

Christine D. Young, M.A.

Fellow, The Association of Medical Illustrators
Certified Medical Illustrator (CMI) 1992 through December 31, 2024
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Professional Experience

Young, McKenna & Associates, Inc.

Art for Science Health and Medicine
Evanston, Illinois

1992 - present
Partner | Creative

Science visualization strategy, literature research, content development, script writing, storyboards, preparation for medical regulatory legal review, illustration and media design for medical education, biopharmaceutical promotion, commercialization of biomedical therapies; identification and partnering with thought leaders and clinical investigators; focus on molecular biology, 3D visualization of proteins and protein movement, biochemistry, pharmacology, immunology and diseases of the immune system, cardiovascular disease, metabolism and diabetes, oncology, microbiology, genetics, and neuroscience. Clients include research scientists, biopharmaceutical companies, dental companies, medical advertising agencies, and medical animation companies.

**Graduate Program in
Biomedical Visualization**

University of Illinois at Chicago
Chicago, Illinois

2012 - present
Clinical Assistant Professor

2012 - 2020

2017-2018
2012

1998 - 2008
Adjunct Clinical Assistant Professor

Graduate teaching and course development:

- BVIS 504: Storytelling in Biomedical Science - 2 credit hours
- BVIS 505 Visual Learning and Visual Thinking I - 2 credit hours
- BVIS 575: Business Practices - 3 credit hours
- BVIS 596: Independent Study
- BVIS 597: Project Research

- BVIS 541 Animation I - 2 credit hours
- BVIS 538 Medical Legal Visualization - 2 credit hours
- BHIS592: Colloquium in Science Communication - 2 credit hours
- BVIS 535 Visual Learning and Visual Thinking II - 2 credit hours

- BVIS 530: Medical and Surgical Illustration - 4 credit hours

Hurd Studios

New York, New York
www.hurdstudios.com
2007 - 2011 Consultant
2006 - 2007 Creative Director
(full-time)
1999 - 2004 Consultant (50%)

Member of medical animation team responsible for scientific information and message strategy development; proposal development; identification and partnering with thought leaders and medical investigators; animation content strategy, script, and storyboard creation; organizational charting of content for matching to media: animation, video or interactive; project management and client interface; research, strategy and presentation of scientific content for agency & medical education pitches to national and international pharmaceutical managers; creation of presentations to clients with scientific visualization development; preparation for medical regulatory legal review; attendance at core team evaluations.

Anatomical Chart Company

Skokie, Illinois
1990 - 1992
Creative Director

Established in-house medical art department; hired and managed medical illustrator team and assignments to independent contractors; pre-press and print production for 4 color T-shirts and custom medical charts; research, content, design, and illustration of charts for pharmaceutical promotion including development of the 'Understanding' disease series; developed educational retail products such as 'Brain hat'.

1979 - 1992
Medical Illustrator

Clients included research medical scientists, physicians, medical publishers, medical malpractice attorneys, National Geographic, US News and World Report, and medical associations.

