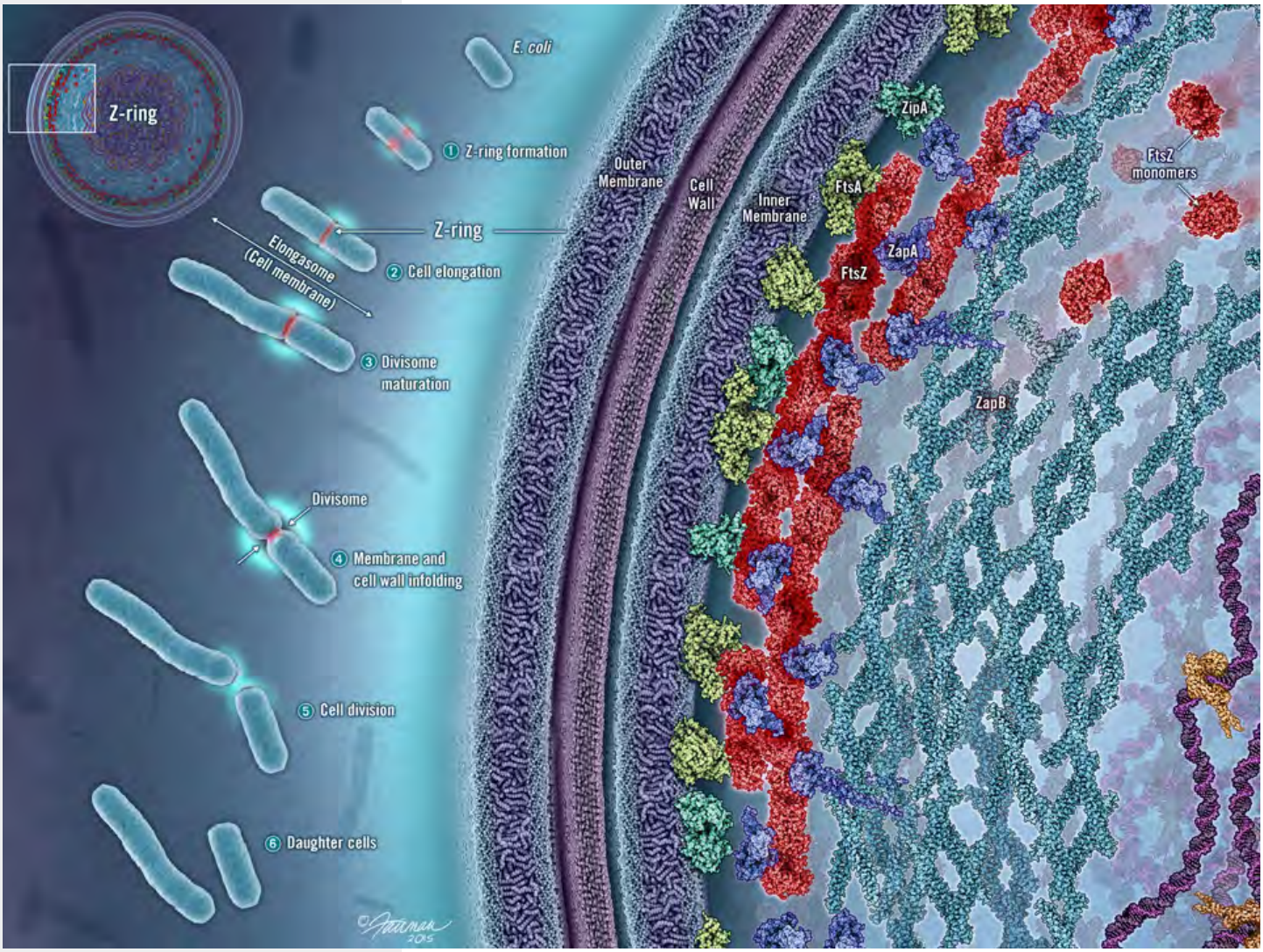
ASSOCIATION of MEDICAL ILLUSTRATORS
Illuminating the Science of Life

AMINEWS

Vol. 56, Issue 4, Winter 2016



Jennifer Fairman
"Z-Ring Stabilization and Constriction Rate Modulation of the ZapA-ZapB-MatP Protein Network"

IN THIS ISSUE:

LIFETIME ACHIEVEMENT AWARD

Marcia Hartsock Receives AMI 2015 Lifetime Achievement Award at the Cleveland Clinic

Presented by Bill Andrews and Gary Schnitz

The purpose of the Lifetime Achievement Award is to acknowledge and honor a medical illustrator who has been a Professional AMI Member for at least 30 continuous years, and whose life, work and other accomplishments have significantly contributed to the profession.

The AMI Lifetime Achievement Award is the highest honor awarded by the Association of Medical Illustrators to an individual who has dedicated his or her professional life as a medical illustrator. In doing so, this individual has engaged with fellow illustrators, not only to support the ideals of the profession, but also to insure

AMINEWS

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The Association of Medical Illustrators assumes no responsibility for statements reflecting the opinions submitted by individual members published in the AMI News. The AMI News (ISSN # P-179) serves as a forum for the thoughts of its members as well as a vehicle for reporting news events and the proceedings of the Association's committees.

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Letters Policy
Letters printed in the AMI News do not necessarily reflect the editorial position of the AMI News or the opinion of the Association of Medical Illustrators. Letters should be sent via e-mail to the editor, must be exclusive to the AMI News and must include the writer's full name, address and daytime telephone number. The editorial review board of the AMI News reserves the right to condense letters.

FROM THE NEWSLETTER TEAM

Happy holidays from the Newsletter team!

We have a bounty of new faces and new articles this winter, so a lot to be thankful for. We close out 2015 and celebrate our Lifetime Achievement Award Winner **Marcia Hartsock** and feature our salon winning artists with one of our favorite columns by **Patricia Gast,** *Winning Ways.* We also get you excited for next year with a glimpse of AMI 2016 in Atlanta.

Our column editors shine in this issue. A new Techniques column by **Nick Klein** shows us how to improve our effects workflows using Red Giant's Magic Bullet, **Veronica Falconieri** gives us a look into new professional members with familiar names in her *Up & Coming* column, and **Jeff Day's** *Comics Rx* peers into the fantastic team at Booster Shot Comics. **Wendy Beth Jackelow** reviews the passionate and insightful *Do No Harm: Stories of Life, Death, and Brain Surgery* by Henry Marsh. In our advocacy column, **Ethan Geehr** demystifies what fair use is, how courts determine it, and how it's essential to take into account for artists.

We remember Caspar "Cass" Henselmann, a talented medical and surgical illustrator from New York.

We would also like to welcome **Jackie Meyer** on board the newsletter team as our new layout artist. Look out for her new designs coming in 2016 as we continue to push the newsletter's digital features. Welcome Jackie!

Have a safe close to 2015 and celebrate all 2016 has to come!

The Newsletter Team

Jodi Slade & Shizuka Aoki

Downtown Atlanta, GA

NEWSLETTER SUBMISSION GUIDELINES

If you are interested in submitting material or would like to speak with us and ask questions, please contact us with your ideas at: newsletter@ami.org We're looking for a half page to a full page or about 750 words per article on topics of your choice. Accompanying image files must be 350 dpi, no smaller than 2.5" x 2.5".

All materials for the Spring 2016 newsletter must be submitted by Monday, March 2nd.

Like to doodle or cartoon? We'd love to include these and other small sketches in our newsletter. Please send your images to the address above if you're interested in having them published. Images must be 350 dpi for color or tone and 1200 dpi for B/W line, no smaller than 2.5" x 2.5".

LETTERS AND COMMENTS

We'd love to hear your thoughts on our features! Please email us (newsletter@ami.org) or send mail to the AMR address to the left.

Digital version available in the Online Members Community (OMC) Library: http://community.ami.org

LIFETIME ACHIEVEMENT (CONT'D FROM COVER)

that it thrives, progresses, and advances the Association. It is with great pleasure that we acknowledge Marcia Hartsock as the 2015 recipient of the Lifetime Achievement Award. This award reaches beyond AMI service awards to recognize a special person who has enriched our lives and influenced our ideals.

Marcia Hartsock and her sisters Karen and Gail were born and raised in the Cincinnati, Ohio area. Born in 1948, Marcia was a baby boomer and her older sister Karen was a war baby. Marcia's father had obtained his law degree, then enlisted in the Army and served with the Adjutant General Corps during the World War II. Without question attributes of service and leadership are in Marcia's DNA.

Marcia was blessed with beautiful red hair, and the many black and white photographs taken throughout her childhood and adolescence do not adequately portray how striking she was.

Marcia attended Woodward High School in Cincinnati, and in addition to being President of the WHS Art Club, she was a member of the National Thespian Society, National Honor Society, Pep Club Executive Board, and Senior Choir Accompanist. She was a born volunteer and leader, and she guided her organizations in many worthwhile projects. Marcia was not only a great leader, but she also knew how to be a servant leader. She served as an attendant to the 1966 Woodward High School Snow Queen. Marcia graduated in 1966 as the Valedictorian of her Senior Class; she was a brainiac.

Marcia received her BFA as an Honors Graduate in 1970 from the University of Cincinnati's College of Design, Architecture, Art, and Planning (or DAAP for short). On an undergraduate art history trip to Rome and Florence, she fell in love with Italy's many fine art treasures. As with many visitors, Marcia's wish made at Rome's Trevi Fountain was to one-day return to Italy some day …which she did with the Vesalius Trust.

From 1978 to 1981 Marcia continued her education at the University of Cincinnati College of Medicine with a concentration in Independent Studies in the Medical Sciences. Marcia later completed her Master of Arts in Illustration from Syracuse University in 2000. During this time Marcia studied with Bob Dacey and Professor Emeritus Murray Tinkelman. Professor Tinkelman taught in the Syracuse undergraduate program and was the senior advisor in the Independent Study MA Program in Illustration for over 25 years.

Early in her career, Marcia was employed at the University of Cincinnati College of Medicine's Biomedical Communications Department for nine years, later becoming the Assistant Manager of Medical Illustration. For the past 25 years, she has been a principal/owner of The Medical Art Company in Cincinnati serving Midwest and national clients. She has exhibited her work and lectured at local galleries and schools. In addition, for five years she participated as a visual arts faculty member for middle school students at Sitka Fine Arts Camp in Alaska. She has been (and continues to be) a true medical illustration "evangelist" in everything she does.

Already an Associate Member for several years, Marcia was elected to Active Membership in the Association of Medical Illustrators in 1981. Since that time Marcia has served in many leadership positions for both the AMI and Vesalius Trust. She has given countless hours of dedicated service to our Association and profession. Marcia has been a member of the Ethics Task Force, the Public Relations Committee, and Artists Rights Committee.

1979 Senior Medical Illustrator at the Department of Biomedical Communications, University of Cincinnati College of Medicine

LIFETIME ACHIEVEMENT (CONT'D)

1980 dressed for the Operating Room, University of Cincinnati College of Medicine

Marcia served as Co-Chair of the 1985 AMI annual meeting, Coordinator of the 1996 AMI Annual Meeting, and Program Chair of the 2003 annual meeting. She has been a member of the Board of Certification of Medical Illustrators since 1998.

She has served on the AMI Board of Governors from 1987-1992, and on its Executive Committee. She is a Past-President of the Association of Medical Illustrators, and she has been both a member and Vice-Chair of the AMI Fellowship Committee. Marcia has been recognized as a Fellow of the AMI, and she was certified by examination by the Board of Certification of Medical Illustrators in 1992.

Marcia has received numerous AMI Salon awards including the Ralph Sweet Best of Show Award, the Will Shepard Award of Excellence, and an AMI Illustrated Medical Book Award. She has received many other national and local awards, including two Rx Club Awards of Excellence, two World Congress Awards of Excellence, and an Art Director's Club Addy Award.

Kevin Somerville has provided some personal comments about Marcia to be included in her tribute. Kevin writes,

"Marcia and I have shared life with its ups and downs. It has run the gamut from celebrating joyous events like weddings, births, professional awards/achievements and, yes, even Sierra Club Whitewater Canoe School… to more poignant, personal moments of loss, such as the passing of people close to us and coping with health issues or crises in our own lives.

Marcia has been not only a close friend, but also a treasured professional mentor and confidant. She has always been a source of sage, pragmatic and level-headed counsel at times when my emotions may have otherwise gotten in the way of a successful outcome.

I'm so proud of you, both professionally and personally - and wish I were there to revel in this well-deserved recognition."

We all remember Marcia's 2005 AMI Presidential Address at California Lutheran University in Thousand Oaks, California. With her Vintage Certification Game Marcia reminded us all of our rich illustration heritage, the legacy art tools, and non-digital techniques that some of us older members had used every day. Her look back was both humorous and insightful.

Marcia is not only a smart, talented leader, she also knows how to have fun… for example during the Vesalius Trust's Auctions. She has provided many memorable moments at countless Trust Auctions all in support of the Trust's fundraising efforts.

As background, in the late 1980s, Marcia, Don Biggerstaff, and Bill Andrews all served on the AMI Board of Governors, and became part of a task force to investigate the forming of a charitable foundation to receive member contributions and disburse funds for educational and research purposes. As a result, the Vesalius Trust was established in 1988 with Bill as president, Don as vice president and Marcia as secretary.

As one of the founding officers and original board members, Marcia has served in advisory capacities for the Trust's educational initiatives for over 20 years. Marcia has been the spark-plug behind two very successful initiatives by the Trust - the Art & Anatomy Tours and the Collection of Art in the Service of Science at the Lloyd Library.

In those exciting early days after its founding, the Trust was looking for big, bold educational projects to champion. Marcia asked, "What if we did international tours for continuing education?" She and Marie Dauenheimer put together a marvelous proposal for the very successful Art & Anatomy Tours. In the beginning, the tours followed in footsteps of Andreas Vesalius. The first tour to Italy occurred in 1997, and centered around attending the annual congress of the AMI's sister organization in Europe, AEIMS.

During a subsequent Art and Anatomy Tour to Paris, Marcia presented a talk on The Golden Section to the AEIMS Congress. This was harder than it looked since the day started with a champagne greeting at the 13th Arrondissement by the local politicos! After a lunch at Ecole Estienne featuring great food and lots of wine, the group met upstairs for the afternoon's lectures in a nice warm room with thick velvet drapes over the windows. Marcia's awkwardly translated French text on her slides kept everyone entertained and awake!

LIFETIME ACHIEVEMENT (CONT'D)

2015 Presenting the Vesalius Trust Collection to attendees of the Ohio Academy of Medical History at the Lloyd Library and Museum.

2001 Editorial illustration "Breastfeeding Position, Cradle Hold".

1999 Editorial cover illustration "Allergic Rhinitis".

Marcia enthusiastically raising money for scholarships at a Vesalius Trust Auction.

LIFETIME ACHIEVEMENT (CONT'D)

The tour group also visited Rosa Bonheur's Studio in Thoméry, France where Marcia posed with a portrait of Rosa Bonheur. Bonheur became a women's role model at a time when art was deemed to be a man's profession.

Through the years Marcia has participated in other Vesalius Trust Art and Anatomy Tours to the Netherlands and Italy. Marcia, you had a great idea - the Tours are always an exciting, inspirational educational adventure. By the way, the Trust's Seventh Art & Anatomy Tour is scheduled for April 2016, to England and Scotland, and Marcia is going!

When medical illustrators retire, or sadly pass on, what happens to their life's work? Where do those piles of original illustrations, drawings, and paintings go? Who will care for them? These questions inspired Marcia to propose the creation of the Vesalius Trust collection of Art in the Service of Science, now housed at the Lloyd Library and Museum in Cincinnati, Ohio. Because of Marcia and others (OK, but mostly Marcia), all of us now have a place that will archive, value, and care for our original art in perpetuity. As an advisor and liaison to the Lloyd, Marcia has helped facilitate the donation of many AMI members' artwork, and she has helped market this Collection to our AMI membership and beyond. She not only has shown a genuine concern for preserving our body of illustrative work, but for preserving knowledge of our profession, and of techniques no longer practiced or taught.

Just this year, Marcia played a key role in curating the "Medicine Illuminated" exhibit at the Lloyd Library and Museum, featuring the work of 15 renowned medical illustrators whose original work is part of the Trust Collection. Thank you, Marcia,

2015 Marcia with her California granddaughter Riya Rungta Moulton.

for another great idea that benefits the Trust, the AMI, and all medical illustrators.

Marcia was blessed with a daughter-in-law in 2012. In 2014 her son Ryan and daughter-in-law Meenali Rungta made Marcia a grandma with a beautiful little girl, and a second grandchild is on the way in 2016. She enjoys her new role as a grandmother with frequent trips to California.

In conclusion, Marcia's dedicated service, her unbridled passion, and her commitment to the AMI are exemplary of her deep professional devotion. Would you please join Bill Andrews and me in recognizing and welcoming Marcia to the podium?

LIFETIME ACHIEVEMENT SPEECH

Marcia Hartsock

Receiving the Lifetime Achievement Award is something I never thought would happen to me. Those who have earned this award over the years have been the people I have most admired in this profession. I can never express enough appreciation to the committee, and to the winners who are present tonight, for this honor. To stand among you is the pinnacle of my career.

When Gary called to tell me the news, he thought I was in Cincinnati, Eastern time zone, so he called at a reasonable hour mid-morning, about 9:30 am. But I wasn't in Cincinnati, I was in California with my son's family, three hours earlier. I was feeding the baby Cheerios, and had not had a cup of coffee yet much less breakfast. So Gary calls, I burst into tears, and my son Ryan immediately thought that someone had died!

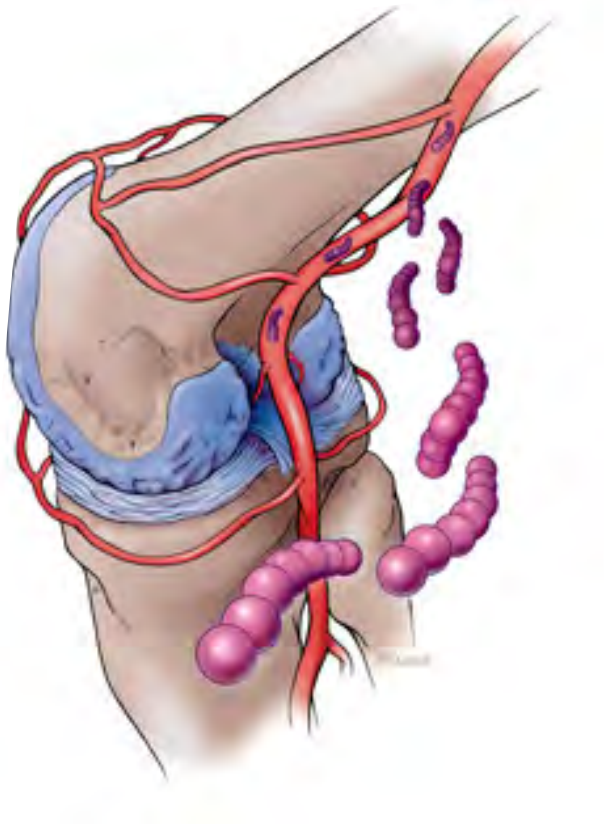
Ryan was hoping to fly out to be present for the Awards Banquet, but the reality of having a young baby in the house, as many of you know, means you can't always do what you want! Even though he isn't here, I'm so pleased that Gary called when I was with Ryan and his wife Meenali. It gave us an opportunity to sit down together and talk about my work, my education, the AMI - what a big part of my life this has been, and how much it means to me. It was a good conversation.

LIFETIME ACHIEVEMENT (CONT'D)

2003 Studying the masters on the Art and Anatomy Tour of The Netherlands and Belgium.

1990 Kessler Hartsock Associates with partners Marcia Hartsock and Beverly (Sophie) Kessler, and employees Margie Caldwell-Gill and Deborah Sensel-Davis.

