

Where to Find More Information about Computer Graphics, Parallel Programming, and Related Topics

Mike Bailey
Oregon State University

1. References

1.1 General Computer Graphics

ACM Digital Library: <https://dl.acm.org>

John Kessenich, Graham Sellers, and Dave Shreiner, *OpenGL Programming Guide, 9th Edition*, 2017. [The must-have for OpenGL programmers. Desperately needs to be updated.]

Peter Shirley, *Fundamentals of Computer Graphics*, 5th Edition, AK Peters, 2021.

Edward Angel and Dave Shreiner, *Interactive Computer Graphics: A Top-down Approach with OpenGL*, 6th Edition, Addison-Wesley, 2011.

Graham Sellers, *Vulkan Programming Guide*, Addison-Wesley, 2017. [The must-have for Vulkan programmers. Desperately needs to be updated.]

Sergey Kosarevsky and Viktor Latypov, *3D Graphics Rendering Cookbook*, Packt, 2021.

Francis Hill and Stephen Kelley, *Computer Graphics Using OpenGL*, 3rd Edition, Prentice Hall, 2006.

Steve Cunningham, *Computer Graphics: Programming in OpenGL for Visual Communication*, Prentice-Hall, 2007

Alan Watt, *3D Computer Graphics*, 3rd Edition, Addison-Wesley, 2000.

Andrew Glassner, *Graphics Gems*, Academic Press, 1990.

James Arvo, *Graphics Gems 2*, Academic Press, 1991.

David Kirk, *Graphics Gems 3*, Academic Press, 1992.

Paul Heckbert, *Graphics Gems 4*, Academic Press, 1994.

Alan Paeth, *Graphics Gems 5*, Academic Press, 1995.

Jim Blinn, *A Trip Down the Graphics Pipeline*, Morgan Kaufmann, 1996.

Jim Blinn, *Dirty Pixels*, Morgan Kaufmann, 1998.

David Rogers, *Procedural Elements for Computer Graphics*, McGraw-Hill, 1997.

1.2 Vulkan

<http://cs.oregonstate.edu/~mjb/vulkan>

Marco Castorina and Gabriel Sassone, *Mastering Graphics Programming with Vulkan*, Packt Publishing, 2023.

Graham Sellers, *Vulkan Programming Guide*, Addison-Wesley, 2017. [The must-have for Vulkan programmers. Desperately needs to be updated.]

Pawel Lapinski, *Vulkan Cookbook*, Packt Publishing, 2017.

Sergey Kosarevsky and Viktor Latypov, *3D Graphics Rendering Cookbook*, Packt, 2021.

Kenwright, *Introduction to Computer Graphics and the Vulkan API*, 3rd Edition, 2018.

1.3 Math and Geometry

Ron Goldman, *An Integrated Introduction to Computer Graphics and Geometric Modeling*, CRC Press, 2009.

Michael Mortenson, *Geometric Transformations for 3D Modeling*, 2nd Edition, Industrial press, 2007.

Michael Mortenson, *Geometric Modeling*, John Wiley & Sons, 2006.

Eric Lengyel, *Mathematics for 3D Game Programming and Computer Graphics*, Charles River Media, 2002.

Jean Gallier, *Curves and Surfaces in Geometric Modeling*, Morgan Kaufmann, 2000.

Walter Taylor, *The Geometry of Computer Graphics*, Wadsworth & Brooks/Cole, 1992.

Gerald Farin, *Curves and Surfaces for Computer Aided Geometric Design*, 3rd Edition, Academic Press, 2001.

Gerald Farin and Dianne Hansford, *The Geometry Toolbox for Graphics and Modeling*, AK Peters, 1998.

Joe Warren and Henrik Weimer, *Subdivision Methods for Geometric Design: A Constructive Approach*, Morgan Kaufmann, 2001.

Barrett O'Neil, *Elementary Differential Geometry*, Academic Press, 1997.