Publications

- Weiss T, **Young C**, Brennan KM, Luciano C, McGuire L, Herrera P. Virtual Reality as a 3D Visualization Technique to Improve Surgeon Understanding of Aneurysm Anatomy. *Neurosurgical Focus*. In Press.
- Mostaco-Guidolin MB, Loube J, Barlow A, Osei ET, Vasilescu DM, Hsieh A, Fouadi M, **Young C**, Scott AL, Mitzner W, Hackett TL. Second Harmonic Generation Imaging of Collagen Scaffolds within the Alveolar Ducts of Healthy and Emphysematous Mouse Lungs. *Histochem Cell Biol*. 2021;155(2):279-289.
- Bergey D, Brennan KM, Milkowski D, **Young C**. Using Multimedia Principles to Reduce Visual Complexity of Transcriptional Regulation in Cancer. *Journal of Biocommunications*. 2019;43(2).
- Romero Calvo, Lebowicz L, **Young C**, Brennan KM. Impact of Visual Scientific Data on Comprehension and Perception of Educational Animations for Biomedical Researchers. *Journal of Biocommunications*. 2019;43(2).
- Michaels CE, Brennan K, Lebowicz L, Randal Dull, **Young C**. Influence of Expertise on Perception and Understanding on Viewing a Molecular Animation of the Lung Endothelial Surface Layer and its Role in Inflammation. *Journal of Biocommunications*. 2019;43(2).
- Miyamoto M, Milkowski DM, **Young CD**, Lebowicz LA. Developing a Virtual Lab to Teach Essential Biology Laboratory Techniques. *Journal of Biocommunications*. 2019;43(1):23-31. AMI Literary Award Winner 2019.
- Young C**. Illuminating the Science of Life. In: Canalis R, Ciavolella M, ed. *The Illustrated Body: Printing, Anatomy, and Art in the Renaissance*. Turnhout, Belgium: Brepols Publishers. 2018.
- Gao AW, Maizels ET, Brennan KM, Thaxton CS, McMahon K, **Young C**. Comparing the Effectiveness and Engagement of Comics to 3D Animation in Teaching Advances in Nanomedicine. *Journal of Biocommunications*. 2018;42(2).
- Zoeckler V, **Young C**, Bucher K, Brennan KM. Exploring animation styles to communicate the effects of exercise on gut microbiota. *Journal of Biocommunications*. 2018;42(2).
- Young C**. 2016 Lifetime Achievement Award. *Journal of Biocommunications*. 2018;42(2).
- Lorenzo C, **Young C**, Kazlauskaitė R. Developing Interactive Learning for Continuous Glucose Monitoring. *Journal of Biocommunications*. 2018;42(1).
- Sojka AC, Brennan KM, Maizels ET, **Young CD**. The Science Behind G Protein-Coupled Receptors (GPCRs) and Their Accurate Visual Representation in Scientific Research. *Journal of Biocommunications*. 2017;41(1):32-44. AMI Literary Award Winner 2017.
- Boyd A, **Young C**, Amatayakul M, Deiter M, Pawola LM. Developing Visual Thinking in the Electronic Health Record. 2017.
- Maizels M, Mickelson J, Yerkes E, Maizels E, Stork R, **Young C**, Corcoran J, Holl J, Kaplan WE. Computer-enhanced visual learning method: a paradigm to teach and document surgical skills. *Journal of Graduate Medical Education*. 2009;1:109-113.
- Heller & Fernandes. *The Business of Illustration*. Watson-Guption Publications, New York, (page 61) 1995.
- Fatton. *The Best Medical Advertising and Graphics*. North Light, (page 189), 1992.
- Young, C. D.**, G. Moore, G. Hutchins. Connective tissue arrangement in respiratory airways. *Anatomical Record*. 1980;198(2):245-254.

Recent visual science, animation content development, script & storyboards

TAKEDA Pharmaceutical Company.

Narcolepsy Molecular Neurobiology. **Script and storyboard. 2020**

Pharmacological Treatments of Narcolepsy: Mechanism of Action. **Script and storyboard. 2021**

Introduction to the Orexin System. **Script and storyboard. 2021**.

SANOFI and SYNTHORX. *Multitargeted Treatment of Immune Sensitive Tumors with an Engineered Not-alpha IL-2: THOR-707*. **Script and storyboards for physicians and patients. 2020 - 2021**.

AMGEN. *Visual slide presentation for AM510_KRAS for Oncologists*. **2019 - 2020**.

IRONWOOD. *Altered Gut-Brain Signaling : IBS-C*. **Script and storyboard. 2020**.

Visual science, animation content development, script & storyboards, and pitch for Havas New York, Princeton, Chicago