1996 Marcia, AMI Meeting Coordinator, hosted the Bon Voyage party at the Cincinnati Museum Center. Attendees decorated their t-shirts with the theme "Why I Became a Medical Illustrator".



2001 Editorial illustration "Infectious Arthritis of the Knee".

LIFETIME ACHIEVEMENT SPEECH (CONT'D)

I have truly loved the work I've done, but when I have thought back about my time in this profession and in the AMI, what I cherish most are the people.

Jean Loos and Art Wimberly, both students of Mary Maciel (who was a student of Max Broedel) were the first 'real' medical illustrators I ever met when I took a chart artist job at the University of Cincinnati. Until then, years before the internet, I had no idea there were people in my own city making a living doing what I longed to do. Jean in particular opened the world of medical illustration to me and showed me what I needed to learn. She encouraged me to become an Associate AMI member, shared a room with me at my first AMI meeting, and has remained a friend ever since.

I can't possibly mention every person in this Association who has been a meaningful part of my life and career. I have learned from you, I have leaned on you, I have been inspired by you.
I have laughed with you, and danced, and occasionally had a few too many drinks! We have worked together, shared meals together, raised money together, graded portfolios, and traveled through anatomy museums of Europe.

I hope to continue to do many of these things.

There are three people who I realized have been a part of almost everything I have ever done in the AMI - Bill Andrews, Don Biggerstaff, and Gary Schnitz. I have been on the Board, or committees, or the Trust, with one of you, or all of you. You guys have been the best!

There's one more person I want to thank, who is not here tonight. Beverly, now Sophie, Kessler, was my boss at the University of Cincinnati and then a business partner for six years. She was a talented artist, a hard worker, and a strong mentor to me when I was trying to achieve my dream of being a medical illustrator. She helped me arrange coursework in the medical school, critiqued my portfolio, and recommended me for professional membership in the AMI.

When I first knew Bev, she was also on the Board of Governors and in the publicity committee. At one AMI meeting we both attended, she noticed my camera, and asked me if I could take pictures of the salon award winners for the newsletter. I was nervous (I didn't know these famous people!), but I said yes, and this is how I met award winning Charles Boyter - and he was delightfully friendly.

A few years later, Bev asked if I'd be her co-chair on the 1985 Cincinnati meeting, and I said yes. Then someone else asked if I'd serve a 5 year term on the BOG - and I said yes again. When I agreed to coordinate the 1996 meeting in Cincinnati, I reached out to people I knew would do a good job, and asked for their help - and they said yes. That's how it works.

I've found that when you have an idea or a project, and need help, advice, or just a sounding board, there is a wealth of talented people in this organization who are willing to lend a hand or give advice. That's how we got a Certification Program, a Fellow Program, the Vesalius Trust, a strong artist's rights advocacy, a stimulating annual meeting every year, and now a permanent archive where medical illustrators can preserve their legacy through the Vesalius Trust Collection.

The members of the AMI have always been like a second family to me, but a different kind of family - you really 'get' what I do. The only regret I have about the AMI is that we are all dispersed throughout the country and the world. Because every year, after this meeting, I want to invite you over for a party!

Thank you so much.

"I have truly loved the work I've done, but when I have thought back about my time in this profession and in the AMI, what I cherish most are the people."

FINDING THAT NEW LOOK

An Overview of Red Giant's Magic Bullet

Nick Klein

Every once in a while, we find a tool that immediately becomes a fixture in our creative process. It gives us abilities to craft our aesthetic in ways that weren't previously possible or were too cumbersome to include as a regular part of our workflow. Red Giant's Magic Bullet Looks, might just be one such tool.

At its core, Magic Bullet Looks is a library of effects that can be individually customized and combined, or can be applied as pre-packaged sets called "Looks", which range in theme and scope from subtle color grading adjustments to over-the-top stylizations. Magic Bullet Looks can be purchased as a stand-alone plug-in or as part of the Magic Bullet Suite, and is compatible with a variety of host programs such as Adobe After Effects, Premiere Pro, and Final Cut Pro.

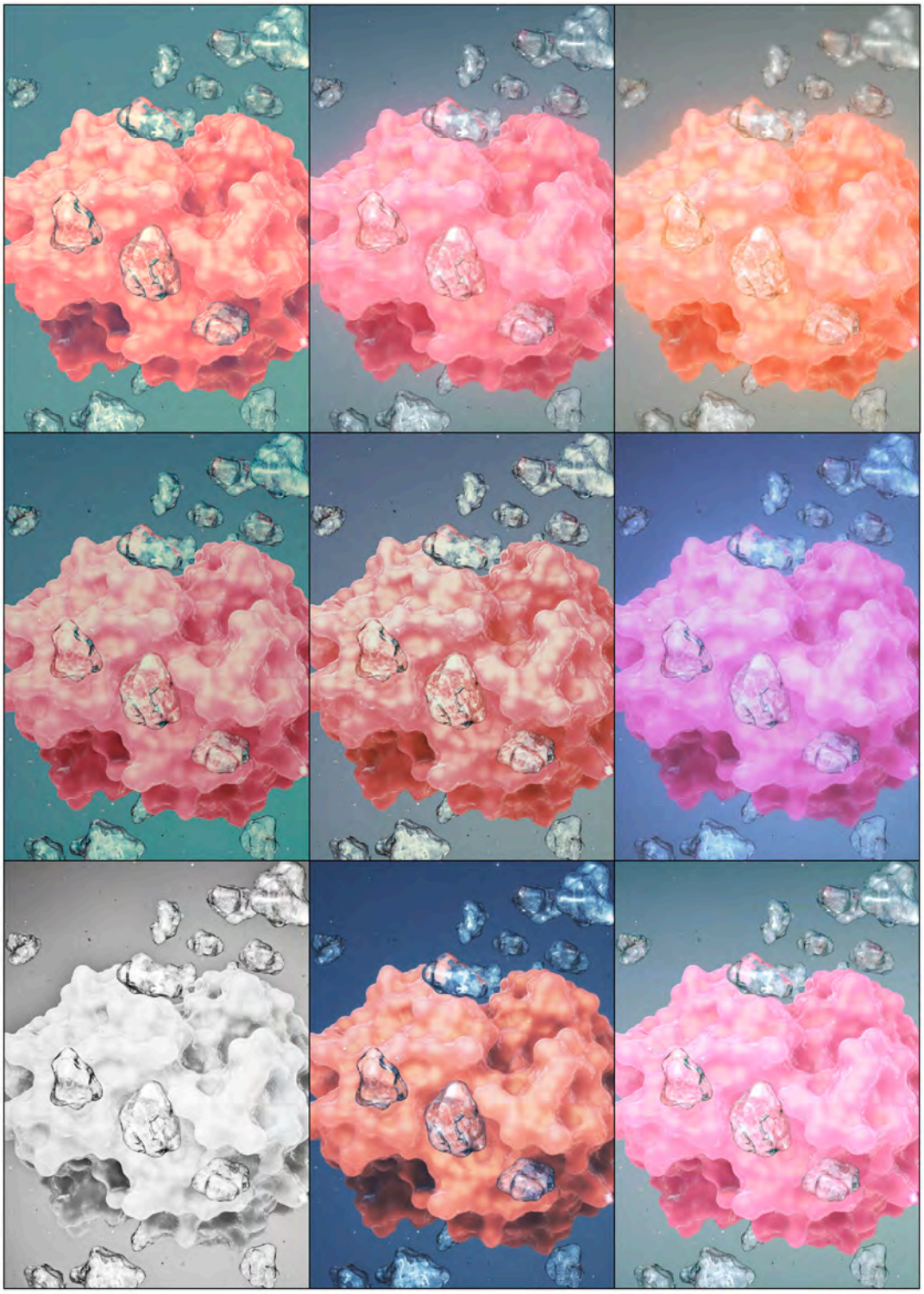
The primary interface for Looks consists of a still image from your footage based on the location of the play head (front and center), QuickDrawers with pre-set Looks (on the left) and individual Tools (on the right), and a Tool Chain on the bottom. The

"Magic Bullet Looks is **a library of effects** that can be individually customized and combined, or can be applied as pre-packaged sets"

Tool Chain is organized into Stages, which correspond to the relationships Tools have with each other when applied. To use a well-worn cooking analogy, the pre-set Looks are recipes, the Tools are ingredients, and the Tool Chain is your mixing bowl.

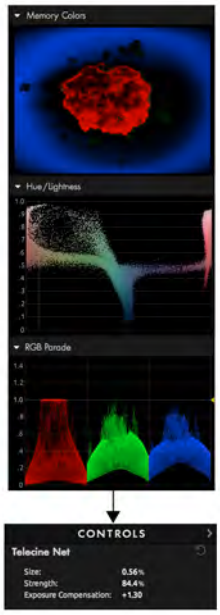
Fair warning: It's way too easy to get sucked into a time warp previewing and playing with the massive library of pre-set Looks, but the majority of these are too extreme or too moody for use in anything other than editorial or entertainment work. However, some of them can add just the right amount of image correction or style, transforming a good piece of illustration or animation into something stunning. Some Looks can even

The interface is laid out in an a way that makes it easy to get started



There are many interesting pre-set Looks to explore, but a few will become fastFigure favorites

breathe new life into mediocre or listless visuals by adding just the right amount of adjustment or style.



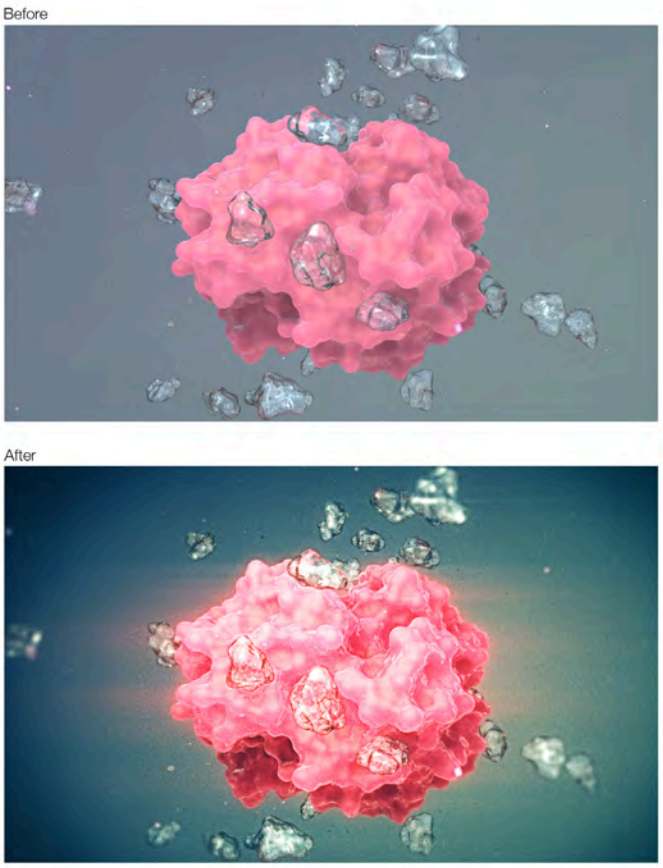
The optional "Scopes" visualizations available in the left QuickDrawer are reminders of the underlying complexity of image adjustments

As fun as it is to peruse the presets, the real creative freedom of Magic Bullet Looks lies in the application and customization of individual tools to create your own Look. Some of these Tools (i.e. Contrast, Exposure, Hue/Sat) are nothing new, though the controls are sometimes modified for a different touch. Some Tools replace or improve upon effects that were natively possible through combinations of layers, blend modes and effects stacking, such as Chromatic Aberration and Bloom. The most interesting Tools create entirely new possibilities for editing, adjustments, and stylization such as Cosmo, Pings, or Telecine Net.

Looks' ease of use and very shallow learning curve enable quick integration into your workflow. A brief review of the documentation is sufficient to get up and running, and very rarely is a trip to the Help menu necessary. That said, many Tools within Magic Bullet Suite (and Looks specifically) work together to create sophisticated Color Grading effects, which provide hardcore cinephiles with hours of continuing education opportunities. Even casual users will benefit from the occasional web search to better understand the theory or terminology behind a Tool or its settings. Fortunately, the complex theories and algorithms behind-the-scenes are organized into simple controls that can be tinkered with until the desired effects are achieved.

Magic Bullet Looks is easy to learn and fun to use - but is it necessary?

If your work is primarily didactic, or your visual style calls for very little post-processing, then you probably don't need to spend your time or money on this tool. If you're looking for easy ways to modify and adjust images, enhance realism, or explore the possibilities of style, then Magic Bullet Looks by Red Giant is worth checking out. Have fun and enjoy the journey to your next Look.



Using Magic Bullet Looks, it's possible to add some drama and style to an uninspired 3D render

Nick Klein

Nick is a Partner and the Director of Innovation at the award-winning iSOFORM LLC where he specializes in fusing revolutionary digital arts with medical science education and marketing. Nick is an active member of the Association of Medical Illustrators, the Computer Graphics Society, and the International Game Developers Association.

AMI 2016 BUDGET

PRESENTED BY

Scott Weldon, Treasurer and Melanie Bowzer, Executive Director

AMI 2016 Operating Budget

GENERAL REVENUE

Account #		2016 Budget
Dues		
4000-01-AMI.	Professional	$163,800.00
4001-01-AMI.	Associate	$3,150.00
4002-01-AMI.	Student	$16,100.00
4003-01-AMI.	Emeritus	$3,150.00
4004-01-AMI.	Applic/Reinstate Fees	$2,800.00
4006-01-AMI.	Associate - Trial Membership	$2,500.00
4020-01-AMI.	Late Fees	$1,000.00
Miscellaneous		
4800-01-AMI.	Miscellaneous Income	$-
4900-01-AMI.	Interest Income	$2,000.00
4910-01-AMI.	Dividend Income	$18,000.00
4920-01-AMI.	Realized Gains/Losses	$-
4930-01-AMI.	Unrealized Gains/Losses	$-
4150-01-AMI.	BCMI Management Fee Payment	$3,600.00
4152-01-AMI.	Vesalius Trust Restricted Fund	
4810-01-AMI.	CAAHEP/Accreditation Fees	$3,000.00
4815-01-AMI.	ARC-MI Site Visits	$350.00
	Total Revenue	**$219,450.00**

GOVERNANCE EXPENSES

Account #		2016 Budget
Administrative Expenses		
5000-01-AMI.	Bank Charges	$600.00
5001-01-AMI.	Credit Card Fees	$11,000.00
5002-01-AMI.	Staff Travel - Admin	$1,500.00
5010-01-AMI.	Prof - Accounting Fees	$4,000.00
5011-01-AMI.	Prof - Legal Fees	$5,650.00
5012-01-AMI.	Prof - Management Fees	$127,489.00
5020-01-AMI.	Insurance - D&O	$2,000.00
5021-01-AMI.	Insurance - General Liability	$1,600.00
5030-01-AMI.	Postage & Shipping	$1,500.00
5031-01-AMI.	Printing	$2,500.00
5032-01-AMI.	Supplies	$2,000.00
5033-01-AMI.	Telephone	$800.00
5034-01-AMI.	Storage	$350.00
5035-01-AMI.	Lobbying	$20,000.00
5090-01-AMI.	Misc Admin Expenses	$4,600.00
Marketing Expenses		
5028-01-AMI.	Speakers' Bureau	$6,000.00
5145-01-AMI	PR/Marketing	$3,250.00
5155-01-AMI	Website Committee	$3,600.00
Board, Officers, and Committees' Expenses		
5100-01-AMI.	Board of Governors	$12,300.00
5101-01-AMI.	Chair	$75.00
5103-01-AMI.	President	$75.00
5104-01-AMI.	Exec Committee	$100.00
5105-01-AMI.	Finance Committee	$50.00
5115-01-AMI.	Archives	$2,500.00
5125-01-AMI.	Awards	$2,500.00
5130-01-AMI.	Fellow	$-
5135-01-AMI.	Professional Guidelines	$1,675.00
5137-01-AMI.	PLUS Coalition Dues	$125.00
5140-01-AMI.	Constant Contact	$350.00
5160-01-AMI.	Artist Rights	$3,500.00
5180-01-AMI.	Council on Education	$50.00
5185-01-AMI.	Scholarship	$200.00
5190-01-AMI.	Membership	$500.00
5191-01-AMI.	Mentorship	$1,200.00
5192-01 AMI.	Sponsorship	
5195-01-AMI	Professional Exhibits	$-
5197-01-AMI.	Vesalius Trust Restricted Fund	
5170-01-AMI.	CAAHEP Accreditation Fees	$6,000.00
5171-01-AMI.	Accreditation Committee	$3,840.00
Board Designated Funds		
5175-01-AMI.	CAAHEP/Accreditation	$1,007.33
	Total Expenses	**$234,486.33**

Revenue Over/Under Expenditures	**$(15,036.33)**

AMI 2016 BUDGET (CONT'D)

AMI 2016 Annual Meeting Budget

REVENUE

Account #	Registration Fees	2016 Budget (355 pd attendees)
4200-02-AMI.	Professional	$119,000.00
4210-02-AMI.	Associate	$5,950.00
4220-02-AMI.	Student/Emeritus	$51,800.00
4240-02-AMI.	Non-Members	$4,575.00
4245-02-AMI.	One day	$-
	Other Conference Income	
4260-02-AMI.	Ticket Sales (Meals/Events)	$1,300.00
4270-02-AMI.	Person to Person Income	$1,000.00
4275-02-AMI.	Salon Registration	$16,000.00
4280-02-AMI.	Workshop Registration	$17,500.00
4215-02-AMI.	Vesalius Grant	$-
4285-02-AMI	Conference Sponsorship	$50,000.00
4287-02-AMI.	Vesalius Trust Restricted Fund	
4800-02-AMI	Miscellaneous Income	
	Total Revenue	**$267,125.00**

EXPENSES

Account #	General Conference Expenses	2016 Budget
6000-02-AMI.	Credit Card Expenses	$1,300.00
6010-02-AMI.	Fees - Management	$67,700.00
6020-02-AMI.	Insurance-Cancellation	$980.00
6030-02-AMI.	Postage & Shipping	$2,000.00
6040-02-AMI.	Printing	$7,000.00
6050-02-AMI.	Supplies	$1,700.00
6055-02-AMI.	Telephone	$-
6060-02-AMI.	Staff Travel	$8,000.00
6064-02-AMI.	Facility Exp Fee	$-
6065-02-AMI.	Meeting Coordinator	$300.00
6070-02-AMI.	Miscellaneous	$750.00
6080-02-AMI.	Student Help	$700.00
	F & B	
6200-02-AMI.	F & B: Awards Banquet	$24,000.00
6210-02-AMI.	F & B: Presidents Lunch	
6220-02-AMI.	F & B: Business Lunch	$15,000.00
6222-02-AMI.	F & B: Second Lunch provided	$13,000.00
6225-02-AMI.	F & B: Breakfasts	$14,000.00
6230-02-AMI.	F & B: Breaks	$9,800.00
6250-02-AMI.	F & B: Salon Reception	$4,000.00
6260-02-AMI.	F & B: Miscellaneous	$500.00
	Program	
6300-02-AMI.	Techniques Showcase-Digital	
6310-02-AMI.	Program Honoraria	$18,000.00
6320-02-AMI.	Program Travel	$10,000.00
	Workshops	
6400-02-AMI.	Administration/Facilities	$3,500.00
6410-02-AMI.	Materials	$3,000.00
6420-02-AMI.	Honoraria	$-
6430-02-AMI.	Transportation	$2,500.00
	Salon	
6500-02-AMI.	Administration/Materials	$350.00
6520-02-AMI.	Decorations	$4,000.00
6530-02-AMI.	Judging	$500.00
6545-02-AMI.	Satellite Salon	$1,300.00
	Technology	
6600-02-AMI.	Program A/V	$30,000.00
6610-02-AMI.	First Timer Workshop A/V	
6620-02-AMI.	Digital Salon A/V	$10,000.00
	Other Conference Expenses	
6640-02-AMI.	Future Planning	$-
6660-02-AMI.	Hotel Gratuity	$500.00
6700-02-AMI.	Contingency	$1,500.00
6702-02-AMI.	Vesalius Trust Restricted Fund	
	Total Expenses	**$255,880.00**

Revenue Over/Under Expenditures	**$11,245.00**

AMI 2016 BUDGET (CONT'D)

AMI 2016 Publications Budget

Account #		2016 Budget
REVENUE		
4401-04-AMI.	Pub - Source Book Royalty	$6,500.00
	Total Revenue	**$6,500.00**
EXPENSES		
8000-04-AMI.	Pub - Newsletter Production	$600.00
8001-04-AMI.	Source Book Expenses	$150.00
8002-04-AMI.	Journal of Biocommunications	$12,000.00
	Total Expenses	**$12,750.00**

Revenue Over/Under Expenditures	**$(6,250.00)**

AMI 2016 Overall Total

Operating Budget	**$(15,036.33)**
Annual Meeting Budget	**$11,245.00**
Publications Budget	**$(6,250.00)**
Revenue Over/Under Expenditures -	**$(10,041.33)**

FAIR USE AND THE BIRTH OF TRANSFORMATIVE USE: WHY SHOULD YOU CARE?

by Ethan Geehr

Fair Use: Transformative Use's Biological Parents

While the legal genealogy of fair use doctrine in the U.S. dates back 150 years, its direct genetic birth parent is the Copyright Act of 1976. Section 107 of the Copyright Act (§ 107. Limitations on exclusive rights: Fair use40 http://www.copyright.gov/title17/92chap1.html#107) defines and places limitations on an author's exclusive rights by permitting the use of portions of copyrighted materials, without permission, for the purposes of commentary, criticism, news reporting, teaching, scholarship, and research. Fair use applies to published and unpublished works but should be used with discretion since what an individual believes may be fair use of copyright protected work, may in reality not coincide with what the courts determine to be fair use. If the copyright owner disagrees with your use, then the dispute will have to be resolved by a court of law, and (this is an important distinction) the user will have to prove fair use or be liable for damages.