Joseph O'Rourke, *Computational Geometry in C*, Cambridge University Press, 1996.

Christopher Hoffman, *Geometric & Solid Modeling*, Morgan Kaufmann, 1989.

I.D. Faux and M.J. Pratt, *Computational Geometry for Design and Manufacture*, Ellis-Horwood, 1979.

Eric Stollnitz, Tony DeRose, and David Salesin, *Wavelets for Computer Graphics*, Morgan-Kaufmann, 1996.

Ronen Barzel, *Physically-Based Modeling for Computer Graphics*, Academic Press, 1992.

David Rogers and J. Alan Adams, *Mathematical Elements for Computer Graphics*, McGraw-Hill, 1989.

John Snyder, *Generative Modeling for Computer Graphics and Computer Aided Design*, Academic Press, 1992.

1.4 Scientific Visualization

Tamara Munzner, *Visualization Analysis & Design*, A.K. Peters, 2015. [A must-have for those interested in visualizing data.]

Christopher Johnson and Charles Hansen, *The Visualization Handbook*, Elsevier Academic Press, 2005. . [A must-have for those interested in visualizing data.]

John Dill, Rae Earnshaw, David Kasik, John Vince, and Pak Chung Wong, *Expanding the Frontiers of Visual Analytics and Visualization*, Springer, 2012.

Klaus Engel, Markus Hadwiger, Joe Kniss, Christof Rezk-Salama, and Daniel Weiskopf, *Real-Time Volume Graphics*, A.K. Peters, 2006.

David Thompson, Jeff Braun, and Ray Ford, *OpenDX: Paths to Visualization*, Visualization and Imagery Solutions, Inc., 2001.

Chandrajit Bajaj, *Data Visualization Techniques*, John Wiley & Sons, 1999.

Min Chen, Arie Kaufman, and Roni Yagel, *Volume Graphics*, Springer-Verlag, 2000.

William Schroeder, Ken Martin, and Bill Lorensen, *The Visualization Toolkit*, 3rd Edition, Prentice-Hall, 2004.

Luis Ibanez and William Schroeder, *The ITK Software Guide: The Insight Segmentation and Registration Toolkit (version 1.4)*, Prentice-Hall, 2003.

Greg Nielson, Hans Hagen, and Heinrich Müller, *Scientific Visualization: Overviews, Methodologies, Techniques*, IEEE Computer Society Press, 1997.

Brand Fortner, *The Data Handbook: A Guide to Understanding the Organization and Visualization of Technical Data*, Spyglass, 1992.

William Kaufmann and Larry Smarr, *Supercomputing and the Transformation of Science*, Scientific American Library, 1993.

Robert Wolff and Larry Yaeger, *Visualization of Natural Phenomena*, Springer-Verlag, 1993.

Peter Keller and Mary Keller, *Visual Cues: Practical Data Visualization*, IEEE Press, 1993.

1.5 Shaders

Mike Bailey and Steve Cunningham, *Computer Graphics Shaders: Theory and Practice*, Second Edition, CRC Press, 2012. [Very much in-sync with Oregon State University's CS 457/557 course.]

John Kessenich, Graham Sellers, and Dave Shreiner, *OpenGL Programming Guide, 9th Edition*, 2017. [The must-have for OpenGL programmers. Desperately needs to be updated.]

Randi Rost, Bill Licea-Kane, Dan Ginsburg, John Kessenich, Barthold Lichtenbelt, Hugh Malan, and Mike Weiblen, *OpenGL Shading Language*, Addison-Wesley, 2009. (3rd Edition)

Steve Upstill, *The RenderMan Companion*, Addison-Wesley, 1990.

Tony Apodaca and Larry Gritz, *Advanced RenderMan: Creating CGI for Motion Pictures*, Morgan Kaufmann, 1999.

Saty Raghavachary, *Rendering for Beginners: Image Synthesis using RenderMan*, Focal Press, 2005.