- SAGE Therapeutics. Neuronal Networks and Adaptive Signaling in Depression (MDD and PPD). Storyboard. 2021.
- FEVIPIPRANT. Novartis Pharmaceuticals. *The Asthma Inflammation Cascade*. Animation and Interactive storyboard. 2019.
- SUNOSI. Jazz Pharmaceuticals. Pathophysiology of Excessive Daytime Sleepiness. Storyboard 2018.
- CRIZANLIZUMAB. Novartis. *The Pathophysiology of Sickle Cell Disease*. Storyboard and visual science presentation. 2018.
- INTERCEPT. *FXR Activation: A Therapeutic Frontier in Liver Disease*. Storyboard. 2017
- CEFIDEROCOL. Shionogi Inc. *Cefiderocol Mechanisms of Bacterial cell entry: Overcoming antibiotic resistance Bactericidal action*. Storyboard and visual science presentation. 2017.
- SOLQUA®. SANOFI Diabetes & Cardiovascular. *SOLQUA® : Delivering more complete glycaemic control*. Storyboard 2017.
- OCALIVA. Intercept Pharmaceuticals, Inc. *FXR Activation: A Therapeutic Frontier in Liver Disease*. Storyboard 2017.
- SER-287. Seres Therapeutics. *What Does it Take to Eradicate Recurrent Clostridium difficile? The Role of the Microbiome*. Storyboard and visual science presentation. 2016.
- SEROSTIM®. EMD Serono, Inc. Somatotropin (rDNA origin) for injection. Storyboard and visual science presentation. 2015.
- SARILUMAB. Sanofi and Regeneron Pharmaceuticals, Inc. *IL-6 & Articular Manifestations of Rheumatoid Arthritis*. 2015. *The Role of IL-6 Dual Signaling*. 2015. *IL-6 and Systemic Manifestations of Rheumatoid Arthritis*. 2016. Science visualization, script and storyboard development for 3 pre-launch animations. Storyboard EULAR 2016 Oculus Rift Experience.
- EYLEA™ (aflibercept intravitreal injection). Bayer HealthCare Pharmaceuticals and Regeneron Pharmaceuticals, Inc. *Exploring New Insights in the Treatment of Diabetic Macular Edema*. Global and US Launch. 2014. *Exploring New Insights into Wet AMD - EYLEA: A Novel Molecule for Treatment*. US and Global Launch. 2012. *Exploring New Insights into Wet Age-related Macular Degeneration*. 2010. Visualization for US and Global marketing teams 2007 - 2015.
- GAZYVA (obinutuzumab). Genentech and Roche. *GAZYVA : The first glycoengineered, type II anti-CD20 monoclonal antibody*. Character development, research, script, annotation and storyboard. 2013.
- MEDI-545. MedImmune, LLC. *The Role of Interferon in Systemic Lupus Erythematosus*. 3 minute animation development, content, script and storyboard with animated powerpoint deck. 2009 - 2010.
- Apligraf®. Organogenesis Inc. *Apligraf: Orchestration of Wound Healing through Keratinocyte - Fibroblast Interaction*. Visual science foundation. 2 minute animation development, content, script and storyboard. 2010.
- Takeda Pharmaceuticals North America, Inc. and H. Lundbeck A/S. *Multi-functional Neuromodulation for Mood and Anxiety Disorders*. Lu AA21004 - Pitch, Science Branding during initial Phase III clinical testing, and training of Medical Science Liaisons on animation content and related science research. 2008 - 2010.
- Parkinson's Disease. BiogenIdec. *Adenosine A_{2A} Receptor Modulation of Basal Ganglia Neurotransmission in Parkinson's Disease*. Animated powerpoint presentation. 2009.
- Ketoepoxide Proteasome Inhibitors (KePIs). Proteolix, Inc. *Sustained Proteasome Inhibition in Multiple Myeloma*. Visual science foundation, protein structure development and storyboard. 2009.
- Pfizer, Inc. and Protalix. *Taligluceric acid for Gaucher Disease - ProCellEx plant-based production*. AOR Pitch team. 2011.
- Daiichi-Sankyo. Science Visualization story for *Edoxaban Anticoagulation Therapy - FactorXa Inhibition*. Pitch team 2010.
- Pfizer, Inc. and Medication, Inc. *mPTP - A New Window to Alzheimer's Disease Understanding*. Dimebon™ (latrepirdine). 2009.

Animation content development, script and/or storyboards for XVIVO Scientific Animation. Wethersfield, CT

- Avanir Pharmaceuticals. *Treatment of Pseudobulbar Affect - PBA for Nuedexta*. 2015.
- Helsinn Pharmaceutical. *Cancer Cachexia-Anorexia: Advances in Disease Understanding*. Script and storyboard. 2013.
- Otsuka Pharmaceutical, Inc. *Autosomal Dominant Polycystic Kidney Disease. Mechanism of Disease*. 2012.
- Organogenesis. *GINTUIT™ Generating Keratinized Tissue with a Living Cell Sheet*. 2012.
- Otsuka Pharmaceutical, Inc. *BreathTek: Gastric Cancer Pathogenesis*. 2012.

Animation content development, script and/or storyboards for XVIVO Scientific Animation. Wethersfield, CT

Cord Blood Registry. *Cord Blood Stem Cells and Autism*. 2012.

Biogen Idec Hemophilia. *Fc Fusion: The Forward-Thinking Long Lasting Technology*. 2011.