There are **four factors** outlined in the Act to help courts determine if fair use applies as a defense for an unauthorized use. These factors are not hard and fast rules, but are guidelines used by the courts on a case-by-case basis.

Factor 1: Purpose and character of the use:

- Commercial or nonprofit/educational?
- Criticism, comment, news reporting, teaching, scholarship, or research?
- Degree of transformation of the use?

Factor 2: Nature of the work

- Is the original a creative expressive work?
- Is the original work news reporting or factual information?

Factor 3: How much is used?

- A portion or the entirety of the original work?
- Is the copy a portion or the entirety of the new work?
- Importance of the copied part to the original and new use?

Factor 4: Effect on the market and value of the original?

- Competes with original's potential profits?
- Few copies or a large distribution?
- Market for permission or licensing?

Fair use as a defense for infringement has seen a significant increase in the last 20 years. Two major developments have contributed to this increase: a judicial reinterpretation of the questions considered in the first part of Factor 1 and a judicial expansion (many argue misinterpretation) of the Supreme Court's thinking on the last part of the Factor 1 analysis expressed in the 1994 Campbell v. Acuff-Rose Music (2 Live Crew's parody of Roy Orbison's Pretty Woman) decision. This decision seemingly validated a new concept of "transformative use." In Campbell, the Court held that the commercial nature of an infringement cannot be used to automatically disprove fair use as it is only one of the four factors, and all factors must be analyzed in a case. Perhaps more importantly, the Court also held that courts must look at whether the new use is transformative, a new term and concept not found anywhere in the original 1976 statute.

Toward a Fair Use Standard, the Conception of Transformative Use

The genesis of the transformative concept as applied to fair use cited in the Supreme Court's Campbell ruling was a 1990 Harvard Law Review article "Toward a Fair Use Standard," by U.S. District Court Judge Pierre Leval. This article was inspired by Leval's frustration over appellate reversals of his lower court decisions—reversals he considered inconsistent and arbitrary in their application of the fair use standards. Leval argued that transformation of the original creator's purpose (First Factor) is the essential core justification for a legitimate fair use defense. The arguments Judge Leval formulated in this article would become the defining logic for the legal theory in practice in courts today, and the seeds of this concept would ultimately be expanded on in the Supreme Court's majority opinion in Campbell and eventually in the Authors Guild v. Google Books Appeals Court decision.

Transformative Use: Mommy and Daddy's Little Monster

The fact is that the term transformative does not appear in the 1976 Copyright Act's discussion of fair use and, as such, has no basis in statutory law. Nevertheless, in the past two decades, the phrase "transformative use" has insidiously injected itself into most copyright cases involving fair use as a defense. Further, ambiguity about what constitutes a "transformative use" has caused much confusion with creators and the courts

partly because it is confused with derivative transformation, (e.g., adapting a book into a screenplay for a movie), but also because there are no guidelines in the law for this invented fair use concept.

In the long list of cases that follow Campbell, judges cite and incorporate the concept of transformative use in their assessment of fair use arguments, but they are inconsistent in their legal reasoning. There are fairly narrow rulings in cases involving expressive transformations (Castle Rock v. Carol Publishing, which included the "Seinfeld Aptitude Test" trivia questions) and fairly broad rulings in cases involving functional transformations (Perfect 10 v. Google, which involved using thumbnails in search engines). Some courts adhered to the original idea of parody codified in Campbell (Mattel v. Walking Mountain Products, which involved photographic parodies using Barbie Dolls), while others wildly diverged from it, extending the concept to purely aesthetic analysis (Cariou v. Prince, which involved the alteration of appropriated photographs).

Transformative Use: The Monster Grows

The importance of this controversial new legal interpretation lies in authors' ability to exercise their constitutionally guaranteed right to control their own work and create derivatives from them. Article 1, Section 8, of the Constitution of the United States grants authors exclusive rights to their works. The right to create, control, and derive income from the derivative works of one's own creative product is one of the exclusive rights codified in the copyright statute [Section 106(2)]. Functional transformations clearly stray into the types of uses most of us would consider to be derivatives. The judicially created concept of transformative use blurs the lines of fair use further and endangers and may ultimately extinguish authors' derivative rights, circumventing the legislative and, more significantly, the Constitutional amendment process. Consider the implication of this threat to the creative assets we produce:

- New business models (not creative expression), i.e. repurposing your content qualify as transformative uses, or more accurately functional transformative uses.
- Creators lose the ability to exploit new markets due to ignorance or obligations to licensors or other clients.
- Courts fail to differentiate between "transformative," which allegedly adds something new to or changes the character of an original, and "derivative," which is a new work based on the original.
- There is a de facto nullification of sections of the copyright act that protect author's rights.
- Functional transformative use may be used as an end around in the controversial issue of orphan works.

The expansion of fair use and the judicial birth of the new transformative use has come full circle with the Authors Guild v. Google Books case. The decision, reached this past October, held that Google's unauthorized digitization of copyright-protected works, the creation of a search function, and the display of "snippets" of those works was fair use since, in part, the new "work" had a highly transformative purpose. The decision by the Appeals court was authored by Judge Leval and essentially passed judgment on whether the concept of transformative use has evolved to the point of validating functional copying of works as inherent transformative uses protected by fair use. This decision places the theory of transformative value at the center of the four factor-analysis, which could have profound implications for us all, unless the Supreme Court chooses to reign in the monster the courts have created. By elevating the mere functional utility of a search engine over creative expression and an author's exclusive rights, Judge Leval has turned copyright on its head.

Further Reading:

Bloom, Jonathan; Reed, Collins. "Second Circuit finds that Google's scanning of full text and display of "snippets" are fair uses of copyrighted books" Lexology, 10/27/15
http://www.lexology.com/library/detail.aspx?g=db2ca19a-8057-42ad-afa9-cbf1312d0f61

Copyright & Fair Use – Stanford University Libraries http://fairuse.stanford.edu/

Meyer, Mark. "Copyright: How Did Transformative Use Become Fair Use?" Photography Business, 7/8/13
http://www.photo-mark.com/notes/how-did-transformative-use-become-fair/

Ostrow, Mark D. "Google Books' dubious distinction between transformative use and derivative works." Lexology, 10/26/15
http://www.lexology.com/library/detail.aspx?g=f4e29906-1a4e-4954-9c29-2444c89a1db0

U.S. Copyright Office Fair Use Index.
http://copyright.gov/fair-use/index.html

AMI 2015 SALON AWARD WINNERS

by Patricia Gast

PROFESSIONAL

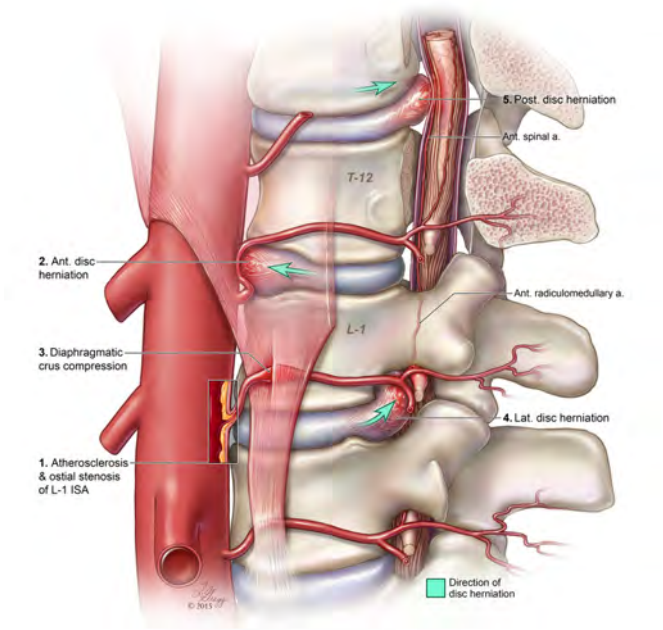
Didactic/Instructional: Non-Commercial

Lydia Gregg

"Causes of Ischemia and Stroke in the Lower Thoracic and Lumbar Spinal Cord"

Award of Merit

Lydia's illustration depicts five causes of spinal cord ischemia and stroke that occur in the lower thoracic and lumbar spinal cord, including (from proximal to distal): (1) stenoses of intersegmental artery ostia (ISA) and conditions that compress the ISA or its branches such as (2) anterior intervertebral disc herniation, (3) diaphragmatic crus syndrome, and (4) lateral and (5) posterior intervertebral disc herniations. A lateral view was chosen in order to include all pathologies within a single view for a printed journal article.



Lydia Gregg

Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 2007

University of Michigan, BFA - Scientific Illustration & Figurative Sculpture, Minor: Biology, 2005

Lydia is an Assistant Professor & Medical Illustrator in the Division of Interventional Neuroradiology and the Department of Art as Applied to Medicine at The Johns Hopkins University School of Medicine. She co-founded ProAtlantal Studio with her husband and colleague, Fabian de Kok-Mercado in 2008.

Didactic/Instructional: Commercial

Cassio Lynm

"Burn"

Award of Merit

These illustrations are two in a series of patient education illustrations created for Google's Health Search for web browsers and the Google mobile app. When a user searches using keywords related to the condition, the illustrations are surfaced in an integrated tabular display alongside general introductory, symptoms, treatment information, and links to additional vetted professional sources.

Since searching the internet for health information can be scary and confusing at times, the goal was to present concepts in an approachable, simple, and empathetic manner, and to complement the structured and patient-accessible wording of the search result. A painterly style was created to achieve this approachable, non-photographic look. Another key objective to was to show typical situations, and not worst-case scenarios. The common context in which a burn can take place, and features of the level of severity were identified in collaboration with a panel of content experts and writers.

Cassio Lynm, MA, CMI

Johns Hopkins University School of Medicine, MA, 2000

University of North Carolina-Chapel Hill, BA, 1996

For nearly 14 years, Cassio was a medical illustrator at the Journal of the American Medical Association in Chicago. He recently relocated to the Boston area, and is working full-time for his new company, Amino Creative, LLC. Cassio continues to take on projects that challenge his technical, conceptual, and creative skills as an artist and communicator.

www.aminocreative.com

www.cassio-lynm.com

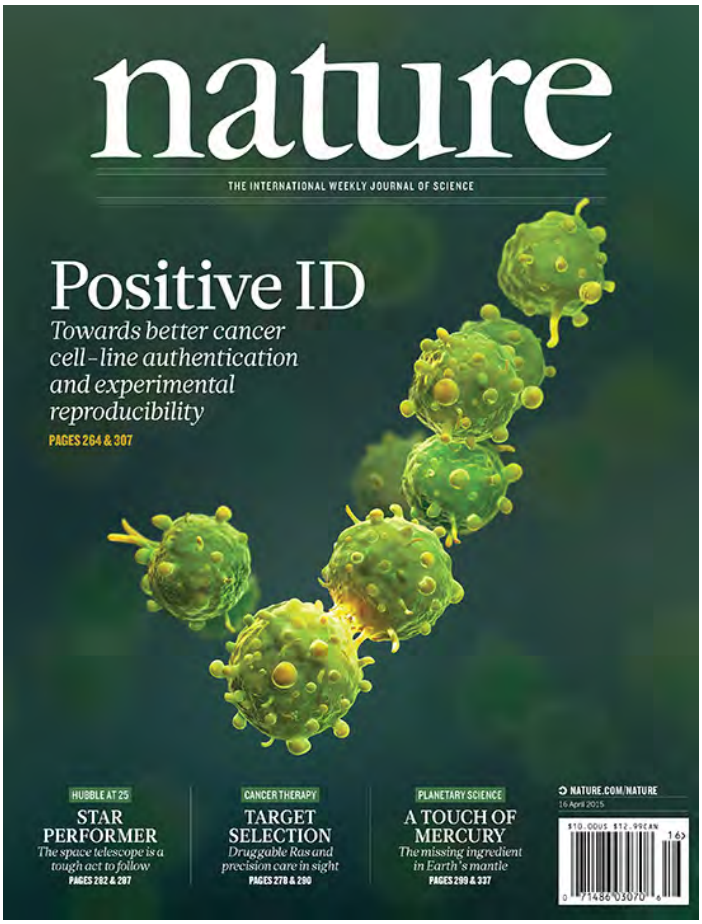
Editorial

AXS Studio Inc.

Sonya Amin, Eddy Xuan, Susan Park, Lima Colati; Kelly Krause

"Nature Cover: Postive ID"

Award of Excellence



A prevalent problem in research is that hundreds of the cell lines used by labs have been misidentified, mislabeled or contaminated, potentially rendering the research worthless. To emphasize the importance of authenticating cell lines, AXS created an illustration that showed a group of cells coming together to form a check mark, driving home the concept of researchers preemptively "checking" their cell lines. Since cancer cell lines are the most commonly contaminated, they were chosen as the feature cells, emphasizing their characteristically irregular morphology and continuous division.

Dozens of visual references were used to depict the cells accurately and to mimic an SEM-inspired (scanning electron micrograph) look for the illustration. The deliberate use of color and lighting helped create a cover that was visually engaging while still maintaining scientific accuracy.

AXS Studio *is a life sciences visual communications company. Working at the confluence of art, science and digital technology, they create visual solutions that enable clients to engage, inform and inspire their audiences: healthcare practitioners, patients, investors and other stakeholders.*

www.axs3d.com

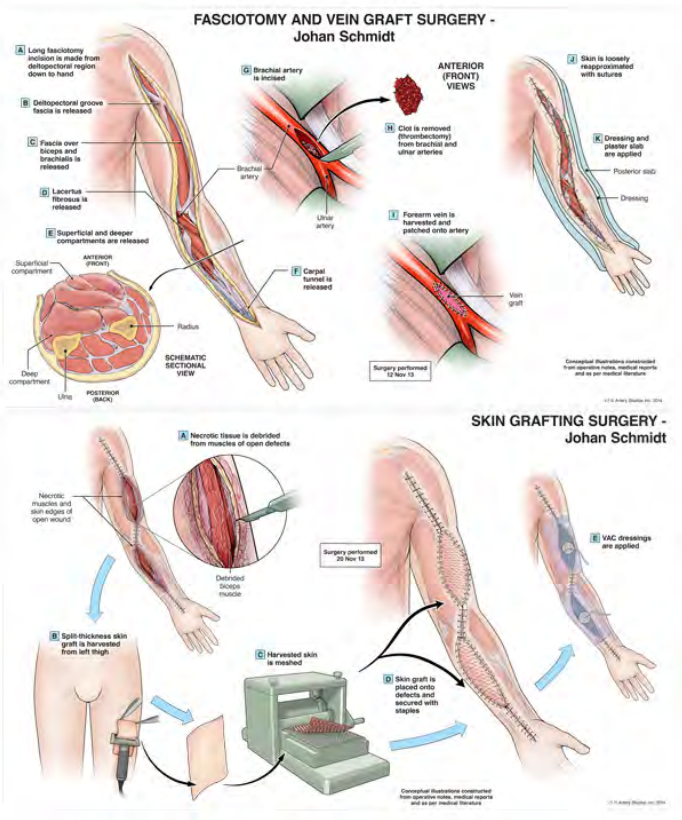
Medical-Legal

Artery Studios Inc.

"Left Upper Limb Wound Closure – Johan Schmidt"

Award of Merit

These surgical panels were created for use in a plaintiff personal-injury insurance claim. This unfortunate German tourist was a pedestrian who was struck by the mirror of a truck and thrown to the ground. Mr. Schmidt's trauma findings included a severely comminuted humeral fracture with subsequent development of a clot in his distal brachial artery. As a result, he developed compartment syndrome and required emergent fasciotomy



and thrombectomy surgery. One week later skin grafting surgery was performed to close his surgical wounds.
These illustrations were created to allow the testifying medical expert to communicate the details of the procedures done, in a step-by-step manner, to maximize comprehension by the non-medical jury. Focus was placed on rendering the arterial anatomy in a stylized yet anatomically correct manner, and identifying key concepts to be shown, to succinctly portray two very long and involved surgeries for comprehension by lay viewers.

Artery Studios *specializes in the creation of medical illustrations, animations, interactive media and models for use in personal injury litigation and the broader healthcare sector. Since 1992 their team of medical illustrators and animators has helped clients communicate innovative medicine and articulate medical-legal concepts with their visualizations.*
www.artertystudios.com

Jennifer Darcy

"John Doe's Facial Trauma and Resulting Surgery"
Award of Merit

This case involves a man who presented to the ER with severe facial and maxillary trauma sustained during an automobile crash. The illustrations were developed to show the severity of the soft tissue injuries, maxillary fractures, and displaced incisors. The complex maxillary reconstruction and tooth extraction were included to further emphasize the pain and suffering the victim endured, and to demonstrate his resulting condition. The illustrations were based on patient photos, CT images of the skull, and operative notes.

Jennifer's medical-legal exhibit was created for Amicus Visual Solutions. The illustrations were rendered in Adobe Photoshop and the layout was done in Adobe InDesign.

Jennifer C. Darcy
Indiana University, BA - Studio Art, 2003
Medical College of Georgia, MS - Medical Illustration, 2004

Jennifer grew up in Traverse City, MI with a love of science and art. After graduating from Indiana University with her studio art degree, she attended the medical illustration program at Medical College of Georgia. Jennifer currently runs D'Arcy Studios, LLC in Phoenix, AZ where she lives with her husband, James, and 4 year-old son, Rhys.
www.darcystudios.com

Hardy Fowler

"Development of Forehead Flap to Cover Nasal Tip Defect"
Award of Merit

This series of illustrations was created to help a Plaintiff's attorney educate the jury about a complex series of surgeries required to treat a large nasal tip injury caused by a dog bite. The primary objectives were to accurately show the complex reconfiguration of facial skin and to convey the difficult, lengthy ordeal that the Plaintiff suffered during treatment of this injury. To ensure accuracy, operative reports as well as postoperative photos from each surgical date were followed meticulously. The testifying surgeon who performed these procedures was also consulted to ensure accuracy.