Randima Fernando, *GPU Gems*, NVIDIA, 2004.

Matt Pharr, Randima Fernando, *GPU Gems 2*, NVIDIA, 2005.

Hubert Nguyen, *GPU Gems 3*, NVIDIA, 2007.

<http://www.clockworkcoders.com/oqsl>

1.6 Gaming

Jesse Schell, *The Art of Game Design*, Morgan-Kaufmann, 3rd Edition, 2019.

Mary Kenney, *Gamer Girls: the 25 Women Who Built the Video Game Industry*, Running Press Teens, 2022.

David Hodgson, Bryan Stratten, and Alice Rush, *Paid to Play: An Insider's Guide to Video Game Careers*, Prima, 2006.

Alan Watt and Fabio Policarpo, *Advanced Game Development with Programmable Graphics Hardware*, AK Peters, 2005.

Jacob Habgood and Mark Overmars, *The Game Maker's Apprentice*, Apress, 2006.

David Eberly, *3D Game Engine Design: A Practical Approach to Real-Time Computer Graphics*, Morgan Kaufmann, 2006.

Alan Watt and Fabio Policarpo, *3D Games: Real-time Rendering and Software Technology*, Addison-Wesley, 2001.

Eric Lengyel, *Mathematics for 3D Game Programming and Computer Graphics*, Charles River Media, 2002.

David Bourg, *Physics for Game Developers*, O'Reilly and Associates, 2002.

Munlo Coutinho, *Dynamic Simulations of Multibody Systems*, Springer Verlag, 2001.

Mark DeLoura, *Game Programming Gems*, Charles River Media, 2000.

Mark DeLoura, *Game Programming Gems 2*, Charles River Media, 2001.

Dante Treglia, *Game Programming Gems 3*, Charles River Media, 2002.

Andrew Kimse, *Game Programming Gems 4*, Charles River Media, 2004.

Kim Pallister, *Game Programming Gems 5*, Charles River Media, 2005.

Mike Dickheiser, *Game Programming Gems 6*, Charles River Media, 2006.

Scott Jacobs, *Game Programming Gems 7*, Charles River Media, 2008.

Adam Lake, *Game Programming Gems 8*, Charles River Media, 2010.

<http://www.gamedev.net>

<http://www.gamasutra.net>

<http://www.yoyogames.com>

1.7 Color and Perception

Theresa-Marie Rhyne, *Applying Color Theory to Digital Media and Visualization*, CRC Press, 2017.

Maureen Stone, *A Field Guide to Digital Color*, AK Peters, 2003.

Roy Hall, *Illumination and Color in Computer Generated Imagery*, Springer-Verlag, 1989.

David Travis, *Effective Color Displays*, Academic Press, 1991.

L.G. Thorell and W.J. Smith, *Using Computer Color Effectively*, Prentice Hall, 1990.

Edward Tufte, *The Visual Display of Quantitative Information*, Graphics Press, 1983. [A fantastic book, even years later!]

Edward Tufte, *Envisioning Information*, Graphics Press, 1990.

Edward Tufte, *Visual Explanations*, Graphics Press, 1997.

Edward Tufte, *Beautiful Evidence*, Graphics Press, 2006.

Howard Resnikoff, *The Illusion of Reality*, Springer-Verlag, 1989.

1.8 Rendering

Sergey Kosarevsky and Viktor Latypov, *3D Graphics Rendering Cookbook*, Packt Publishing, 2021.

Tomas Akenine-Möller, Eric Haines, Naty Hoffman, Angelo Pesce, Michal Iwanicki, and Sébastien Hillaire, *Real-time Rendering*, CRC Press, 2018.

Andrew Glassner, *Principles of Digital Image Synthesis*, Morgan Kaufmann, 1995.

Michael Cohen and John Wallace, *Radiosity and Realistic Image Synthesis*, Morgan-Kaufmann, 1993.