Telaprevir[®]. Vertex. *Mechanism of Action in Hepatitis C*. 2011.

INCB18424. Incyte. *Jak Pathway Signaling in Myeloproliferative Neoplasms*. Script and visual development. 2010 & 2011.

QuantumCES. CaridianBCT. *The Quantum Cell Expansion System: a novel, closed bioreactor for stem cell culture*. Visual science foundation, script development and storyboard 2 minute animation. 2010.

Iniparib[®]. BSI-201. BiPar Sciences and Sanofi Aventis. *Investigating PARP1 Inhibition with Iniparib: Targeting DNA Repair Mechanism in Cancer*. Visual science foundation, script development and storyboard 4 minute animation. 2010.

Factive[®]. Oscient Pharmaceuticals. *Gemifloxacin's Dual Hijacking of Bacterial DNA Enzyme Systems*. 2010.

Flibanserin. Boehringer Ingelheim. *Flibanserin Mechanism of Action in the Female Sexual Response in Hypoactive Sexual Desire Disorder*. Storyboard development. 2010.

Celldex therapeutics. *Designing the Next Generation of Antibody Therapy*. Visual science foundation, script development and storyboard 4 minute animation. 2009.

Gleevec[®] ((imatinib mesylate). Novartis. *Management of Chronic Myelogenous Leukemia or CML*. Visual science foundation, protein structure development and storyboard. 2009.

Animation content development, script and storyboards for Hurd Studios. New York, New York

Pro-Argin[™] Technology. Colgate. *A Breakthrough Technology for Superior Caries Protection*. Visual science and storyboard development. 2010.

Menveo[™] and Bexsero[™] vaccines Novartis Vaccines & Chiron. *Menveo: Vaccine Prevention Against Meningococcal ACWY Disease. 2011. Meningococcal Disease: Bacterial Biology Influencing Vaccine Solutions*. Visual science and storyboard development. 2008.

Suvorexant[™] (MK-4305) Merck & Co. Image concept development. Orexin receptor antagonist in development for insomnia. 2010.

Eritoran[™]. Eisai Co., LTD. *Toll-like Receptor 4 in the Pathogenesis of Severe Sepsis*. 2009.

Welchol[®] (cholesevelam HCl) Bile Acid Sequestrant Daiichi Sankyo *Bile Acids: From Cholesterol Homeostasis to Signaling Molecules in Metabolic Regulation*; 5 minute animation and slide kit detailing nuclear receptor regulation. 2007.

Novartis Oncology Pipeline exhibit and accompanying educational brochure development 2007.

Immunology IV for Joseph A. Bellanti, MD; content and storyboard development; 13 minutes of immunology animation for textbook media.

Galvus[®] (vildagliptin) DPP4 Inhibitor Novartis *Incretin Science: a new understanding of type 2 diabetes*. 2006.

Acomplia[®] (rimonabant) Endocannabinoid receptor antagonist Sanofi-Aventis *Endocannabinoid System in dyslipidemia and glucose homeostasis*. 2006.

Crestor[®] (rosuvastatin calcium) Statin AstraZeneca. *Statins: Therapeutic Benefits in Vascular Disease* 2002
International Health & Medical Media Awards Freddie Winner 2002 and Association of Medical Illustrators Award of Excellence in Animation.
Inflammation: A Unifying Theory for Atherogenesis and Moving Beyond Cholesterol Telly Award Finalist 2004
Reducing the Atherogenic burden: Physiology of Lipoprotein Metabolism Telly Award Finalist 2004
Inflammation, C-reactive Protein & Heart Disease The Rationale for the JUPITER Trial. 2003. Telly Award Finalist 2004.

Animation content development, script and storyboards for Hurd Studios. New York, New York - continued

Pantimumab: Amgen. *A fully human anti-epidermal growth factor receptor antibody*. Visual story development. 2004. International Health and Medical Media Awards Freddy Finalist Oncology Category 2004.

Coreg[®] (carvedilol) Novartis *Cardioprotection with Comprehensive Adrenergic Blockade*. 2004.

CC5013 Thalidomide analogue Celgene *ImiDs™ - Multiple Mechanisms Acting in Concert*. 2003.

Actonel[®] (risedronate sodium) Bisphosphonate Aventis/Proctor & Gamble *Influencing Bone Remodeling in Osteoporosis*
Rx Club: Award of Excellence: Physician Education 2004; SIGGRAPH Animation Theater 2003; International Health & Medical Media Awards Freddy Finalist 2003; Association of Medical Illustrators Award of Excellence.