Adobe Photoshop and InDesign were used during production.

Hardy Fowler
Medical College of Georgia, MS - Medical Illustration, 2007
Louisiana State University, BFA - Graphic Design, Minor: French, 2005

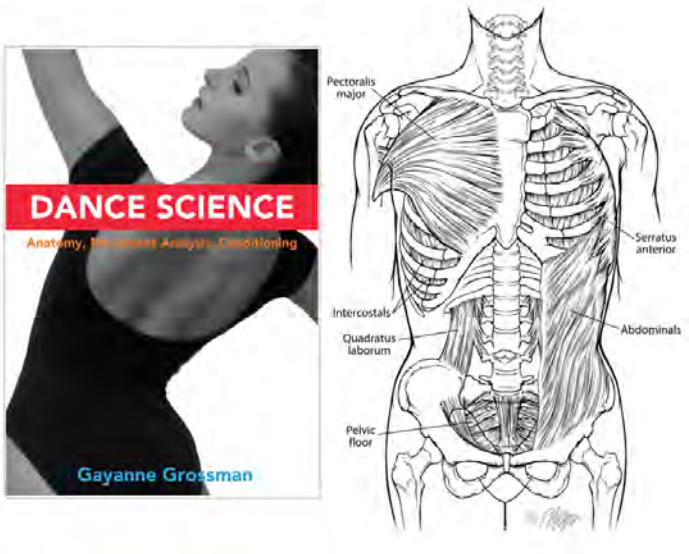
Hardy is a medical illustrator at MediVisuals, Inc. He lives in New Orleans with his wife Dawn and his two sons, Henry and Jack. Hardy teaches various online digital painting tutorials and enjoys creating sci-fi and fantasy artwork in his spare time.

Illustrated Text (Traditionally Printed Book)

Tim Phelps

"Dance Science: Anatomy, Movement Analysis, Conditioning"
(Princeton Book Company) by Gayanne Grossman, Ed.M., P.T.
Award of Merit

90 figures from neck to toe, created in pen and ink (micron pens) on vellum, populate the 7 x 10 inch 300 page book. Rather than focusing on dance injuries, this book takes a positive approach showing what a dancer can do to dance better, which, in turn, will decrease injury rates. It presents human anatomy and motion in a functional, dance-specific way that teaches the readers to appreciate and take ownership of their bodies through a tour of the musculoskeletal system and movement analysis.



Tim Phelps, MS, FAMI
Wittenberg University, BFA , 1975
University of Michigan, MS, 1981

Tim Phelps, MS, FAMI, Associate Professor and Medical Illustrator, has been teaching and illustrating for 29 years in the Graduate Program of Art as Applied to Medicine, Johns Hopkins. While continuing to love pen and ink, he has headed into a new realm with his two-volume full color book of "Nature Mandalas: Life Circles of Biodiversity and Conservancy", available from Schiffer Publishers and Amazon, January 2016.
https://www.facebook.com/PhelpsNatureMandalas/
http://medicalart.johnshopkins.edu/

Animation: Didactic/Instructional – Non-commercial

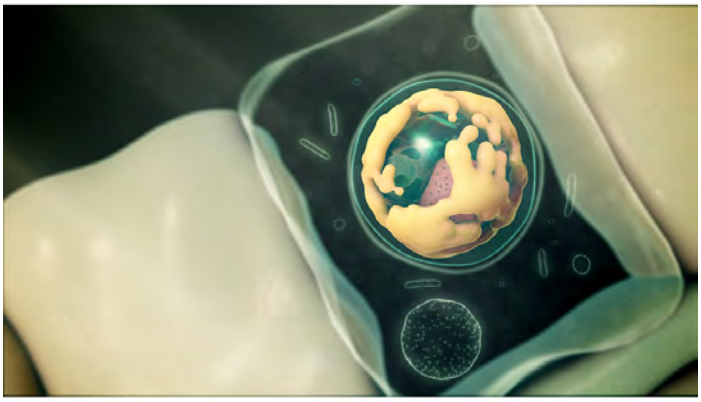
Fabian de Kok-Mercado

"Coral Bleaching: A Breakdown of Symbiosis"

Award of Excellence

Corals obtain energy in part from microscopic symbiotic algae that live inside their cells. These algae, called zooxanthellae, produce sugar and other nutrients through photosynthesis. When ocean temperatures rise beyond a certain threshold, the symbionts' photosynthetic machinery may be damaged and produce harmful reactive oxygen molecules, causing corals to eject the algae. Without their golden-brown colored symbionts, corals become a ghostly white in a process called bleaching, and eventually die.

Through a harmonious combination of satellite imagery, light microscopy, and 3D-visualization, this animation reveals the structures of reef-building corals and the processes associated with coral bleaching, starting from space and seamlessly zooming to the molecular level.



Fabian de Kok-Mercado
Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 2008
Iowa State University, BA - Biological and Pre-Medical Illustration, Minor: Design, 2006

Fabian is a Certified Medical Illustrator. He is currently the Art Director for Howard Hughes Medical Institute's Department of Science Education. He is also co-founder of ProAtlantal Studio, a biomedical animation and illustration company he operates with his wife and colleague, Lydia Gregg.

Animation: Didactic/Instructional – Commercial

Radius Digital Science

"Soft Tissue Sarcoma: A Diagnostic & Treatment Overview Animation"

Award of Merit

The treatment of sarcomas presents a number of challenges due largely to disease heterogeneity. The prognosis of these cancers is historically poor - particularly in metastatic cases - due to limited treatment options and variable responses within the sarcoma subtypes.

This animation was intended to provide doctors with a general understanding of sarcomas as well as an overview of the current treatment options, treatment challenges, and prognosis.

A combination of kinetic infographic style animation seamlessly blended with 3D scenes was used to draw the viewer into an immersive environment with rich motion graphics. The Radius team was challenged to fully integrate solid aesthetics and brand guidelines with their educational goals to engage the viewer and achieve maximum understanding and retention.

3ds Max and Zbrush were used for modeling, 3ds Max was used for animation, and motion graphics and compositing were achieved with After Effects.

Radius team members who worked on this project include:
- ***Brandon Pletsch*** *- Medical College of Georgia, 2003*
- ***Michelle Peterson*** *- Medical College of Georgia, 2008*
- ***Sarah Brooks*** *- Medical College of Georgia, 2011*
- ***Paul Kim*** *- Medical College of Georgia, 2011*
- ***Elizabeth Cook*** *- Johns Hopkins University School of Medicine, 2012*
- ***Jeff Dash***
- ***Alexey Kashpersky***
- ***Andy Krapsho***
- *Steve Haase and Rick Terrill of Big Swing, Radius' app development partner*

http://www.radius-digital.com/

AXS Studio Inc.

Sonya Amin, Jason Sharpe, Eddy Xuan, Katie McCormack, Joyce Hui, Julian Kirk-Elleker, Susan Park

"Constella (linaclotide) for the Treatment of IBS-C and CIC in Adults"

Award of Merit

Irritable bowel syndrome with constipation (IBS-C) and chronic idiopathic constipation (CIC) are prevalent and chronic conditions associated with a broad range of abdominal symptoms and decreased quality of life. This short animation was developed with the aim of identifying the problems and treatment goals in IBS-C and CIC, and presenting a clear picture of the benefits of a newly-launched Guanylate cyclase-C agonist. Given the subject matter, the chief conceptual and technical challenge was to strike the right balance between sensitivity and accuracy for an audience of highly-trained healthcare professionals. This challenge was met by developing a relatable and compelling chalkboard-inspired approach to visualize the disease-state and patient profiles. This unique 2D treatment marries well with the 3D micro-environment of the MOA sequence, where schematic molecular elements are set against a landscape in which scale and anatomical detail are faithfully represented.

Animation: Advertising and Marketing/ Promotional

AXS Studio Inc.

Sonya Amin, Jason Sharpe, Eddy Xuan, Joyce Hui, Brendan Polley, Julian Kirk-Elleker, Susan Park

"The i-STAT System"

Award of Excellence

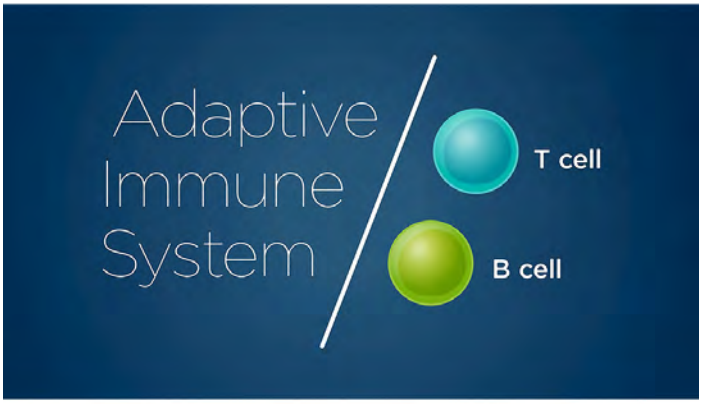
Compared to traditional blood analysis processes, point of care (POC) blood testing can reduce treatment delays, eliminate process inefficiencies and lower healthcare costs. However, it can be difficult to convince stakeholders that relatively inexpensive, fast handheld technology is as reliable as complex incumbent systems. "How can this little piece of plastic possibly be as reliable and effective as my million dollar machine?" That's the question AXS set out to address by demonstrating the advanced microelectronics fabrication techniques and highlighting the

quality assurance and reliability that's built into every i-STAT cartridge. A notable visualization challenge was portraying the complex multi-location manufacturing process as a singular, clean and coherent process that's easy to follow and conveys quality. This was accomplished through careful shot planning and editing, guiding the viewer smoothly from the bare silicon wafer to the finished cartridge.

AXS Studio *is a life sciences visual communications company. Working at the confluence of art, science and digital technology, they create visual solutions that enable clients to engage, inform and inspire their audiences: healthcare practitioners, patients, investors and other stakeholders.*
www.axs3d.com

Cognition Studio, Inc.

"The Power of Immunosequencing"
Award of Merit



Immunosequencing, a groundbreaking technology which sequences the genes of every T-cell and B-cell receptor in a sample, revealing a complete immune profile delivering insight into individual, and collective adaptive immune responses, is revolutionizing our understanding of the immune system. This animation aims to educate and inform on this newly invented process, which merges genetic sequencing, immune profiling and bioinformatics through a complex series of processes.

Merging information design with science storytelling met the challenge of integrating 3D dynamics from Cinema4D into After Effects to create a look that was seamless with the existing 2D animation. Using a combination of MoGraph and effectors to create dynamic 3D objects with flat materials allowed the 3D scenes to stay stylistically consistent with the vector art throughout the animation, which was created for Adaptive Biotechnologies, Inc.

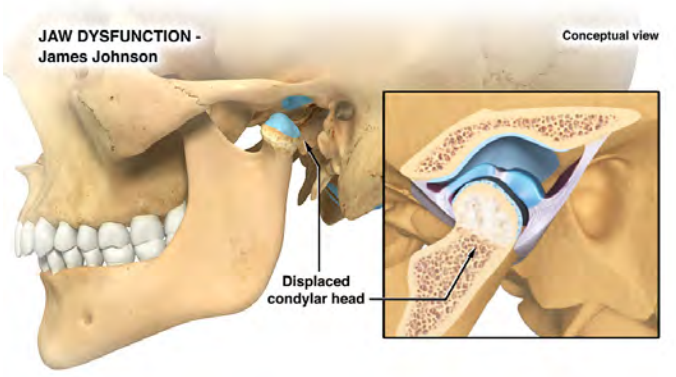
The key deliverables were completed by leveraging Adobe Illustrator, C4D, AE, and sound engineering (voiceover, music and SFX).

Jared Travnicek, *Certified Medical illustrator + animator*
Johns Hopkins University, 2009
Amanda Grage, *Designer, brand + interactive*
Academy of Art University, 2011
David Ehlert*, Co-Founder, Director of Illustration*
University of Illinois at Chicago, 1997
Kristine Johnson, *Co-Founder, Chief Design Strategist*
University of Illinois at Chicago 1998
http://cognitionstudio.com/work/projects/understanding-immunosequencing

Animation: Medical-Legal

Artery Studios Inc.

"Jaw Dysfunction - James Johnson"
Award of Merit



This animation was created as demonstrative evidence for use in a plaintiff personal injury insurance claim. In this case, Mr. Johnson impacted his chin against the steering wheel of his vehicle during a front-end collision. This caused a left subcondylar fracture of the mandible resulting in temporomandibular joint dysfunction.

Using CT scans and medical reports to construct the anatomy, this 3D animation shows how the healed, anteromedially displaced condylar head causes jaw deviation, malocclusion and limited range of motion of the TMJ.

Comparator and see-through views, as well as detailed dental anatomy depictions were key to communicating subtle but

important clinical features this client manifested. Accordingly, focus for the project was placed on modeling and transparencies to help clarify the unique mechanical forces and other factors associated with the functional outcome from this injury. The animation allowed the medical expert to better explain Mr. Johnson's long-term impairment.

Artery Studios *specializes in the creation of medical illustrations, animations, interactive media and models for use in personal injury litigation and the broader healthcare sector. Since 1992 their team of medical illustrators and animators has helped clients communicate innovative medicine and articulate medical-legal concepts with their visualizations.*
www.artertystudios.com

MediVisuals Inc.

"Constrained Liner Hip Prosthesis: Device Failure"
Award of Merit

This animation was developed to support the plaintiff's arguments that a top orthopedic device manufacturer acted with gross negligence when they refused to recall a model hip prosthesis with a known design flaw, which resulted in device failure and injury to recipients. A team of medical animators and biomechanical engineers researched walk-cycle motions to accurately show how everyday, normal range of motion movements resulted in repeated trauma to the various components, eventually resulting in their failure and hip dislocation. Exact replication of the specific devices at significant magnification was critical; therefore, 3D scanners and CAD software were used to capture dimensions of the actual failed components that had been removed from one recipient. These were then re-engineered to a "pre-damaged" condition before being animated. Reference to a recipient's radiological films and the use of 3ds max enabled re-creation of the anatomy surrounding the scanned geometry, as well as animation of all components.

The MediVisuals' medical illustrators and animators most involved were:
Bob Shepherd
Medical College of Georgia, MFA - Medical Illustration Program, 1980
Nate McSpadden
University of Chicago, Medical Illustration Program, MS - Medical Communications, 2010.

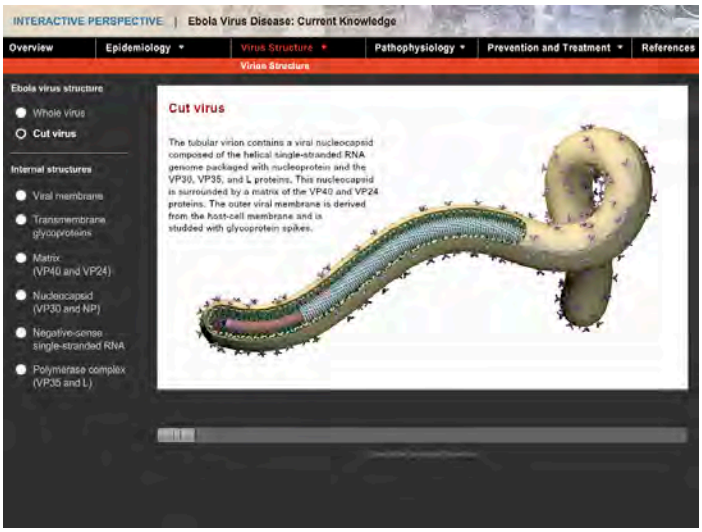
MediVisuals *has specialized in medical-legal illustration and animation for more than 30 years. The current staff of eighteen medical illustrators works with many of the nation's most reputable attorneys and medical experts to develop truthful visuals that aid deciders of fact in the judicial process. More about MediVisuals, their work and staff can be seen at www.medivisuals.com.*

Interactive Media: Didactic/Instructional – Non-Commercial

Kimberly M. Knoper, Alison E. Burke, Daniel Muller, Lori Messenger, and Scott Williams

"Ebola Virus Disease — Current Knowledge"
Award of Merit

The interactive graphic was created using Adobe Flash, Cinema 4D, Adobe Photoshop, Adobe Illustrator, and xml. It serves as a "mini-review article" demonstrating information on past and present Ebola outbreaks, and covers a wide range of subjects including epidemiology, virology, pathophysiology, and current treatments for Ebola. It continues to be updated as more data becomes available.



Alison E. Burke, CMI
Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 2005
Kimberly Main Knoper, CMI
Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 2006
Lori A. Messenger, CMI,
Cleveland Institute of Art, BFA - Medical Illustration, 1983
Daniel Muller
Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 2000
Scott Williams
Rochester Institute of Technology, MFA - Medical Illustration, 1987

Interactive Media: Didactic/Instructional – Commercial

Radius Digital Science

"NEXAVAR® Interactive Case Profile App"

Award of Merit

NEXAVAR® is proven to extend overall survival in unresectable hepatocellular carcinoma (HCC) patients; however, health care professionals (HCPs) typically exhaust traditional treatment options instead of starting NEXAVAR® at the earliest appropriate time. This app was developed to help the sales force engage with HCPs to help them identify appropriate candidates for NEXAVAR® treatment and emphasize the importance of starting NEXAVAR® at the earliest appropriate time for an optimal clinical benefit.

Three case profiles were featured, each a HCC patient with a different presentation/history. These profiles were developed by collaborating with a medical institution that provided anonymized patient data and MRI imaging.

The Radius team team gathered and filtered the data coming in from the medical institution, developed the app wireframes, constructed the 3D liver models from MRI imaging using 3ds Max, and programmed the app using Xcode. A field test with the sales reps showed that the app helped facilitate better conversations with HCPs.

Radius team members who worked on this project include:

- ***Brandon Pletsch*** *- Medical College of Georgia, 2003*
- ***Michelle Peterson*** *- Medical College of Georgia, 2008*
- ***Trisha Haszel Kreibich*** *- University of Illinois at Chicago, 2007*
- ***Sarah Brooks*** *- Medical College of Georgia, 2011*
- ***Adam Pellerite*** *- Johns Hopkins University School of Medicine, 2011*
- ***Liz O'Boyle***
- ***Alexey Kashpersky***
- ***Andy Krapsho***

https://vimeo.com/143160208
http://www.radius-digital.com/

AXS Studio Inc.:

Sonya Amin, Jason Sharpe, Eddy Xuan, Joyce Hui, Cindy Lau, Michael Kent, Brendan Polley, Julian Kirk-Elleker, Susan Park; Craig Kiefer

"Psoriatic Arthritis Simulator"

Award of Merit

Psoriatic arthritis is notably different than other forms of arthritis and is often difficult to differentially diagnose. This simulator was created to offer rheumatologists a unique and interesting way to learn about the signs and symptoms of psoriatic arthritis at three stages: skin level, early joint involvement and progressive joint

disease. Scanning modes simulate imaging techniques used in diagnosis. By making the participant a part of the story — the disease is visible on a 3D 'scan' of their own hand — they aimed to promote engagement and interest in the content. Through research, design and testing, numerous usability challenges associated with the Leap Motion controller were addressed, resulting in a user experience that was reliable and consistent. User engagement was high, with an average of 12 participants using the kiosk per hour at the 2014 American College of Rheumatology meeting.