Andrew Glassner, *An Introduction to Ray Tracing*, Academic Press, 1989.

Rosalee Wolfe, *3D Graphics: A Visual Approach*, Oxford Press, 1999.

Ken Joy et al, *Image Synthesis*, IEEE Computer Society Press, 1988.

1.9 Images

David Ebert et al, *Texturing and Modeling*, 2nd Edition, Academic Press, 1998.

Alan Watt and Fabio Policarpo, *The Computer Image*, Addison-Wesley, 1998.

Ron Brinkman, *The Art and Science of Digital Compositing*, Morgan Kaufmann, 1999.

John Miano, *Compressed Image File Formats*, Addison-Wesley, 1999.

1.10 Animation

Alan Watt and Mark Watt, *Advanced Animation and Rendering Techniques*, Addison-Wesley, 1998.

Nadia Magnenat Thalmann and Daniel Thalmann, *Interactive Computer Animation*, Prentice-Hall, 1996.

Philip Hayward and Tana Wollen, *Future Visions: New Technologies of the Screen*, Indiana University Press, 1993.

1.11 Virtual Reality

John Vince, *Virtual Reality Systems*, Addison-Wesley, 1995.

1.12 Web

Kouichi Matsuda and Rodger Lea, *WebGL Programming Guide*, Addison Wesley, 2015.

Tony Parisi, *Programming 3D Applications with HTML5 and WebGL: 3D Animation and Visualization for Web Pages*, O'Reilly, 2014.

Tony Parisi, *WebGL: Up and Running*, O'Reilly, 2012.

Don Brutzman and Leonard Daly, *X3D: Extensible 3D Graphics for Web Authors*, Morgan Kaufmann, 2007

Rémi Arnaud and Mark Barnes, *Collada – Sailing the Gulf of 3D Digital Content Creation*, AK Peters, 2006.

Gene Davis, *Learning Java Bindings for OpenGL (JOGL)*, AuthorHouse, 2004.

Andrea Ames, David Nadeau, John Moreland, *The VRML 2.0 Sourcebook*, John Wiley & Sons, 1997.

Bruce Eckel, *Thinking in Java*, Prentice-Hall, 1998.

David Flanagan, *Java in a Nutshell*, O'Reilly & Associates, 5th edition, 2005.

David Flanagan, *Java Examples in a Nutshell*, O'Reilly & Associates, 3rd edition, 2004.

Rasmus Lerdorf and Kevin Tatroe, *Programming PHP*, O'Reilly, 2002.

Yukihiro Matsumoto, *Ruby in a Nutshell*, O'Reilly, 2003.

1.13 Stereographics

David McAllister, *Stereo Computer Graphics and Other True 3D Technologies*, Princeton University Press, 1993.

Lenny Lipton, *The CrystalEyes Handbook*, StereoGraphics Corporation, 1991.

Shab Levy, *Stereoscopic Imaging: A Practical Guide*, Gravitram Creations, 2008.

1.14 Graphics Miscellaneous

John Blain, *The Complete Guide to Blender Graphics: Computer Modeling and Animation*, 7th Edition, CRC Press, 2022.

Siemen Lens, *Procedural 3D Modeling using Geometry Nodes in Blender*, Packt, 2023.

Ed Catmull, *Creativity, Inc: Overcoming the Unseen Forces that Stand in the Way of True Inspiration*, Random House, 2014. [A really interesting read about how the founders of Pixar ran the company in such a way that preserved the creativity of the team members.]

David Price, *The Pixar Touch: The Making of a Company*, Vintage Books, 2009.

Alvy Ray Smith, *A Biography of the Pixel*, MIT Press, 2021.

Jacob Gaboury, *Image Objects: An Archeology of Computer Graphics*, MIT Press, 2021.

Andrew Glassner, *Deep Learning: From Basics to Practice: Volumes I and II*, The Imaginary Institute, 2018.