Arava[®] (leflunomide) Aventis *Psoriasis: Looking Beneath the Surface*. Winner CINE Golden Eagle Award. 2002.

Protonix[®] (pantoprazole sodium) Proton pump inhibitor. Wyeth *Protonix and the Treatment of Erosive Esophagitis*.
Global Award Finalist "The World's Best Work in Healthcare Communications" 2001 and Association of Medical Illustrators Award of Excellence in Animation.

Starlix[®] (nateglinide) Novartis *A Closer Look at Early Phase Insulin Response*. 2000. Warren Sturgis Award for Motion Media; BioImages Annual Media Exhibition; Telly Awards: Finalist, Bronze in Non Broadcast Film/Video - Animation; Warren Sturgis Award for Motion Media BIOIMAGES 2000.

Axert[®] (almotriptan malate) Pharmacia Full color illustrations and content editing of sales training manual 2001-2002.

Toprol[®] and Toprol XL[®] (metoprolol) AstraZeneca *Heart Failure*. 2000.

Orzel[™] (leucovorin calcium) Oral 5-FU Bristol-Myers Squibb Co. *Colon Cancer: Physician MOA of Orzel*. 1999.
Global Award Finalist "The World's Best Work in Healthcare Communications" 2000 and Association of Medical Illustrators Award of Excellence in Animation 1999.

Selected Bibliography of Educational Textbooks Illustrated

Henretig and King. *Textbook of Pediatric Emergency Procedures*. Williams & Wilkins, 1st Edition 1997, 2nd Edition 2007.

Pfeffer, Glenn et al. *The 2003 Body Almanac Your Personal Guide to Bone and Joint Health at Any Age*. American Academy of Orthopaedic Surgeons.

Goldstein, Ronald E. *Change Your Smile*. Quintessence Books, 1997

Rowe, M.I., et al. *Essentials of Pediatric Surgery*. Mosby, 1995.

Heckman, M.D., *Emergency Care and Transportation of the Sick and Injured*. Sixth Edition, American Academy of Orthopaedic Surgeons, 1995.

Ludwig, S. and G. Fleisher. *Pediatric Emergency Medicine*. 1st, 2nd, 3rd & 4th Editions. Williams & Wilkins, 1979-1999.

Bensimon. H., *Urologic Surgery*. McGraw Hill Publishers, 1990.

Gillenwater, et al. *Adult and Pediatric Urology*. YearBook Medical Publishers, 1987. Art Editor and Illustrator.

Harvey, et al. *The Principles and Practice of Medicine*. 21st Edition. Appleton-Lange, 1984.

Graduate Research Advisor

Samantha B Palahnuk, *Investigating the value of proof of concept when visually communicating novel biotechnology to biomedical research audiences.* Summer 2021.

Abrielle Cacciaglia, MS. *The Impact of Physician Drawing on the Surrogate Decision-making Experience.* May 2021. Vesalius Trust Research Grant.

Emilyn Frohn, M.S. *Transforming Confocal Microscopy Imaging Data of Retinal Vasculature into 3D Animation.* May 2021. Vesalius Trust Research Grant.

Sarah McGuinness, M.S. Thesis: *Comparing Whiteboard and 3D Animation in Visualization of “Neuron-like” Bacterial Communication in Biofilms.* May 2020.

Alexander Leo Swenson, M.S. *The Benefits of Interactive Media for Teaching Complex Nanomedicine to Physicians.* May 2020.

Maddy Rice, M.S. *Examining pre-production tools in animation to improve comprehension of epigenetic therapy in cancer.* May 2020.

Hui Liu, M.S. *Comparing animation and interactive media in communicating molecular mechanism of mixed lineage leukemia.* July 2019.

Dani E Bergy, M.S. *Using animation to depict epigenetic control of the rate of MYC transcription in lymphomas.* May 2019.

Nicole Ethen, M.S. *Comparing visualization methods of epigenetic mechanisms in an animation for a general audience.* May 2019.

Angela Gao, M.S. *Comparing the Effectiveness and Engagement of Comics to 3D Animation in Teaching Advances in Nanomedicine.* May 2018. Presented at the National Academy of Medicine April 2018.

Stephanie O’Neil, M.S. *Comparing Visual Communication Methods of a Synthetic HDL Nanoparticle’s Structure and Function.* May 2018.