Interactive Media: Advertising and Marketing/ Promotional

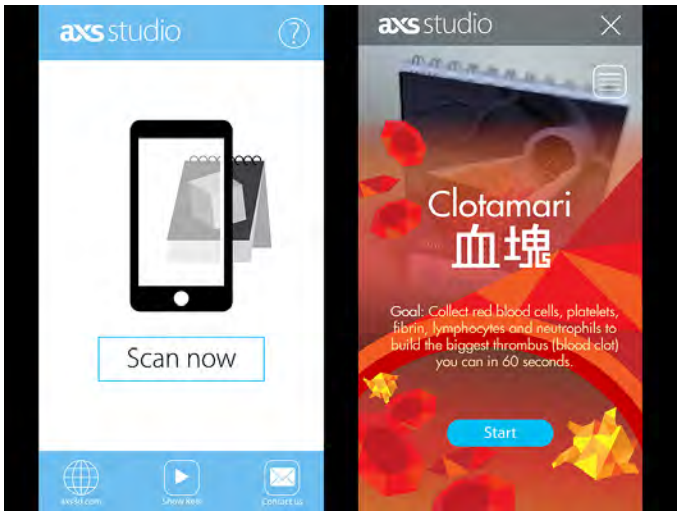
AXS Studio Inc.:

Sonya Amin, Jason Sharpe, Eddy Xuan, Joyce Hui, Cindy Lau, Michael Kent, Brendan Polley, Julian Kirk-Elleker, Susan Park

"calendAR"

Award of Excellence

At the start of 2014, AXS embarked on a year-long challenge: to create a new mobile augmented reality (AR) experience every month, based on the biomedical science visualizations published in their annual promotional calendar. Part team-building, part skills development and part marketing effort, this was a multidisciplinary exercise involving creative, technical and business decisions. As each monthly AR experience was released, calendar owners were invited to experience this new content that augmented the printed material. Content



ranged from virtual labels and descriptions (January), through an ELISA simulation (May), data visualization (September), and games (February, June, December) that offered players fun ways to learn the science, while competing for high scores. The goal of this project was to demonstrate how AR can enhance printed content in medical and scientific communication. They were successful to the extent that calendAR has resulted in three AR client jobs to-date.

AXS Studio *is a life sciences visual communications company. Working at the confluence of art, science and digital technology, they create visual solutions that enable clients to engage, inform and inspire their audiences: healthcare practitioners, patients, investors and other stakeholders.*

www.axs3d.com

Interactive Media: Interactive Textbook

Ellen Davis:

"Understanding Heartworm Disease & Treatment: A Veterinary Guide"

Award of Merit

Heartworm disease is a serious condition in dogs caused by the adult stages of *Dirofilaria immitis* that affect the right side of the heart and pulmonary arteries. Because of the complex nature of heartworm disease treatment as it relates to varying developmental stages of the worm, treatment timelines are often difficult for veterinary students and practitioners to fully comprehend. This interactive iBook aims to provide a comprehensive overview of heartworm infection, disease, diagnosis, and treatment.

The book was created in iBooks Author, and illustrations and animations were created using pencil sketches, Photoshop, Illustrator, ZBrush, Cinema4D, After Effects, Object2VR, and Keynote.

Ellen Davis

Georgia Regents University, MS - Medical Illustration, 2014
University of Georgia, BFA - Scientific Illustration, 2011

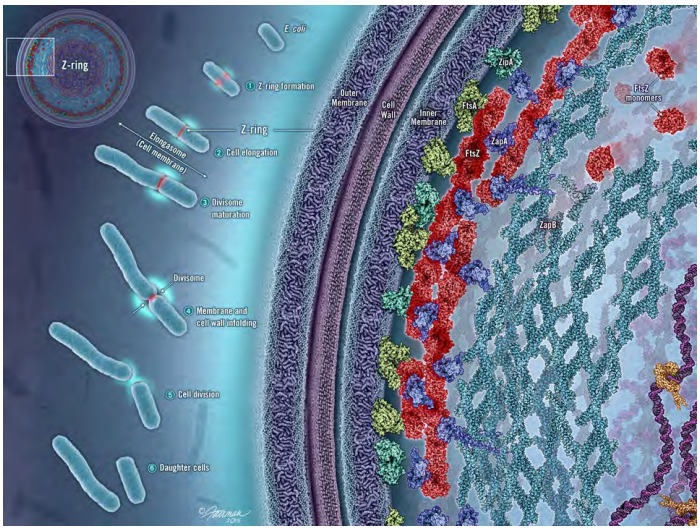
Ellen is a medical illustrator at the University of Georgia's College of Veterinary Medicine, where she is enrolled in the certificate program for comparative medical illustration. She is owner/creative director of Precision Medical Media, and in her "free time" she illustrates children's books for the Amos Book Co.

www.precisionmedicalmedia.com
www.illustrationbyellen.com

Member's Choice Ralph Sweet Award

This year the Ralph Sweet Award was tied between **Edmund Alexander's** ***Bispecific Monoclonal Antibody*** and **Jennifer Fairman's** ***Z-Ring Stabilization and Constriction Rate Modulation of the ZapA-ZapB-MatP Protein Network***

(Look out for Edmund's piece on the cover of the Spring Edition!)



Jennifer Fairman

"Z-Ring Stabilization and Constriction Rate Modulation of the ZapA-ZapB-MatP Protein Network"

Ralph Sweet Award

Jennifer's illustration, created to depict the recent research of Johns Hopkins biophysicists, shows part of an *E. coli* bacterium, specifically the structure of what is known as the "FtsZ-ring" and its associated proteins, which support and regulate cell division. It illustrates in molecular detail, the recently discovered unique peptidoglycan (PG) protein structure of the divisome and elongasome protein complexes (ZapA-ZapB-MatP), structures responsible for PG synthesis during cell division and elongation. FtsZ assembles into the Z-ring that determines the division plane. FtsA assists in the formation of the Z-ring, recruits downstream division proteins to the Z-ring to generate the divisome that divides the cell, and is involved in coordinating cell wall synthesis during cytokinesis.

Rendered in Adobe Illustrator and Photoshop using a cross-sectional view, this image clarifies a complex and important molecular multilayered protein network by illustrating its structural components and spatial organization, extending from cell membrane to chromosome.

Jennifer E. Fairman, CMI, FAMI

Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 1999

University of Maryland, College Park, Maryland, BS - Biology, 1995; BA - Studio Art/German Minor, 1995

Jennifer Fairman, CMI, FAMI is the Founder and Principal of Fairman Studios, LLC and is Assistant Professor in the Department of Art as Applied to Medicine at the Johns Hopkins University School of Medicine. She previously served as a Scientific Illustrator, Research Associate and James Smithson Fellow for the Smithsonian Institution at the National Museum of Natural History.

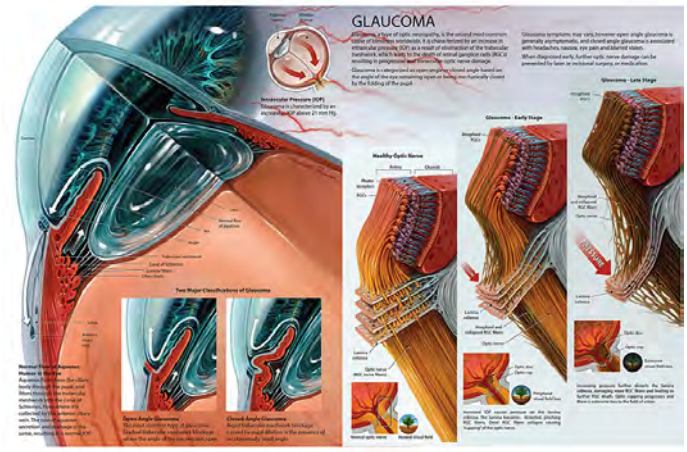
STUDENT CATEGORIES

Didactic/Instructional – Anatomical/Pathological

Kateryna Procunier

"Glaucoma"

Award of Excellence



Kateryna's illustration was painted in Adobe Photoshop and depicts the major features of glaucoma, a pathology involving both the anterior and posterior segments of the eye. Due to a lack of available illustrations focusing on critical information about glaucoma's effect on the retinal ganglion cell fibers that make up the optic nerve; half of the illustration is dedicated to explaining optic nerve damage. The progression of the disease is also linked with the clinical symptoms (such as visual field loss), helping to clarify the process by which optic cupping occurs. This illustration can thus be used to reference the detailed aspects of glaucoma in all of the affected areas of the eye, helping to understand the disease as a whole.

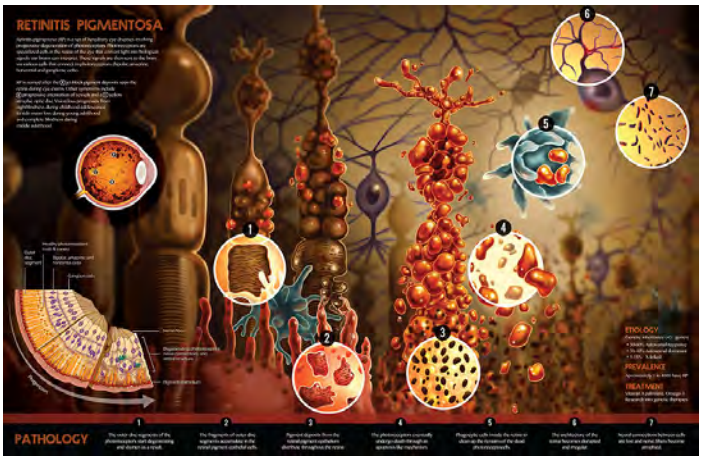
Kateryna Procunier
University of Toronto,
MScBMC, 2015
Ryerson University,
BSc - Biology, 2010

Kateryna has recently graduated from the BMC program and is working as a medical animator and storyboard artist at Klick Health Inc. in Toronto. She is extremely passionate about her work, aiming to inspire, to teach and to fascinate through her art. She also loves photography as well as creating digital paintings and concept art.
http://www.uoft.me/KaterynaProcunier

Qingyang Chen

"Retinitis Pigmentosa"

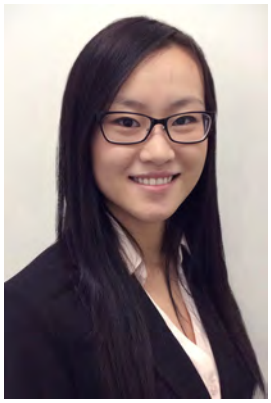
Award of Merit



Retinitis Pigmentosa (RP) is a set of hereditary retinal diseases with bilateral degeneration of the photoreceptors of the eye. The etiology and mechanism of disease is still under research and is largely unknown. This conceptual piece is the first comprehensive illustration of the microscopic mechanisms of RP disease. The illustration combines several leading theories into one cohesive, sequential image and is a visualization of the disease at the cellular level with human retinal anatomy. Previous illustrations and concepts had only been done with rat anatomy. The visual challenge with this piece was to determine a style and color palette that effectively separated several cell types and processes without overwhelming the audience in both visual complexity and color. Qingyang's illustration also aims to capture the reader's interest as well as communicate scientific information in a concise and approachable manner. This piece is intended for a double-page spread in a scientific magazine.

Qingyang Chen

University of Toronto, Masters of Science in Biomedical Communications, 2015
Queen's University, Bachelors of Science (Honors) in Life Sciences, 2013



Qingyang Chen is a professional biomedical illustrator based in Toronto, Canada with more than 5 years of experience. She is passionate about patient education, science communication, and pushing the boundaries of innovation in science and art. For her studio, QCVisual, client satisfaction and building relationships is always at the forefront of her business.

Didactic/Instructional – Surgical/Clinical Procedures

I-Hsun Wu:

"Pterional Craniotomy for Clinoidal Meningioma"

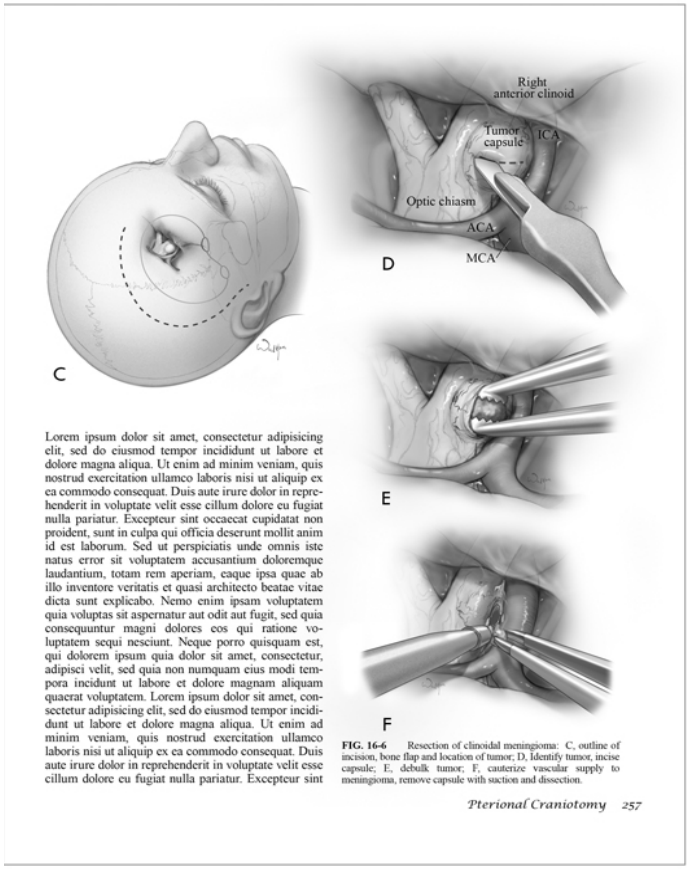
Award of Excellence

The pterional craniotomy is the most utilized approach in neurosurgery. In this case, it was utilized for resection of a clinoidal meningioma to decompress the optic chiasm and the right optic nerve in order to restore the patient's right eye vision. The left image shows the skin incision and bone cut for a craniotomy with the location of the clinoidal meningioma and important landmarks surrounding the tumor. The three images in the right hand column show resection of the tumor in a step-by-step fashion under microscopic view.

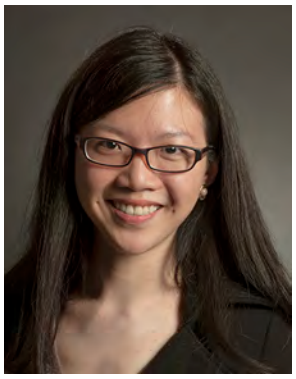
The rough sketch was created in the OR while observing the surgery. References such as videos recorded in the OR, a skull and clay for modeling, multiple photos and atlases were used to create more detailed and finer drawings. Discussions with the surgeon and research fellows ensured the accuracy and clarity. Software used to create these illustrations include Photoshop, Illustrator, and Cinema 4D.

I-Hsun Wu

Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 2015



Virginia Commonwealth University, BFA - Communication Arts: Scientific & Preparatory Medical Illustration, 2012



I-Hsun Wu is a Medical illustrator in the Institute for Cell Engineering at The Johns Hopkins University School of Medicine. In her spare time, she likes to travel and try food from all different places.
http://wubiomed.com

Didactic/Instructional – Molecular/ Biological/Life Sciences

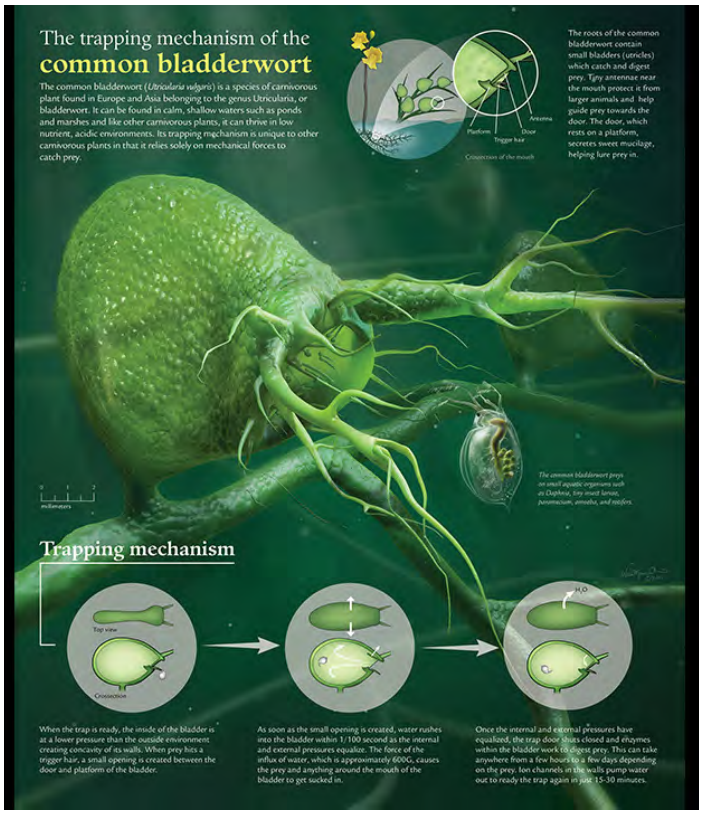
Wai-Man Chan

"The Trapping Mechanism of the Common Bladderwort"

Award of Excellence, **Orville Parkes Student Best in Show**

Wai-Man's depiction is of the common bladderwort, a carnivorous plant. Bladderworts have a very unique and sophisticated mechanism of catching prey, relying solely on mechanical forces. The purpose of this assignment was to describe a process using 3D modeling and compositing. Wai-man wanted to illustrate a subject that would fully utilize and benefit from a three dimensional space. She chose the bladderwort because informative images are lacking and few have displayed the trapping mechanism in action.

The figures in the central image were modeled in Autodesk Mudbox and 3ds max then composited in Photoshop. Multiple render passes of different materials were blended on top of each other to achieve a complex and realistic form. The water flea proved particularly challenging because of its translucent, intricate structures. The remainder of the poster, including the descriptive insets, was created in Photoshop, Illustrator, and InDesign.



Wai-Man Chan

University of Miami, BS - Psychology, Minors: Studio Art and Chemistry, 2010

Wai-Man is a graduate student in Biomedical Visualization at the University of Illinois at Chicago. In her free time she enjoys cooking, a good nature documentary, and spending time with her pets.
http://wchan25.people.uic.edu/

Naveen Devasagayam

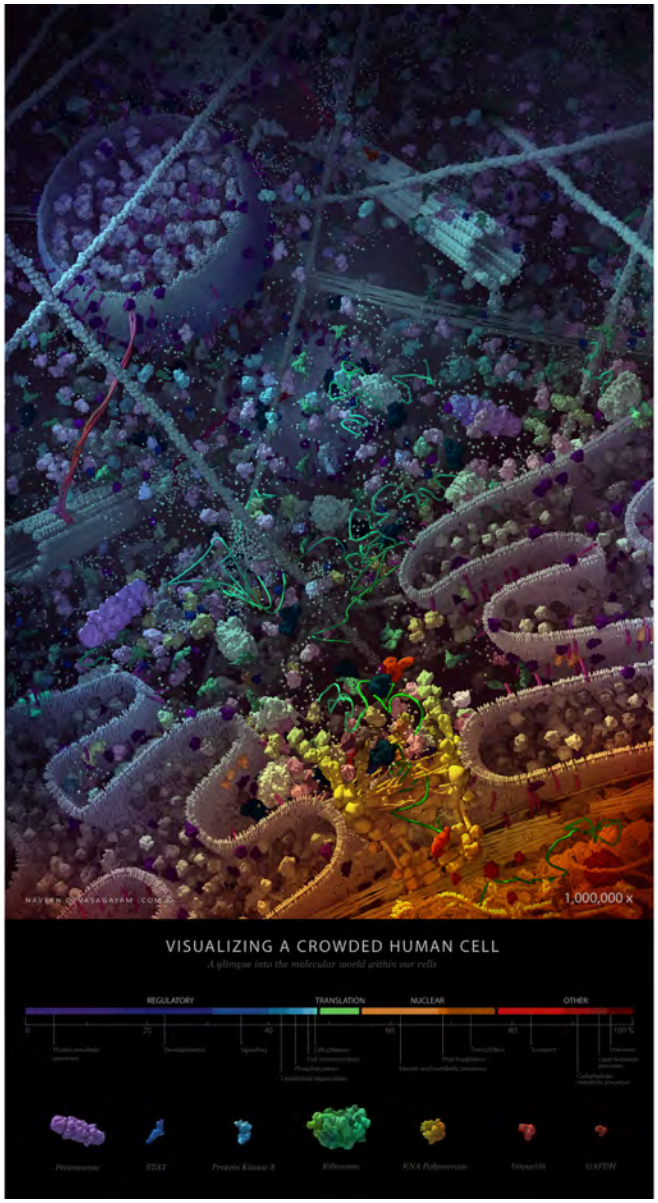
"Visualizing a Crowded Human Cell"

Award of Merit

Within our cells lies a molecular world that is highly complex and crowded. Visuals are required in order for students to grasp these abstract concepts in molecular biology. However, existing visual resources tend to simplify the molecular environment. To address this, the data visualization aims to provide an accurate depiction of the molecules within our cells. This will allow students to examine the relationships between molecular structure, composition, and spatial orientation. To accurately visualize the inside of a cell, molecular composition was determined through scientific literature and structural data was retrieved from the RCSB Protein Data Bank. Dr. Gael McGill, a leading expert in molecular visualization, reviewed the scientific content for further accuracy. By making this data visualization, Naveen hopes to increase interest in science and improve scientific literacy among students.