Richard S. Wright, Nicholas Haemel, Graham Sellers, and Benjamin Lipchak *OpenGL SuperBible*, 5th Edition, Pearson, 2011.

Aaftab Munshi, Dan Ginsburg, and Dave Shreiner, *OpenGL ES 2.0*, Addison-Wesley, 2008.

Tom McReynolds and David Blythe, *Advanced Graphics Programming Using OpenGL*, Morgan Kaufmann, 2005.

Edward Angel, *OpenGL: A Primer*, Addison-Wesley, 2009.

Andrew Glassner, *Recreational Computer Graphics*, Morgan Kaufmann, 1999.

Anne Spalter, *The Computer in the Visual Arts*, Addison-Wesley, 1999.

Jef Raskin, *The Humane Interface*, Addison-Wesley, 2000.

Ben Shneiderman, *Designing the User Interface*, Addison-Wesley, 1997.

Clark Dodsworth, *Digital Illusion*, Addison-Wesley, 1997.

Isaac Victor Kerlow, *The Art of 3-D: Computer Animation and Imaging*, 2000.

Isaac Victor Kerlow and Judson Rosebush, *Computer Graphics for Designers and Artists*, Van Nostrand Reinhold, 1986.

Mehmed Kantardzic, *Data Mining: Concepts, Models, Methods, and Algorithms*, Wiley, 2003.

William Press, Saul Teukolsky, William Vetterling, and Brian Flannery, *Numerical Recipes in C*, Cambridge University Press, 1997.

James Skakoon and W. J. King, *The Unwritten Laws of Engineering*, ASME Press, 2001.

1.15 Parallel Programming

James Reinders, Ben Ashbaugh, James Brodman, Michael Kinser, John Pennycook, and Xinmin Tian, *Data Parallel C++*, Intel Corporation, 2021.

Chris Miller, *Chip War*, Scribner, 2022. [You might wonder why this is here. If you are curious about how silicon chip-making works under the influence of Moore's Law, this book is for you.]

Michael Voss, Rafael Asenjo, and James Reinders, *Pro TBB: C++ Parallel Programming with Threading Building Blocks*, aPress Open, 2019.

Michael McCool, Arch Robinson, and James Reinders, *Structured Parallel Programming*, Morgan Kaufmann, 2012.

Jo Van Hoey, *Beginning x64 Assembly Programming*, Apress, 2019. [Way more than you need to know to understand how to do SIMD, but an interesting reference book anyway.]

Jim Jeffers and James Reinders, *Intel Xeon Phi Coprocessor High-Performance Programming*, Morgan-Kaufmann, 2013.

Peter Pacheco, *An Introduction to Parallel Programming*, Morgan-Kaufmann, 2011.

James Reinders and Jim Jeffers, *High Performance Parallelism Pearls*, Morgan Kaufmann, 2015.

Aaftah Munshi, Benedict Gaster, Timothy Mattson, James Fung, and Dan Ginsburg, *OpenCL Programming Guide* Addison-Wesley, 2012.

Benedict Gaster, Lee Howes, David Kaeli, Perhaad Mistry, and Dana Schaa, *Heterogeneous Computing with OpenCL*, Morgan-Kaufmann, 2012.

Wen-mei Hwu, *GPU Computing Gems I*, Morgan-Kaufmann, 2011.

Wen-mei Hwu, *GPU Computing Gems II*, Morgan-Kaufmann, 2011.

David Kirk, Wen-mei Hwu, *Programming Massively Parallel Processors: A Hands-on Approach*, Morgan-Kaufmann, 2010.

Maurice Herlihy and Nir Shavit, *The Art of Multiprocessor Programming*, Morgan Kaufmann, 2008.

Rohit Chandra, Leonardo Dagun, Dave Kohr, Dror Maydan, Jeff McDonald, Ramesh Menon, *Parallel Programming in OpenMP*, Morgan Kaufmann, 2001.