Talia Weiss, M.S. *Virtual Reality as a 3D Visualization Technique to Improve Surgeon Understanding of Aneurysm Anatomy.* May 2018.

Talia L. Weiss, M.S., Christine D. Young, M.A., CMI, FAMI, Kevin M. Brennan, M.S., CMI, Cristian J. Luciano, PhD, Laura S. McGuire, MD, Fernanda Herrera, M.A., Ali Alaraj, MD. Virtual Reality as an Immersive 3D Visualization Technique to Improve Surgeon Understanding of Aneurysm Anatomy. Interactive Multimedia Research Presentation Session. Congress of Neurological Surgeons Annual Meeting. Abstract no. 1028. October 2019.

Christina Lorenzo, M.S. *Developing Interactive Learning for Continuous Glucose Monitoring.* May 2017. Vesalius Trust Scholar Recipient

Drew Fast, M.S. *Designing a Culturally, Linguistically & Visually Appropriate HIV Intervention Program for the Deaf & Hard of Hearing.* May 2017.

Chinami Michaels, M.S. *Influence of Expertise on Perception and Understanding on Viewing a Molecular Animation of the Lung Endothelial Surface Layer and its Role in Inflammation.* May 2017

Samantha Bond, M.S. *Media Delivery Analysis in Pediatric Cleft Patient and Caregiver Education.* May 2016.

Melanie Conrad, M.S. *Self-Perception and Autonomy in Alveolar Cleft Pediatric Patients.* May 2016.

Eva Mae Natividad, M.S. *Multicultural Considerations to Promote Visual Communication in Cleft Lip Animations for Pediatric Patient and Caregiver Education.* May 2016.

Samantha Olson, M.S. *Visualizing Anatomy in Craniofacial Patient Education Animation: Best Practices in Generating Comfort & Understanding.* May 2016. Vesalius Trust Scholar 2016.

Rayshueh Ku, M.S. *Multimedia Visual Aids for Pharmaceutical Business Presentation: Visualizing the Novel Drug Mechanism for Alzheimer’s Disease.* May 2015.

Robert Shonk, M.S. *TyrantCroc: Reconstruction and Visualization: an inquiry into the role of visualization media in the reconstruction of incomplete fossilized remains.* May 2015.

Graduate Research Advisor continued

Jill Tessler, M.S. *Development of “Virtual Instructor” Hands and Appearance Presets for a Simulation Training Environment for Central Venous Catheter Placement.* May 2015.

Caitlin Lohr, M.S. *Medical-Legal Case Illustration: The Impact of a Personalized Rather Than Anonymous Visual Representation of a Plaintiff’s injury on Juror Empathy as Measured by Non-Economic Damage Awards.* December 2015.

Amani Al-Tarouti, M.D., M.S. *Transformation of Complex Data Output from the Multi-Electrode Electroretinogram into a Comprehensible Visual Display.* 2014.

Abigail Richbourg, M.S. *Interacting with collagen: How an interactive web application can further the understanding of collagen’s structure and function.* May 2014.

Amy Sojka, M.S. *A Guide to Visual Representation of G-Protein Coupled Receptors (GPCR) for the Medical Illustration Community.* May 2014.

Melanie Upchurch, M.S. *Current issues in Macromolecular Visualization: The Analysis of Usability Concepts within the Protein Data Bank as applied to the Database Application Interact with Collagen.* May 2014.

Natalie Doolittle, M.S. *History Sticks in the Ink: Showcasing the Past for the Benefit of the Future.* May 2013.

Corin Steadman, M.S. *Interactive Applications for Parental Education on Serogroup B Meningococcal Meningitis and Infant Immunization.* May 2013.

Evelyn Maizels, MD, PhD., M.S. *Development and use of the multimedia presentation and evaluation program CEVL (Computer-Enhanced Visual Learning): building a three-dimensional digital model of the pediatric inguinal region.* May 2010.
Vesalius Trust Alan Cole Scholar 2009.

Graduate Research Committee Member:

Allyssa Benedict, M.S. *The Use of 3dsMax Creation Graph to Automatically Generate Nose Tissue Depth from Dry Skull Data.* Summer 2021.

Jer Weann Ang, M.S.. *The Use & Efficacy of Case-Based Learning in Teaching Researchers about Pseudoprogession.* Summer 2021. Vesalius Trust Alan Cole Scholarship and presented at the 2021 75th Anniversary Association of Medical Illustrators Conference.

