. The most amazing careers haven't even been created yet. The trick? Studying in order to become an entrepreneur — not just an employee.*

*Millicent: As soon as Carol Bartz pens her biography, we're going to stand in line to buy it. Until then, there's always Ayn Rand and Jane Austen — neither of whom would ever suggest you settle for the 99%.*

*Jasper: Stubbornness is a virtue, and the world certainly needs more people who refuse to believe in the impossible (such as airplanes, atom splitting, and personal computers). But arguing about bedtime isn't one of those things.*  
— Phil

*For Angiela, with whom all things are possible.*  
— Eddy

*To Stephen, Christopher, Arianna, and Joey for being constant sources of inspiration, laughs, and love.*  
— James



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# About the Authors



**Phil Read** is the founder of Arch | Tech as well as one of the driving forces behind the original Revit software. He's also a blogger, a speaker, a tweeter, and a popular presenter at Autodesk University. After working in both civil engineering and architecture, he downloaded Revit version 1.0 (at the suggestion of an ArchiCAD reseller) and was hooked. Less than a year later, he began working for Revit Technology and then Autodesk as a project implementation specialist, where he had the honor and pleasure of working with some of the most remarkable people and design firms around the world. He relishes the role of change agent as

long as it makes sound business sense. Phil holds degrees in communications and architecture as well as a master's degree in architecture.



**Eddy Krygiel** is a senior project architect, a LEED Accredited Professional, and an Autodesk Authorized Author at HNTB Architects headquartered in Kansas City, Missouri. He has been using Revit since version 5.1 to complete projects ranging from single-family residences and historic remodels to 1.12-million-square-foot office buildings. Eddy is responsible for implementing BIM at his firm and also consults for other architecture and contracting firms around the country looking to implement BIM. For the last four years, he has been teaching Revit to practicing architects and architectural students in the Kansas City area

and has lectured around the nation on the use of BIM in the construction industry. Eddy has also coauthored several other titles on Revit and sustainability.



**James Vandezande** is a registered architect and a principal at HOK in New York City, where he is a member of the firm-wide BIM leadership and is managing its buildingSMART initiatives. After graduating from the New York Institute of Technology in 1995, he worked in residential and small commercial architecture firms performing services ranging from estimating and computer modeling to construction administration. In 1999, he landed at SOM and transformed his technology skills into a 10-year span as a digital design manager. In this capacity, he pioneered the implementation of BIM on such projects as One World Trade

Center, aka Freedom Tower. James has been using Revit since version 3.1 and has lectured at many industry events, including Autodesk University, VisMasters Conference, CMAA BIM Conference, McGraw-Hill Construction, and the AIA/NYS Convention. He is a cofounder of the NYC Revit Users Group (<http://nyc-rug.com>) and has been an adjunct lecturing professor at the NYU School for Continuing and Professional Studies as well as the Polytechnic Institute of NYU.





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# Foreword

As I write these notes, we are fast approaching the 10th anniversary of Autodesk's acquisition of Revit Technologies in April 2002. One of my earliest presentations after joining Autodesk in 2000 posited that the building industry takes approximately 10 years to understand and absorb any innovation, and the uptake of Revit, and with it the concept of building information modeling (BIM), in some ways is proof of that concept, but in other more important ways, perhaps I missed the real point. When we decided to make that acquisition more than a decade ago, we were convinced that the building industry was poised to make an important transition in the means of representation — a shift from exclusively drafting-based paradigms to something much more efficient. But who could have anticipated the sorts of changes, and the emerging potential transformations, that Revit has driven the BIM revolution?

Of course, everyone knew that parametric modeling could be the basis of better technical drawings of all sorts and that poorly coordinated documents were the plague of the industry. But Revit's early competitors touted those capabilities. What was really interesting about 2002 and the decade to follow was the convergence of a number of ideas: realization that productivity in the industry was stunted, that sustainable design was no longer optional, that new business structures could create systemic change, and that ever-more-powerful computers brought the reality of modeling to the architect's desktop. Lots of work and investment by the AEC industry — software providers, individual customers, academics, and consultants — created the technology platform for transformation that has changed the very nature of design, construction, and building operation on the basis of BIM — and with Revit at the forefront. But for the tool to have had such an impact across a broad spectrum of critical industry issues, it needed advocates, fierce critics, and contributors to its success.

Three such contributors to that momentum are the authors of this book — Phil Read, Eddy Krygiel, and James Vandezande. Each is a technical virtuoso in his own right, but what separates them from the many who understand and advocate on behalf of Revit is their very public enthusiasm for innovation and their uncanny ability to explain the implications of the use of tools in the furtherance of the design and construction professions. Although each has trod a different path, they come together regularly to collect, synthesize, and, most important, memorialize and transmit their enormous skills and insights so the entire community of architects can benefit from their know-how. The text that follows this foreword, the fifth iteration of the *Mastering Autodesk Revit Architecture* series, is testimony to their insight and dedication and is a necessary companion for anyone traveling the BIM path.

More than ten years into this project to improve the built environment by empowering designers and builders with new tools, we have reached a point where BIM — as enabled with potency with Autodesk Revit — is no longer speculation but rather the emerging reality of modern practice. Hundreds of thousands of copies deployed and in use testify to that shift. Assuring that practitioners are properly equipped to both understand and exploit the power of these tools is what Phil, Eddy, and James have done so well during their careers. It's been a pleasure to watch their progress, share in our mutual successes, and be assured that they continue to work tirelessly and advocate for the profession through technology. This text is just another in a long line of their contributions toward that end. I am sure its readers will benefit accordingly.

—Phil Bernstein, FAIA

Vice President, Strategic Industry Relations, Autodesk  
Lecturer in Professional Practice  
Yale School of Architecture