Naveen Devasagayam

Naveen studied biomedical communications at the University of Toronto. His master's research explored using 3D animation to



visually display complex concepts in molecular biology. In order to spark new discussion related to educational design and teaching strategies. Naveen is currently working with digital health agency INVIVO Communications, as a medical animator.

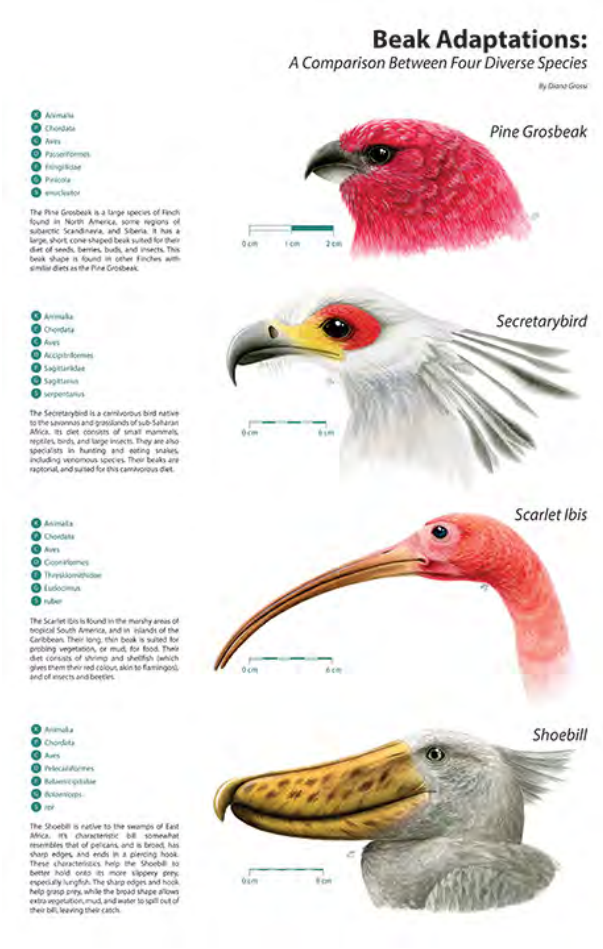
Diana Grossi

"Beak Adaptations: A Comparison of Four Diverse Species"

Award of Merit

This piece is an example of the remarkable relationship between form and function. The beak morphology of four bird species with very different diets is compared.

Illustrations of the birds were created using traditional watercolors. Icons indicating their diet were rendered in pencil, and modified in Adobe Photoshop. All other and layout elements were compiled in Adobe Illustrator.



Diana Grossi

University of Toronto, MSc Biomedical Communications, 2016
University of Toronto, Hon. BSc Life Sciences, Majors: Human Biology, Psychology, 2013

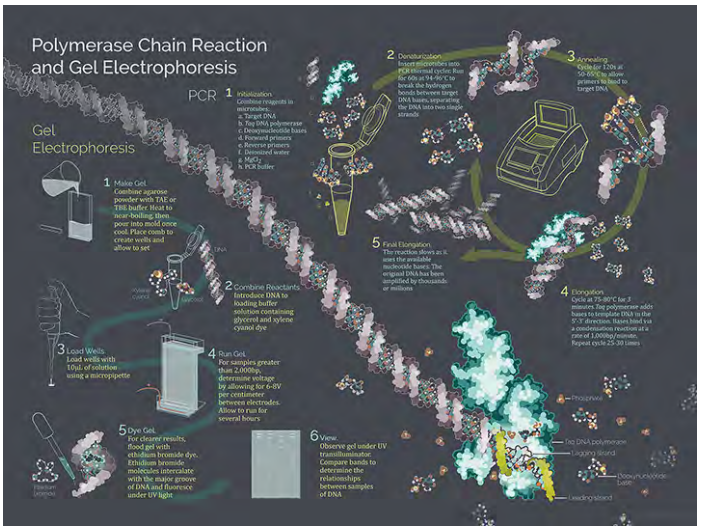
Diana has been fascinated by biology and the natural world, and has loved drawing, painting, tinkering, and creating from a young age. She feels thrilled and blessed to meaningfully combine these passions in the field of medical illustration. Diana is currently a Master's candidate in Biomedical Communications Program at the University of Toronto.

Madeline Newcomb

"PCR and Gel Electrophoresis - Protocol Poster"

Award of Merit

Madeline's poster illustrates the protocol for two related laboratory procedures, polymerase chain reaction (PCR) and gel electrophoresis. PCR is a technique to amplify small samples



of DNA, while gel electrophoresis separates DNA into bands according to size, and allows for DNA samples to be compared against one another. The procedures are separated by the central image of a long strand of DNA being amplified by *Taq* polymerase, which serves as both a physical divide between protocols, and details an important mechanism of PCR. Each step depicts the necessary lab equipment, and many illustrate the events occurring at the molecular level. The illustrations were created in Adobe Illustrator. The poster utilizes elements of flat design and an orchestrated color scheme to appeal to an audience of undergraduate students.

Madeline D. Newcombe
The Cleveland Institute of Art, BFA - Biomedical Art, 2015
Case Western Reserve University, Non-degree Pre-Medical Studies, 2015

Madeline D. Newcomb, in addition to receiving her BFA from Cleveland Institute of Art, also completed pre-medical studies at Case Western Reserve University. Currently, she is a Cleveland-based freelance medical illustrator with a particular interest in depicting biochemistry and the chemical basis of life.
http://madelinednewcomb.com

Editorial

Wai-Man Chan

"Wounds of War"

Award of Merit

This illustration accompanies an article about the Rwandan Genocide and its impact on the public health system. War-torn

Rwanda is symbolized by a large open wound that cannot be contained by the country's borders. This is a metaphor for the damaging nature of the genocide and its impact on neighboring countries. Doctors work to stitch the area back together, symbolizing the burden carried by healthcare workers to heal the physical and emotional wounds of the war.

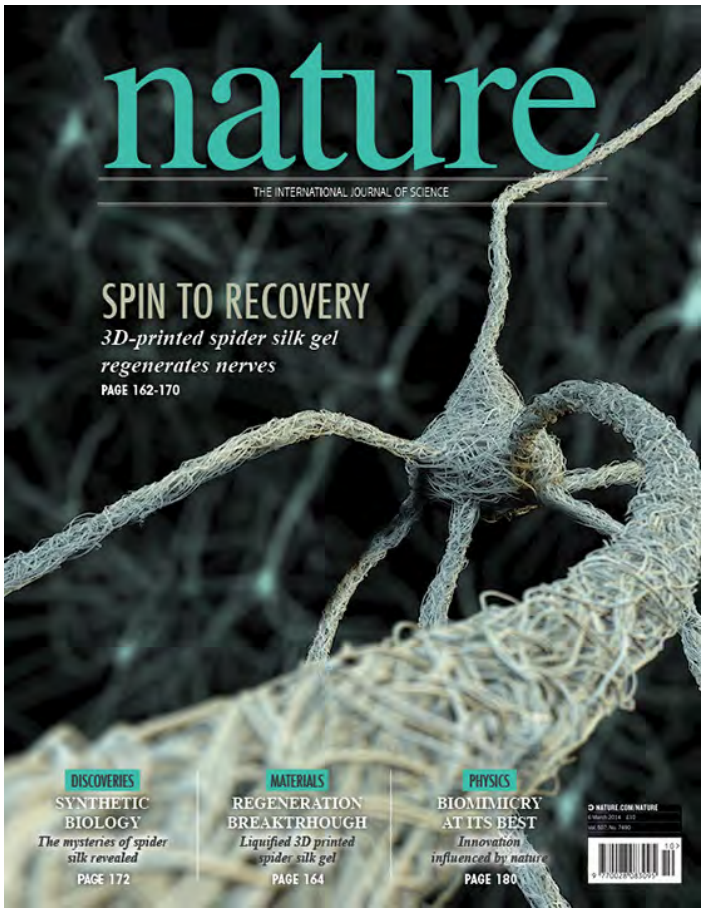
The image was created in Photoshop. Great care was taken to depict the wound in a manner appropriate for publishing in a public health journal. The realistic nature of the wound and the dramatic composition of the continent grabs the attention of the viewer and allows them to engage with the sensitive topic of genocide without being off-putting.

Kelly Speck

"SPIN TO RECOVERY: 3D-Printed Spider Silk in Nerve Regeneration"

Award of Merit

This mock cover illustration highlights the journal's feature article about recent discoveries in the protein structure, physical properties and innovative applications of spider silk to regenerative medicine and biomedical engineering. Scientists were able to generate an extremely strong and flexible biomaterial by combining connective fibroblast cells with recombinantly produced spider silk proteins in order to produce a 3D printer bio-ink. Due to its high tensile strength and tear resistance it is



believed to have a huge regenerative potential, for example in repairing damaged nerves.

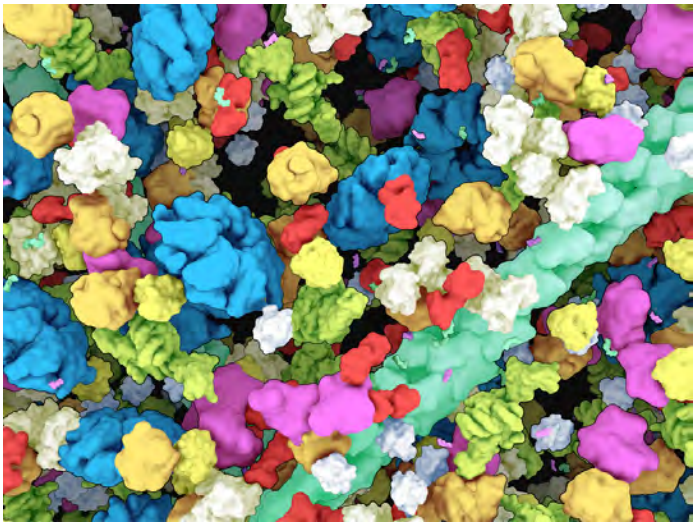
The construction of the background 3D neurons was based on human neuronal morphological data from NeuroMorpho.org. Cinema4D was used to build and refine the neurons while MoDynamics were applied to capture the silk's extreme mechanical properties. A depth pass was set up in Cinema4D for rendering depth of field and applied to the image in Adobe Photoshop.

Kelly Speck *is a second year student in the Biomedical Communications program at the University of Toronto. Her current research explores to what extent an interactive, web-based, nonlinear visual resource guide will improve primary care providers' knowledge and comfort in caring for trans clients. Kelly was born and raised in Germany, lived in Singapore and Vancouver, but now calls Toronto home.*

Animation

Andrew Tubelli

"A Molecular Journey through Space and Time"
Award of Excellence, **New Media Best of Show**



Andrew's animation introduces the concept of scaling through the actions that occur at multiple spatial and temporal levels within a cellular environment during smooth muscle cell contraction. The animation was created with Maya, After Effects, and Premiere Pro. Its purpose is to provide context for cellular function while addressing concepts that are commonly misunderstood by undergraduate biology students: understanding the sizes of cells, molecules, and atoms in relation to one another and how actions at these levels fit together. A "powers-of-ten" grid with a dollying camera and amount of magnification displayed is used as a visual device to compare spatial scales. Speed changes within levels relative to the previous level along with sound cues are used to show changes in temporal scaling. Molecular crowding is visually emphasized since it is essential to cellular behavior. Narration is used to reinforce the visuals.

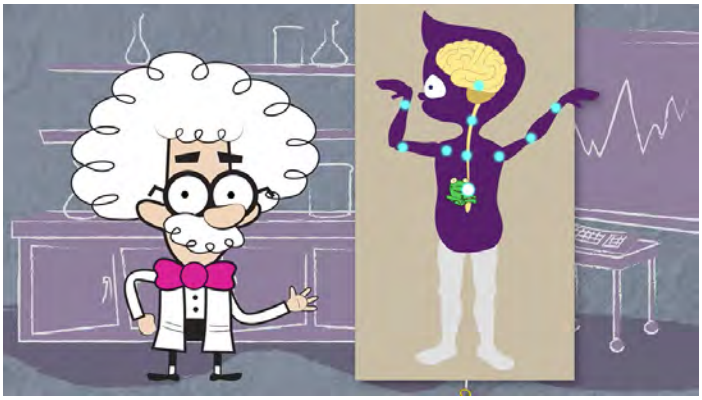
Andrew Tubelli
University of Toronto, MScBMC - Biomedical Communications, 2014
Boston University, BS - Biomedical Engineering, 2008

Andrew is a self-employed animator, illustrator, and data visualization developer based in Boston, MA. While he enjoys the freelance projects he has been doing, he is currently looking for full-time work in the Boston area developing scientific visuals.
http://www.andrewtubelli.com

Jeff Day

"The Frog in Your Back"

Award of Merit



"The Frog in Your Back" is an animation done in After Effects that introduces the concept of Spinal Cord Injury (SCI) to children and families. It intends to educate the families on the basics of what can happen with the injury, to help them manage expectations and to understand treatment and rehabilitation plans. In addition to education, the animation aims to motivate and encourage patients dealing with this difficult issue, using humor, visual analogies and examples of others who have persisted through SCI to continue doing great things or to help others.

Jeff Day

Johns Hopkins University School of Medicine, MA - Medical and Biological Illustration, 2015
Case Western Reserve University School of Medicine, MD, 2006
Case Western Reserve University, BA - Biology, 2002

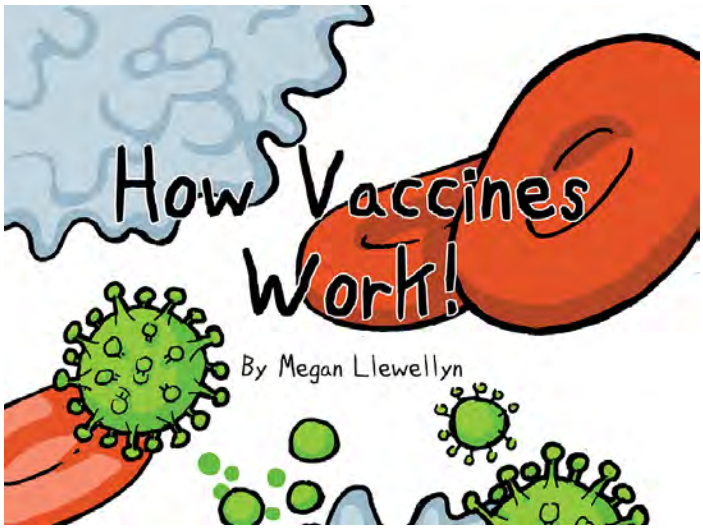
Jeff Day is your friendly, neighborhood comics-column editor for the AMI Newsletter, and also an informatics research fellow at the National Library of Medicine. He's a guy who would be very excited to hear about any plant or animal you've spotted outside.

Interactive

Megan Llewellyn

"How Vaccines Work! A Comic"

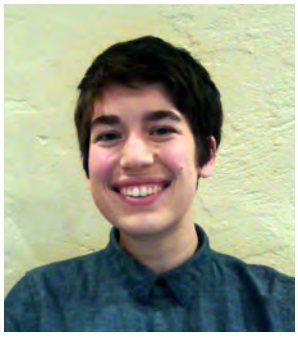
Award of Excellence



Anti-vaccine movements have grown over the past decade, fueled by misinformation. The purpose of Megan's piece, "How Vaccines Work!", was to provide an easy-to-follow explanation of adaptive immunity, what vaccines are, and how they protect people from preventable diseases in a fun and non-confrontational manner. She decided to use a comic book format to integrate text and images and to make the content more accessible for younger readers. Comics have jumped to the forefront of mainstream entertainment culture and have been accumulating critical acclaim. This medium has proved itself to be able to thoughtfully and effectively discuss a range of subject matter, including medical concepts, something Megan is interested in continuing in future educational comic book projects.

Megan Llewellyn

Kenyon College, BA - Biology and Studio Art, 2012
Georgia Regents University, MS - Medical Illustration, 2015



Megan grew up in Marietta, Georgia before going to college in Ohio. She loves reading comics and baking desserts. She is currently working as a freelance illustrator out of Boise, Idaho with her five cacti.
meganllewellyn.com

BOOK REVIEW

DO NO HARM: STORIES OF LIFE, DEATH, AND BRAIN SURGERY, by Henry Marsh

Review by Wendy Beth Jackelow

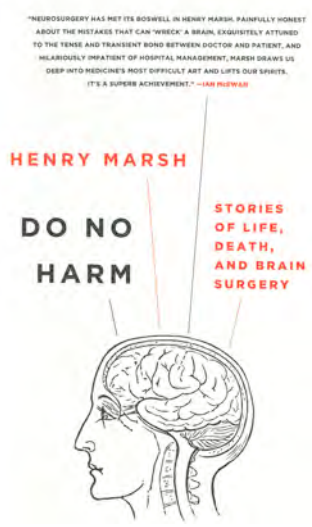
Just as I was finishing Henry Marsh's book, *Do No Harm: Stories of Life, Death, and Brain Surgery*, it was selected as one of the New York Times Book Review 100 Notable Books of 2015. It could not have been more perfect timing for the latest AMI Book Review column and the holiday gift list.

Mr. Marsh, as he is referred to by his patients and staff, is a well-respected British neurosurgeon who practices at a public hospital in London. He is an engaging writer and his book is structured chapter by chapter around various neurological and medical conditions. Even though each section focuses on a particular ailment they all come together to tell the story of Marsh, his career and the obstacles neurosurgeon's face, both bureaucratic and emotional. It is striking to note that while Marsh is highly successful at his job, he has included many accounts of patients he has "wrecked". Unfortunately to get good at neurosurgery, one must do a lot of procedures and sometimes the results are less than optimal.

Henry Marsh came to be a neurosurgeon in an unconventional fashion. After a failed romance, he dropped out of Oxford where he was studying Politics, Philosophy and Economics and became a hospital porter. He realized that medicine was his calling, returned to Oxford and with very little science background at all, enrolled in the only medical school in London that would admit him. His goal was to become a general surgeon, but a chance visit to a neurosurgical operation changed his course. The minute he was introduced to neurosurgery, he was smitten and pursued it as it as his life's work.

It is clear that after all these years of practice, Mr. Marsh is still thrilled and amazed by his work. The passages where he describes his surgeries paint a picture of the anatomy like a landscape from a perspective very few are privileged to observe. His views are often microscopic ones where one must be careful of any danger and abnormality that might present itself. Part of surgery is skill, but it is often luck that insures the success of a procedure. Things might go well during surgery, but then the patient can die of a stroke the next day. One can never be certain that once inside the brain the smallest aberration of anatomy or procedure might result in catastrophe. It is exhilarating and terrifying all at once. If the patient dies or is debilitated, it will haunt the surgeon forever. There is so much at risk, but if the surgery is a success, the patient can leave the hospital and live his or her life as if nothing bad had ever happened.