Regan Falin, M.S. *Creating Anatomical Visualizations for Mindfulness-Based Education.* May 2021

Isabel Romero Calvo, PhD., M.S. *Impact of using scientific data on comprehension and perception of educational animations for biomedical researchers.* May 2019.

Elizabeth Andreas, M.S.. *Designing an eLearning Tool to Normalize Perinatal Mental Health Disorders and Increase Help-Seeking Behaviors.* May 2018.

Veronica Zoeckler, M.S. *Animation Describing the Similarities Between Stem Cells and Cancer Cells.* May 2018.

Emily Kief, M.S. *Creating a Graphic Novel as an Educational Tools for Teaching Evolutionary Biology to Middle School Students.* May 2018

Mao Miyamoto, M.S. *Developing a Virtual Lab to Teach Essential Biology Laboratory Techniques Involved in Solution Preparation.* June 2016.

Ali Padilla, M.S. *Non-invasive three-dimensional reconstruction of human paleontological remains.* May 2015.

Meredith Hoffman, M.S. *Visualization of the Pathology of Mild Traumatic Brain Injury (mTBI) for the National Museum of Health + Medicine Chicago.* May 2015.

Faith Simunyu, M.S. *Developing a Virtual Pre-Lab: Understanding the Cation Exchange Chromatography Procedure in the Yeast Cytochrome c Purification Lab.* May 2015. Vesalius Trust Scholar.

Graduate Research Committee Member continued:

Madeline Lee, M.S. *Visualizing the Development of Upper and Lower Limbs: Formation of Dermatomes during Weeks 4 - 8 Human Development.* May 2015. Vesalius Trust Scholar

Katja Tetzlaff, M.S. *Transgender and Gender Nonconfirming Healthcare: Illustrated Educational Materials.* May 2015.

Dorothy Fatumnbi, M.S. *Increasing Physician understanding of the external factors influencing bone health through interactive visualization.* December 2014.

Rex Twedt, M.S. *Integration of augmented reality technology and physical display of a 3D printed model of hand anatomy for mobile teaching application with Unity 3D game engine.* May 2014. Cari Jones. *Visualizing Adaptations in the Woodpecker's Skull Which Confer Traumatic Brain Injury Resistance.* May 2014. Vesalius Trust Scholar.

Caitlin Johnston, M.S. *The Effectiveness of 3D Animation in Medical Students' Understanding of Diagnostic Procedures of the Shoulder.* May 2014.

Sarah Hegmann, M.S. *Development of an Educational Interactive Three-Dimensional Application for Canine Cranial Nerve Study.* May 2013.

Leah Moak, M.S. *Visualizing the Effects of Polybrominated Diphenyl Ethers (PBDEs) on the Thyroid Hormone Pathway and Fetal Neurodevelopment through 3-D Animation.* May 2013.

Michael Moran, M.S. *Developing a 3D immersive resource on Parkinson's Disease in the online virtual world Second Life.* November 2009.

Kristin Luther, M.S. *Micro/Macro: an interactive resource on relative size.* May 2009.

Juna Kurihara, M.S. *Visualizing the right hepatectomy procedure using the DaVinci surgical system - designing an interactive for surgeons.* May 2008.

Invited Presentations and Workshops

Storyboards: Visual storytelling in time and space. University of Toronto & University of Illinois at Chicago Biomedical Visualization Academic Exchange Meeting Toronto, Ontario Canada | February 2020.

Illuminating the Science of Life. Illustrated Body Conference. UCLA Center for Medieval & Renaissance Studies | Feb 2015.

Visualizing the Body Beautiful. 2012 Philadelphia Science Festival Signature Program | PAFA. April 2012.

Rewards of Professional Complexity: Medical Visualization. Lecture | University of Illinois Chicago. November 2010.

Presentation Speech for the Association of Medical Illustrators' Lifetime Achievement Award to William B. Westwood. Association of Medical Illustrators Annual Meeting | Portland. July 2010.

Roundtable: Your Future as a Self-employed Medical Illustrator - Starve, Survive or Flourish? Association of Medical Illustrators Annual Meeting | Portland. July 2010.

Techniques Showcase: Getting Started with Story boarding for Animation. AMI Meeting | Portland. July 2010.