Bradford Nichols, Dick Buttlar, and Jacqueline Proudix Farrell, *Pthreads Programming*, O'Reilly, 1998.

Ian Foster, *Designing and Building Parallel Programs*, Addison-Wesley, 1995.

2. Periodicals

Computer Graphics and Applications: published by IEEE
(<http://www.computer.org> , 714-821-8380)

Computer Graphics World
(<http://www.cgw.com> , 603-891-0123)

Journal of Computer Graphics Techniques
(<http://jcgt.org>)

Computer Graphics Quarterly: published by ACM SIGGRAPH
(<http://www.siggraph.org> , 212-869-7440)

Computer Graphics Forum: published by Eurographics
(<https://www.eurographics.org/publications/cgf/>)

Computers & Graphics, published by Elsevier
(<http://www.elsevier.com/locate/cag>)

Transactions on Visualization and Computer Graphics: published by IEEE
(<https://www.computer.org/csdl/journal/tg> , 714-821-8380)

Transactions on Graphics: published by ACM
(<https://dl.acm.org/journal/tog> , 212-869-7440)

Cinefex
(<http://www.cinefex.com> , 951-781-1917)

3. Professional organizations

ACM.....Association for Computing Machinery
<http://www.acm.org>
212-869-7440

SIGGRAPHACM Special Interest Group on Computer Graphics
<http://www.siggraph.org>
212-869-7440

SIGCHIACM Special Interest Group on Computer-Human Interfaces
<http://www.acm.org/sigchi>
212-869-7440

SIGHPC.....ACM Special Interest Group on High-Performance Computing
<http://sighpc.org>
212-869-7440

SIGCSE.....ACM Special Interest Group on Computer Science Education
<http://sigcse.org>
212-869-7440

EuroGraphics ...European Association for Computer Graphics
<http://www.eg.org>
 Fax: +41-22-757-0318

IEEEInstitute of Electrical and Electronic Engineers
<http://www.computer.org>
 202-371-0101

IGDA.....International Game Developers Association
<http://www.igda.org>
 856-423-2990

NABNational Association of Broadcasters
<http://www.nab.org>
 800-521-8624

ASMEAmerican Society of Mechanical Engineers
<http://www.asme.org>
 800-THE-ASME

4. Upcoming Conferences

ACM SIGGRAPH North America:
 2024: July 28-August 1, Denver, CO
<http://s2024.siggraph.org>

ACM SIGGRAPH Asia:
 2024: December 3-6 – Tokyo, Japan
<https://asia.siggraph.org/2023/about-the-event/siggraph-asia-2024/>

ACM SIGCHI:
 2024: May 11-16 —Honolulu, Hawai'i
<https://chi2024.acm.org>

ACM SIGCSE Technical Symposium:
 2024: March 20-23 —Portland, OR
<https://sigcse2024.sigcse.org/>

SC: International Conference for High Performance Computing, Networking, Storage, and Analysis:
 2024: November 17-22 – Atlanta, GA
<https://sc24.supercomputing.org>

OpenMPCon:
 ????: ??? – ???
<http://openmpcon.org>

IEEE Visualization:
 2024: October 13-18 – St. Pete Beach, FL
<https://ieeevis.org/year/2024/welcome.html>

Eurographics
 2024: April 22-26 – Limassol, Cyprus
<https://eg2024.cyens.org.cy/>

Game Developers Conference:

2024: March 18-22 – San Francisco, CA

<http://www.gdconf.com>

E3Expo

2025: ?????

<http://www.e3expo.com>

PAX West (Penny Arcade Expo)

2024: August 30 – September 2 – Seattle, WA

<https://west.paxsite.com>

ASME International Design Engineering Technical Conferences:

2024: August 25-28 – Washington, DC

<https://event.asme.org/IDETC-CIE>

National Association of Broadcasters (NAB):

2024: April 14-17 -- Las Vegas, NV

<https://nabshow.com/2024>