A very large part of Marsh's job as a neurosurgeon is the ability to talk to patients with the right amount of compassion and professional detachment. Sometimes it is very hard to do so, especially when one knows the patient well and genuinely likes them. How does one balance reality with hope? How does the doctor recommend doing nothing to a terminal patient who is not yet ready to die? Sometimes Marsh will perform surgery because the patient wants it and not because he thinks it will provide a cure. The largest stress, he notes, is the uncertainty of it all.



The brain is an organ unlike any other— the mystery of its function is something we still do not understand completely. As scientific as Mr. Marsh's work is, nothing explains how the gelatinous matter of the brain that he operates on contains the essence of a person. Nerve function can be explained electrochemically, but how does that render consciousness? The chapter entitled Akinetic Mutism discusses a journalist who is in a persistent vegetative state after a brain hemorrhage. She is cared for by nuns who say she is communicating via Morse Code using her one good finger. Is she really doing so or is it the interpretation of her caretakers? What is the tie between consciousness and the body and will we ever know?

Stories like these are interspersed with explanations of the red tape of public hospital life. Radiologic images can not be called up on computers due to programming glitches, hospital beds are scarce and new rules and regulations are constantly going into effect which hold up the treatment of patients. It is laughable and ridiculous when Mr. Marsh is called into a mandatory training seminar where he learns that he must be empathetic, focused and calm around his patients—something he does not need to be reminded of when taking care of acutely ill people who look to him for help and hope.

Henry Marsh has been on both sides of the desk as the experienced surgeon and as the patient and terrified parent. As a neurosurgeon, he sees that our bodies are fragile and subject to the unexpected. Patients look to him to make things right, but sometimes even the experts err. He lives with this and always tries to do as little harm as he can. He knows that since we are all human we are all fallible—whether it is our bodies or the decisions that are made to fix them.

UP & COMING

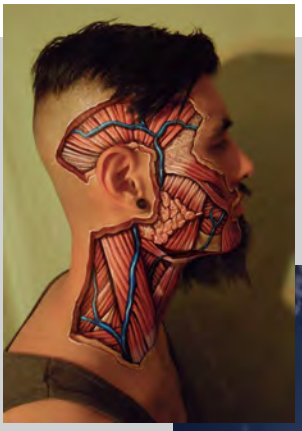
CONNECTING THE INTERSECTION OF ART AND SCIENCE

By Veronica Falconieri

This month Up & Coming features profiles of two new AMI professional members, ***Gael McGill, PhD****, and* ***Danny Quirk.*** *Both were inducted as Professional Members this year at Cleveland, and both came to the AMI through career paths outside of a formal medical or scientific illustration program at an academic institution.*

What is it about the AMI that brings together experts from these juxtaposed fields? How can both an exceptional fine artist with a passion for anatomy, and a successful scientist with keenness to communicate, find a place within one community?

I had the privilege to interview both. Their stories provided insight into the true value of the AMI.



Quirk

McGill

Quirk

Quirk was bitten by the scientific art bug early in life. Growing up, he would search out insects and draw what he found. Quirk recalled a recently unearthed drawing of a monarch butterfly, an artifact from his third grade self, and reflected on that early stage of his career with a touch of self-deprecation.

"I was that weird kid, if you can imagine, with the big glasses and round face that was always dorking out about bugs."

Quirk continued to draw prolifically, and sharpened an impressive skillset that eventually lead him to Pratt Institute, where he studied commercial illustration and earned his BFA. However, an interest in science stayed with him, and in his senior year, he began incorporating anatomy in his work and created the Self-Dissection series of watercolors.

Piece of Mind
Watercolor "Self-dissection" painting

"It was equal parts anatomical and psychological. People exposing their inner selves, exposing what is typically masked… It was really an elaborate excuse to make anatomical work." Quirk said with a laugh. "Looking back now, the anatomy is terribly, horribly inaccurate, but you learn with time."

Despite Quirk's view on the series' accuracy, the work caught the eye of several in the medical field. Soon Quirk had illustrations published in several medical journals, and connected with Dr. Kathy Dooley MSc, DC, a physical therapist and prolific anatomy instructor with over 1,000 career cadaver dissections. At the time, Quirk was considering graduate school, but wary of taking on more debt, he instead chose to a work-study arrangement with Dooley, where he provided illustrations in exchange for taking her human anatomy courses and labs.

"Everything morphed from a more artistic representation of the body to a more scientific representation," Quirk said.

It also laid the foundation for his recent work with the Immaculate Dissection lecture series, an anatomy class that fuses Dooley's mechanism and movement focused teaching approach and Quirk's anatomical body paintings. Quirk explained how the technique leverages the cleanness of a textbook image and the

Technique Evolution
A comparison of Quirk's first anatomical body painting (left) and a recent body painting of a facial dissection (right)

Erectors
Anatomical body painting of the intermediate and deep layers of the intrinsic back muscles.

3D aspect and movement of an actual person. "It's combining the best of both worlds," he said.

Quirk had developed the body painting technique "purely by accident". What started as elaborate make-up for a zombie costume one Halloween became an anatomical illustration approach refined by the artistic evolutionary forces of perfectionism, passion, and determination.

"I'm always trying to experiment, always trying to out-do, to make [the technique] better," Quirk said. Through his constant drive, Quirk's anatomical body painting has evolved from neat novelty to show-stopping trompe l'oeil and effective teaching tool.

"It's combining the best of both worlds,"

Quirk Meets the AMI

The AMI has played a key role in further inspiring Quirk's already formidable determination to constantly out-do himself. "It was motivation," Quirk said, reflecting on his first time at an AMI meeting in 2014. "Since graduation, you don't have that daily competition, that daily motivation, to out-do yourself."

Quirk said that he found the conference to be full of people who shared his interests in art, anatomy, and bugs. "The community of the AMI is absolutely amazing. I met so many people that I really look up to and think very highly of. It was a very surreal feeling that it was mutual... I still kind of view myself as the weird kid that paints people."

As for coming to the AMI from a path outside of an academic program, Quirk said that the community was very welcoming nonetheless. "I noticed there were a lot of groupings, but it seemed just like catching up. I didn't take it as being cliquey... Everyone seemed happy to share that common link that they're all medical illustrators." He admitted though, that the peer closeness is one thing he felt he missed out on by not doing an actual program. "You see all the students from one program together, and they have this family aspect to them."

Quirk took the step to become a Professional member learning about the resources and opportunities available through the AMI from current members. However, he has not been using the resources as much as expected. "I haven't been really actively pursuing it as much as I should. The few things I did apply for they wanted somebody that was certified in this or that, which was kind of a deterrent, but realistically more so what happened was Immaculate Dissection eating up my time. The timing was so overlapped there, if they had been separate, they each would have had their own benefits "

Quirk keeps his connections to the AMI alive though. "It has been proving really great for networking. A lot of it really came through the annual meeting," he said. For him, the AMI is its community and connections to peers.

McGill

Science, art and music were an important part of McGill's childhood, and he would later major in all three as an undergraduate. It was not until graduate school, however, that two of these threads - science and art - became closely intertwined.

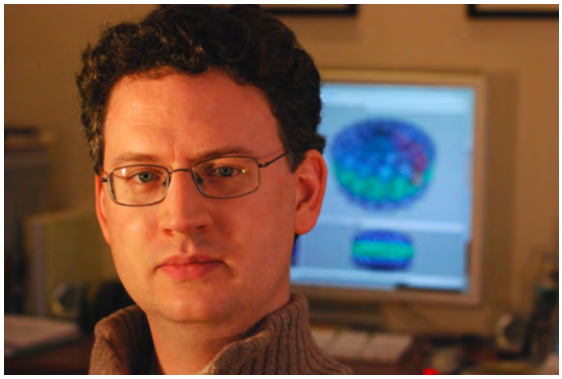
McGill distinctly remembered his burgeoning interest in science at an early age, discussing scientific questions with his father, exploring primary literature, and becoming fascinated with topics such as molecular biology, cell death, and longevity.

"I still remember in middle school seeing a PNAS paper that showed that overexpression of EF-1alpha (a protein involved in translation) doubled the lifespan of flies!" McGill recalled with a laugh.

Even though his interest in science took most of his attention, McGill also had the opportunity to explore art. He recalled childhood summers spent with his aunt, an art teacher, in Italy. "It was a magical time. She was my personal guide to amazing places. We spent hours drawing together," McGill said.

Ultimately, McGill drew much of his scientific inspiration from its visual representation. "I think there was one book in particular that turned me into a biologist," McGill said. It was Christian De Duve's Guided Tour of the Living Cell. "That book was unique in a couple ways. It required the reader to imagine him- or herself in the physical space of the cell and to play by its rules. For the first time, it really brought home the idea that molecules, organelles and cells are physical objects that obey physical rules. The book not only had wonderfully clear artwork, but also freely made analogies between cellular structures and art."

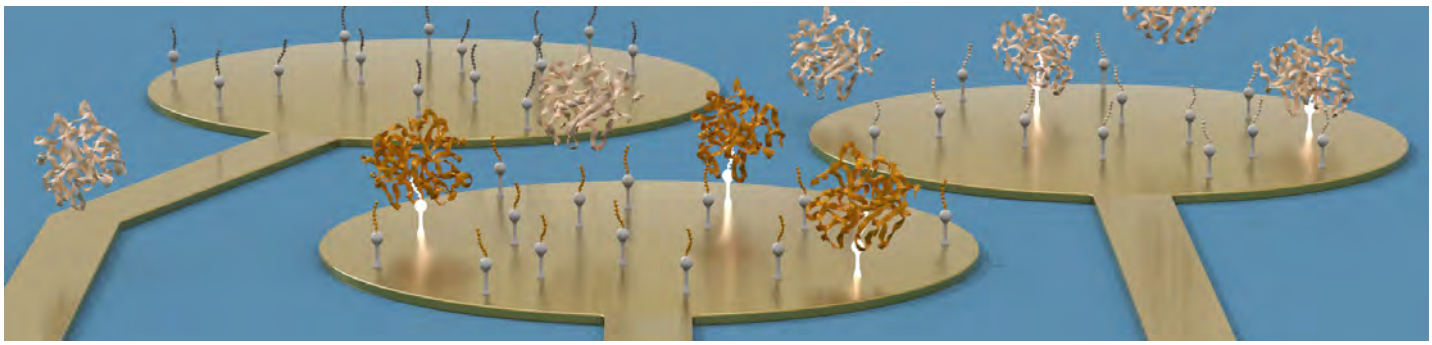
McGill determinedly pursued his passion for biology, music and art as an undergraduate at Swarthmore College. He went on to do his PhD at Harvard Medical School and it was there that he first began experimenting with design software.



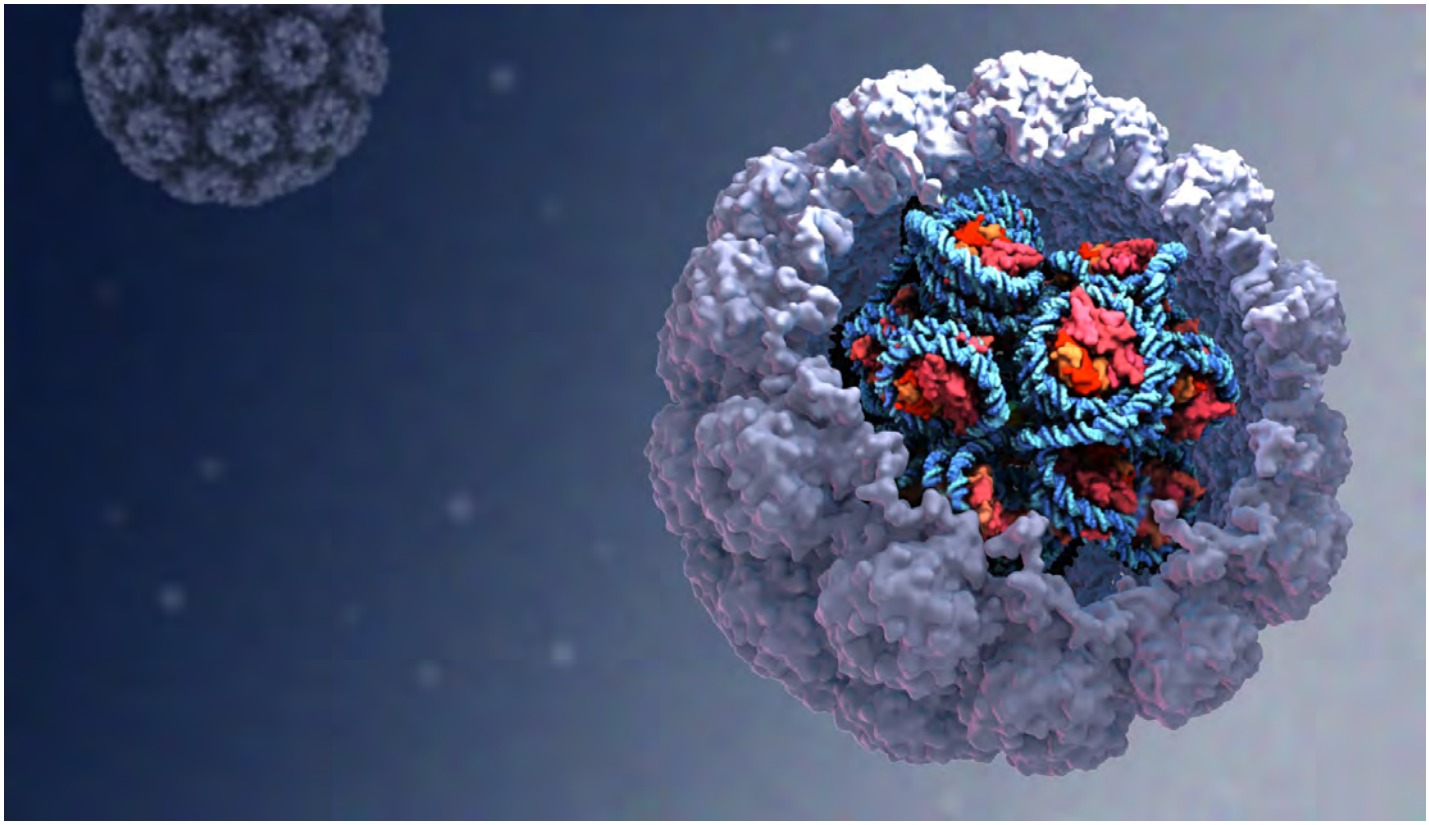
"From the start, the vision for the company was to bring rigorous science to the design and visualization process."

"I think my labmate had a pirated version of [Adobe] Flash, and that's what I started on," McGill said. Within a year, he and his wife Jeannie Park, a musician retooled as software engineer and multimedia designer, had started Digizyme (www.digizyme.com). "From the start, the vision for the company was to bring rigorous science to the design and visualization process."

McGill went on to do postdoctoral work at Dana Farber Cancer Institute. After a few years of running Digizyme full time and expanding his skillsets to include 3D and animation, McGill re-entered academia but this time with an exclusive focus on scientific visualization. In 2006, he joined the Harvard Medical School faculty and created and taught its molecular visualization curriculum. That year he also launched www.molecularmovies.com and released the Molecular Maya software toolkit. Since then McGill has grown Digizyme and assembled a unique international team of scientist-artists. "We work with biotech, pharmaceuticals, hospitals, research institutes and museums. Recently we have authored our own products for K-12 and higher ed, including E.O. Wilson's Life on Earth and soon-to-be-released digital curricula on Coral Reefs and Biomimicry."



Electrochemical ligand detection
Visualization of electrochemical detection of ligands using Ohmx's technology



SV40 Capsid
3D rendering of the SV40 capsid modeled with its ~5kb chromatinized genome – created in Molecular Maya

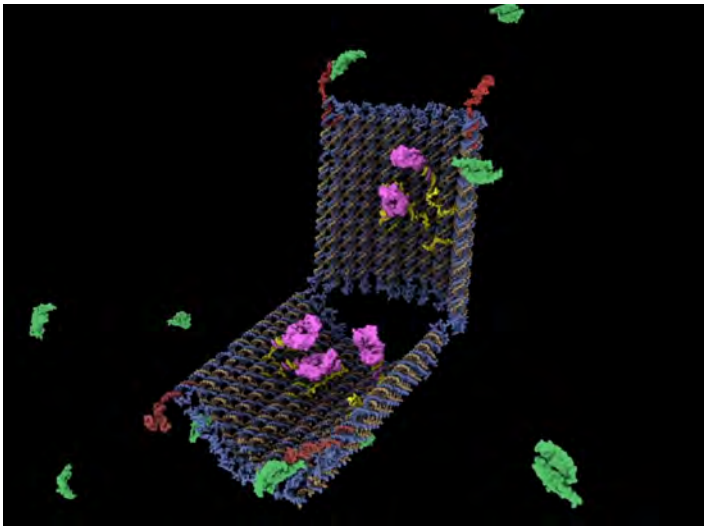
McGill Meets the AMI

It was a bit of luck that lead McGill to discover the AMI. Both Siggraph and the AMI conference were in Boston in 2006, and McGill ran into an AMI member at a molecular graphics gathering at Siggraph. He found his way over to the AMI conference, and began exploring and meeting members."There were kindred spirits all around," McGill said of his first experience at the AMI.

Despite coming to the AMI from a self-discovered scientific visualization path instead of a traditional medical illustration program, McGill said he felt at home at the conference. "The AMI has never felt 'clique-ish' - it's very welcoming." In the end, it was the sense of community that brought McGill to become a Professional member. "I truly love the AMI community… I try to attend the meeting every year now and have done my best to contribute in meaningful ways either through talks and workshops, or by being on the Vesalius Trust board for the past 5 years."

"Launching Clarafi (www.clarafi.com) is another way that we are trying to support the AMI and the scientific visualization community at large. Our goal is to facilitate the creation of accurate visualizations through intuitive software tools, high quality instruction and centralized community resources."

As for coming to the AMI from a non-traditional route, McGill asked, "Do we define ourselves by our training, or by our shared passion and challenges in communicating the beauty and complexity of life? I think it is wonderful that the AMI is broadening the scope of its community and, in doing so, is poised to continue making the biggest impact on the rapidly evolving field of biovisualization."



DNA origami nanorobot
Open conformation of a DNA origami nanorobot 'clamshell' design exposing its therapeutic antibody payload – created with Molecular Maya

IGGY AND THE INHALERS GETS A SECOND WIND, by Booster Shot Comics

Article by Jeff Day

Just go with what you created from when you were 11.

That's what I learned when I talked to the guys from **Booster Shot Comics,** a growing brand specializing in patient education media. Their flagship comic, *Iggy and the Inhalers,* is an asthma education comic that has grown in distribution to over 5,000 children through hospitals, universities, schools and asthma camps.

Iggy the Inhaler, as he appeared when drawn by Alex at 11 years old.

It all started when **Alex Thomas, MD** was a kid. He had the chance to publish doodles in his physician mom's medical newsletter, so like any kid he drew some superheroes. Except this kid drew a superhero out of an inhaler…which pretty much destined him to be a Pediatric Allergist. This also kick-started his foray into medical comics.

The other half of Booster Shot Comics is **Gary Ashwal**, Alex's college buddy and fellow player in Live Action Cartoonists, a theatre group that included live drawing, comics and video. Today, Gary is a professional Health Communications Specialist, where he continues to help direct the group's story-telling techniques and patient language through literature research and running focus groups and surveys.