Science Visualization's Role in Medical Advertising. Euro RSCG Life Catapult | Princeton, NJ June 2009.

Futures Forum: Learning Curve or Curve ball: Anticipating an Uncertain Future. Association of Medical Illustrators Annual Meeting | Indianapolis. July 2008.

Presentation Speech for the Association of Medical Illustrators' Lifetime Achievement Award to Jane Hurd Association of Medical Illustrators Annual Meeting | Indianapolis. July 2008.

Panel: The Artist Maintaining Perspective in 'Evolution of Medical Illustration as a Profession'. Association of Medical Illustrators Annual Meeting | Phoenix. July 1995.

Workshop: Medical Illustration Source Book Page Design. Association of Medical Illustrators Annual Meeting | Orlando. 1994.

Color Separation for the Medical Illustrator: Avoiding Professional Suicide in Living Color. Prepared and moderated panel discussion. Association of Medical Illustrators Annual Meeting | Chicago. 1992.

Honors and Awards

Max Brodel Award for Excellence in Education. Association of Medical Illustrators. 2021.

Judge, RCSB Protein Data Bank PDB-101 High School Video Challenge. May 2002; May 2021.

Elected Adjunct Member of the Graduate Faculty of the University of Illinois at Chicago. 2018.

Literary Award. Association of Medical Illustrators. 2017, 2019.

Excalibur Award for Teaching Excellence. College of Applied Health Science. University of Illinois Chicago May 2017.

Lifetime Achievement Award. Association of Medical Illustrators. Atlanta 2016.

Elected Artisan Membership. International Guild of Miniature Artisans May 2014.

Muriel McLatchie Miller Fine Art Award. Toronto, Canada July 2012.

Grant Reviewer. U.S. Department of Education. Professional Development for Art Educators. 2005.

Outstanding Service Award. Association of Medical Illustrators. 1993.

Awards of Excellence. Rx Club Show. (Eight)

Judge. Association of Medical Illustrators Annual Salon Exhibition & World Congress Salon 1994, 1998, and 2008.

Education

Atelier student. Vitruvian Studio. Chicago, IL June 2017 - August 2018.

Natural Pigments Painting Best Practices 3 Day Workshop. George O'Hanlon and Tatiana Zaytseva. August 2017.

Study of Portrait and Figure Painting. Studio of Richard Halstead. Evanston, Illinois. January 2011 - December 2013.

International Guild of Miniature Artisans Guild School. Castine, Maine. June 2008, 2009, and 2018. Studied miniature painting with Johannes Landsman of Victoria, BC.; sculpting the 1/12th scale figure with James Carrington of London, England; and miniature furniture construction with Pam and Pete Borum of New Hampshire.

Paramedic Training. Illinois Region X. Highland Park Hospital. Highland Park, Illinois. 2002.

Emergency Medical Technician Training. Evanston Northwestern Hospital. Evanston, Illinois. 2001.

Creative Advertising 101 at Leo Burnett. Chicago, Illinois through Northwestern University.

The Johns Hopkins University School of Medicine. M.A. Department of Art as Applied to Medicine. Baltimore, Maryland.

Mayo Clinic. Internship: Department of Medical Graphics. Rochester, Minnesota.

The Pennsylvania Academy of the Fine Arts. Studied painting with Arthur DeCosta. Philadelphia, Pennsylvania.

Muhlenberg College B.S. Natural Science, B.A. Fine Art. Allentown, Pennsylvania.

Professional Affiliations

Active, Professional Member, and Fellow of The Association of Medical Illustrators. ami.org

Member, Accreditation Review Committee for the Medical Illustrator. 2005 - 2016.

Immediate Past President. July 2013- 2014. President. July 2012 - 2013. President elect. July 2011 - 2012.

Editor, Medical Illustration Source Book. www.medillsb.com 2005 - 2014.

Chairman, Medical Illustration Source Book Editorial Board 1991-1994 and 1999-2000.

Member, Board of Governors. 1994 - 1998, 2011 - 2014.

Member, Board of Governors Executive Committee. July 2011 - 2014.

Chairman, Professional Liaisons Committee 1996-1999.

Member of Contracts Committee 1991-1995.

Chairman, Student Affairs Committee, 1978-1979.

Member, Fellowship of the Pennsylvania Academy of the Fine Arts (PAFA).

Artisan Member, International Guild of Miniature Artisans. igma.org Elected 2014.