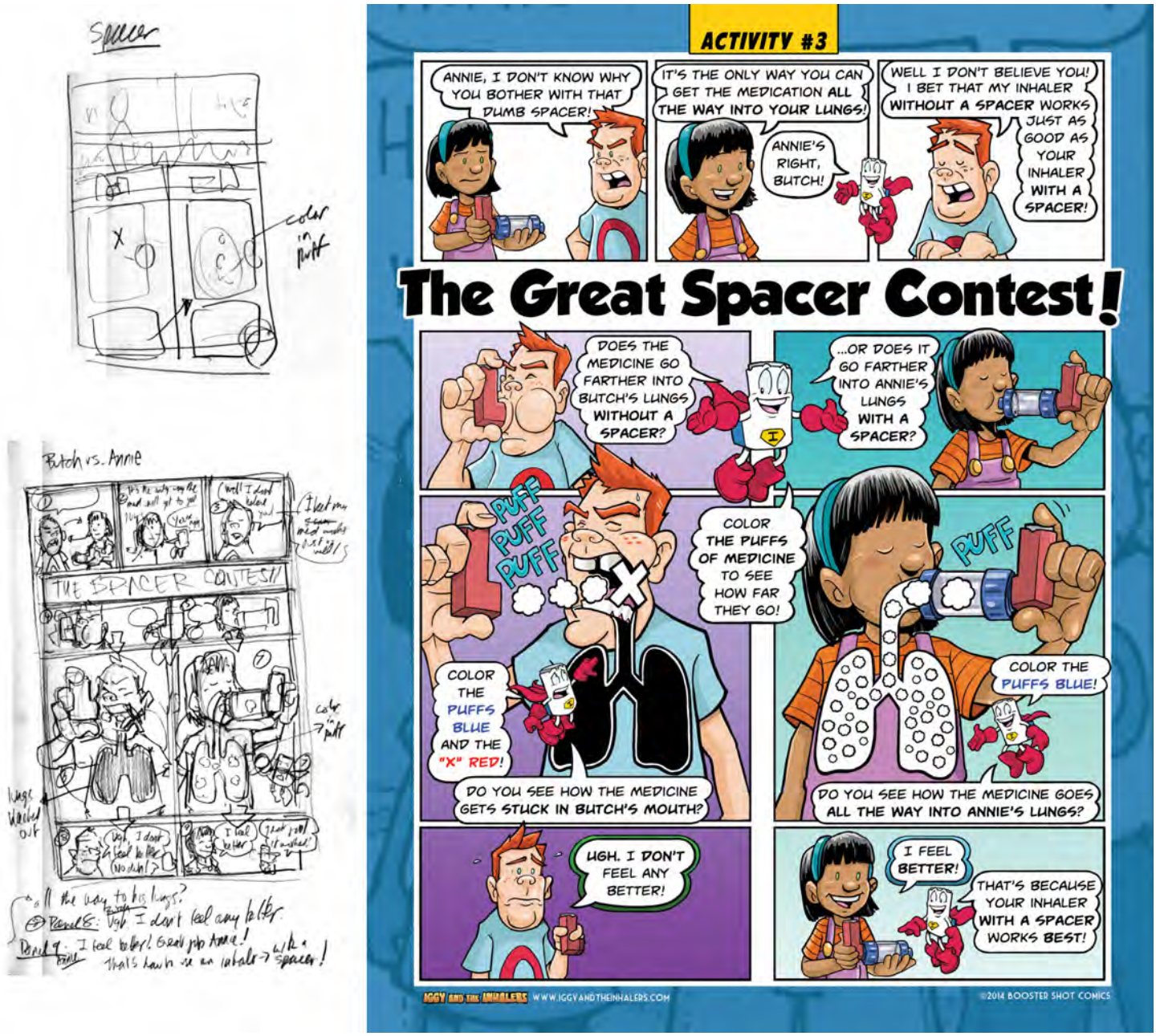
So needless to say, the Booster Shot guys are unique in comics for their medical expertise and evidence-based processes.

In fact, it was through their research that they debuted the second edition of *Iggy and the Inhalers*, which happened to be during the writing of this column! The guys have been hitting the medical conference circuit hard, attending five since this summer. They've picked up many expert contacts along the way, and they put them to work, polling them on how *Iggy* could be improved.

The most significant suggestions that were incorporated focused on how to best convey message, which medical

The Booster Shot Comics guys – Alex Thomas (left) and Gary Ashwal (right)

Comparison of older (top) and newer (bottom) panels of *Iggy and the Inhalers*. The newer version uses simpler language and less superfluous phrases. It has also switched from hand-lettering to a digital font to facilitate translation to other languages (Spanish version is coming next!). Caption bubbles that break the panel borders add visual interest.



Panel design process from rough layout (upper left) to drafting sketches and captions (lower left) to final page (right). The comic book offers many interactive elements and activities to keep kids engaged.

illustrators can definitely appreciate. Listed below were some of the interesting, insightful examples:

- Changing the term "rescue inhaler" to "quick reliever" to prevent kids from using the medication at the last minute, when it might be too late.
- Expanding the asthma action plan from one page to two pages, spacing apart the text for easier readability, and allowing room for doctors to write suggestions.
- Abandoning the comic convention of captions written in all-caps in favor of using grammatically correct upper and lower case lettering, so as not to confuse early readers. (This was against the duo's aesthetic preference, but made strong sense for their mission.)

It has also been interesting to find out what people focused on at the conferences. Experts at the Association of Asthma Educators and the American Public Health Association loved the *Iggy* narrative, drawing kids in with characters and story. On the other hand, experts at the American Academy of Pediatrics most liked the character stickers that distinguished between controller and

Rx COMICS (CONT'D)

quick reliever inhalers, a confusing sticking point for patients.

So what does Booster Shot Comics like best about comics and health education?

- **Dynamic characters** can underlie mechanisms of action, and help readers intuitively learn science.
- Comics are excellent for **self-paced learning,** where readers can go back and forth at their own pace. (As opposed to a video that passively washes over you.)
- **Magic!** There's just a magical connection between images and words when done well.

Booster Shot Comics has been workin' it!

Conferences attended since this summer:

American Academy of Pediatrics
American Public Health Association
American Society for Bioethics and Humanities
Association of Asthma Educators
Comics and Medicine

While *Iggy* is their flagship comic, it's not Booster Shot Comic's only project. They are also involved in more formal research such as reinventing the pediatric pain scale that ER physicians use, and studies that test patient attitudes towards bioethics research.

Find out more about what Booster Shot Comics is up to at http://boostershotcomics.com/ or read *Iggy* at iggyandtheinhalers.com.

Now if you'll excuse me, I'm going to see if my mom kept any of my sketches from when was 11.

Have an idea for an article or comic? Want to send a virtual high-five? Contact Jeff Day at gwillicker@gmail.com.

CALENDAR OF EVENTS

Edited by: Jennifer Belanger

Inez Demonet Scholarship Application

The Inez Demonet Scholarship is awarded annually by the Vesalius Trust to a student that exhibits outstanding merit and potential in the field of medical illustration.

Deadline for part A: February 12, 2016
Deadline for part B: February 19, 2015
http://members.ami.org/inezdemonetscholarship/inezdemonetscholarship.cfm

Medical Illustration Source Book No. 29

Artwork deadline: February 4, 2016
Contact: Serbin Communications 800-876-6425 or info@serbin.com

GNSI's Distance Learning Science Illustration

January 26 – March 28, 2016, Online
Scientific Illustration Distance Learning allows students to study scientific illustration wherever they are, year-round. Classes meet through video conferencing and email, and include tutorials, handouts, personal and group feedback on all assignments.
https://www.gnsi.org/event/workshop/distance-learning-science-illustration-winter-jan-2016

Tidal Waters: The Art of Scientific Illustration

GNSI Oregon Group Exhibit
Sept. 11 – Feb. 21, 2016, Newport, OR
https://www.gnsi.org/event/exhibit/gnsi-oregon-group-exhibit-september-2015

AAA (American Assoc. of Anatomists) Annual Meeting

April 2-5, 2016, San Diego, CA
http://www.anatomy.org/

HAPS (Human Anatomy and Physiology Society) Annual Conference

May 21-25, 2016, Atlanta, GA
http://www.hapsweb.org/?page=2016landing

BioCommunications Association

June 20-24, 2016, New Orleans, LA
http://www.bca.org/annual_meeting/annual_meeting.html

GNSI Annual Conference

July 3-9, 2016, Santa Cruz, CA
https://www.gnsi.org/event/gnsi-conference

Graphic Medicine 2016: Stages & Pages

July 7-9, University of Dundee, Scotland
http://www.graphicmedicine.org/graphic-medicine-2016-conference-stages-pages/

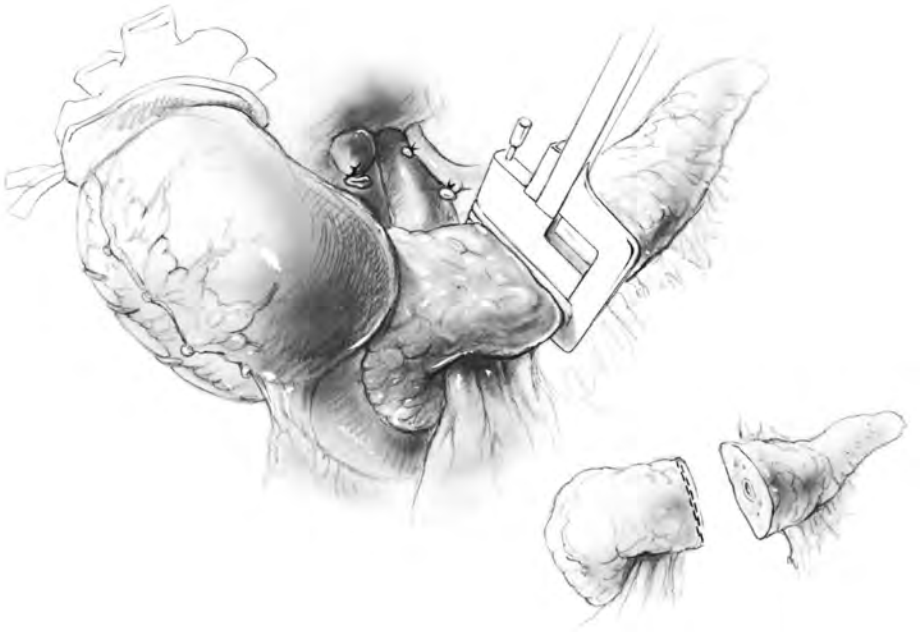
Continued on page 42

OBITUARIES

CASPAR (CASS) HENSELMANN

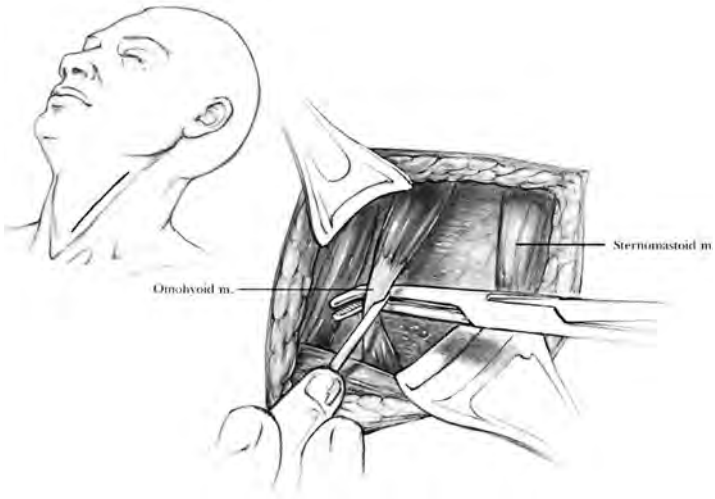
Written by Neil O. Hardy

Caspar (Cass) Henselmann passed away Saturday, November 14, 2015, at 82 years of age. Caspar was born in 1933 in Germany and grew up in Ticino, Switzerland. His family emigrated to the United States in 1950 and settled in Chicago, Illinois. He received a BFA from the Art Institute of Chicago and a Diploma of Medical Illustration from the University of Illinois, School of Medicine. After he completed his education he worked in Detroit, Michigan and during that time found his calling as a sculptor. In 1960 he settled in New York City where he worked as a medical illustrator, sculptor and professor of art. He has exhibited his artwork extensively in the U.S, and Europe, including 25 solo shows, and his work can be found in museums and private collections both in Europe and the U.S.



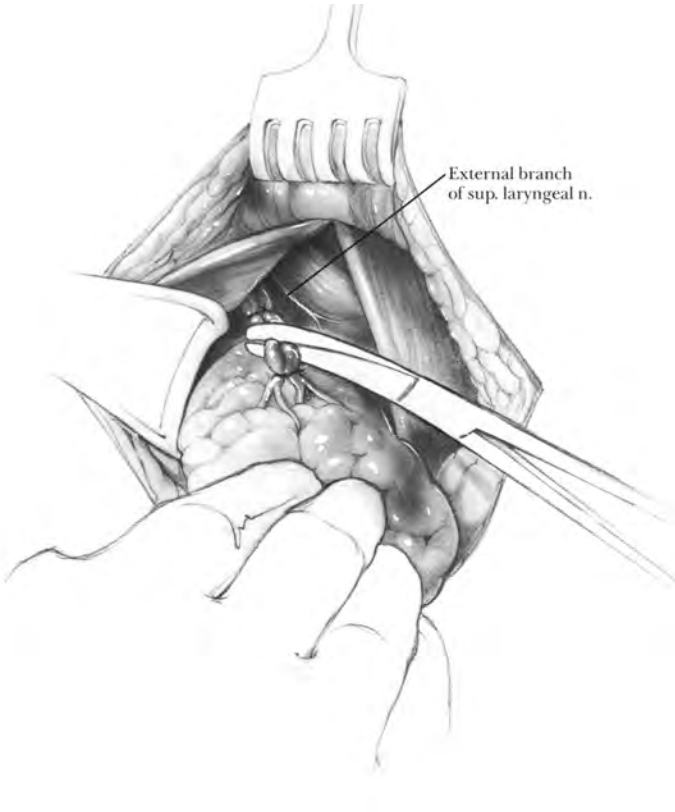
After his arrival in New York in the early 1960s, Cass became a welcome addition to the New York City metropolitan area medical illustrator community. He joined the group for lunches at the NYC Craft Museum, and The New York Society of Illustrators where projects could be discussed and critiques offered. In addition he was a participant at occasional parties and hikes that were enjoyed by the illustrators, spouses and friends.

Cass illustrated medical and surgical textbooks such as "Chassin's Operative Strategy in General Surgery" and designed projects for patient information, physician education and pharmaceutical company projects. During his over 50 years in New York, Cass continued to create Fine Art Paintings and Sculpture that were exhibited in New York City and New York State galleries and universities.



Caspar is survived by his wife Evangeline Karantzakis (Van) Henselmann, sister Beatrice Werner Henselmann, two sons Xavier Henselmann and Sam Henselmann, and five grandchildren.

All those who knew Cass were enriched by his talent as an artist and illustrator and his unique love of life, friends, and family.



BAY AREA ILLUSTRATORS
"IMAGE SPEED-DATING" SOIREE

as seen by Chris Gralapp

Betsy Palay and Wendy Hiller Gee collaborated to convene a medical illustrators' event in Betsy's home on the Stanford Campus on October 11. Amid the lavish spread of potluck offerings a group of ~25 supremely creative characters shared their latest projects in two minutes and thirty seconds each. The challenge to describe a complex illustration in that little time reinforces what we all know—that visuals tell the story so much more elegantly than the words needed to describe them!

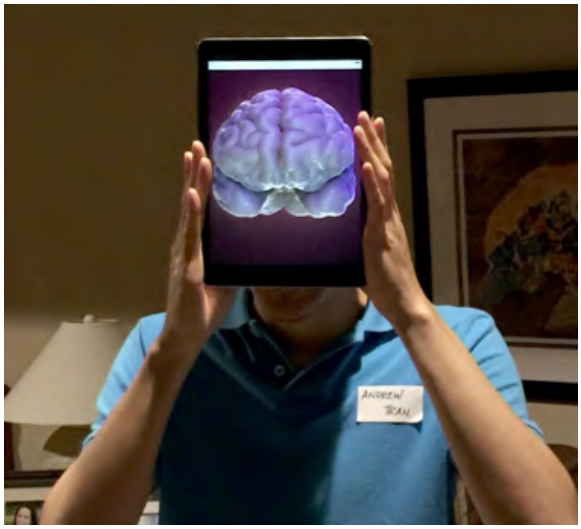
A sampling:

Catherine Twomey—horse head and neck anatomy in 3D
Ed Zilberts—an accommodating intraocular lens
Wendy Hiller Gee—wordless patient instruction sheets
Zina Deretsky—diving physiology and health
Sarah Hegmann—3D interactives for patients in large scale settings
Graham Johnson—elegant molecular processes for journal covers
Leslie White—traditional deep anatomy paintings a la Frank Armitage
Andrew Tran—brain modeling in 3D
Chris Gralapp—a new paradigm in ear anatomy
Wen Chao—intricate movies on bowel disease
Steve and Myriam Oh—intricate movies for tumor snipping devices
Betsy Palay—a collaboration with Tami Tolpa to teach scientists to tell visual stories
Suman Kasturia—patient information illustrations for online search
Julie Newdoll—a chemistry game for kids of all ages
Anna Kuo—knitting imagery
Julia Stack—coloring pages for kids and adults

The action was fast and furious as we attempted to economically and speedily describe our projects in a tiny time frame.

The wealth of diversity we have in our AMI regional group in the San Francisco Bay Area is abundant indeed. I have always maintained that there is niche within a niche for every one of us, and it would be tough to saturate the multiple markets we have here for biomedical visualization.

We welcomed some new faces and some MI prospects, and it is always a delight to see interest in our profession. Talent abounds, and as we gain familiarity with our group we get a good handle on who to contact when new questions and ideas arise in different peoples' areas of expertise. This is networking at its most fun! Next time—maybe a zipline?



ADDENDUM
WINNING WAYS FROM AMI 2015

Member's Choice Ralph Sweet Award (it's a tie!)

This year the Ralph Sweet Award was tied between **Edmund Alexander's** ***Bispecific Monoclonal Antibody*** and **Jennifer Fairman's** ***Z-Ring Stabilization and Constriction Rate Modulation of the ZapA-ZapB-MatP Protein Network***

(Look out for Edmund's piece on the cover of the Spring Edition!)

The Association of Medical Illustrators

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ANNUAL MEETING

AMI 2016 IN ATLANTA, GEORGIA

AMI is heading to Atlanta, Georgia this July for our 71st Annual Conference!

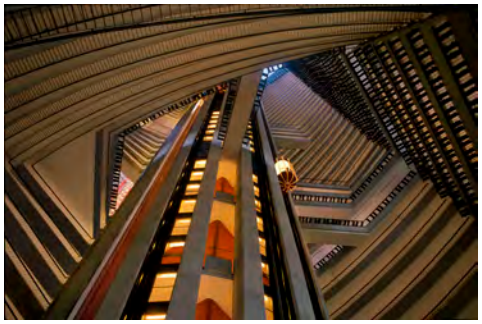
Homebase will be the Atlanta Marriott Marquis Hotel in a prime downtown location. The New World of Coca-Cola, CNN Center, Georgia Aquarium, High Museum of Art, and the College Football Hall of Fame are just some of the nearby noteworthy attractions. Of particular interest to AMI members are the Centers for Disease Control and Prevention (CDC), the Atlanta location of Savannah College of Art and Design (SCAD), and Emory University.

The TED-style sessions will be back by popular demand and we'll be pairing these shorter, power-packed talks with the Brödel Memorial Lecture and other keynotes.

Based on the feedback for a more inclusive and collaborative environment, we're including an interactive Roundtable session with plenty of time for meeting new people and sharing your thoughts on the industry.

Wednesday remains the customary Workshop day so full and half day options on the latest techniques and software systems will be offered.

Stay tuned for more details as the Call for Presenters closed December 11 and the program will soon begin taking shape!



CALENDAR OF EVENTS (CONT'D)

AMI Annual Conference

July 20-23, 2016, Atlanta, GA
http://ami.org/annual-meeting/upcoming-meeting

World Illustration Awards 2016 – Call for Entries

Deadline: February 8, 2016

The World Illustration Awards are open to illustrators in any country working in any medium or context. Work entered for the competition must have been created or published between 1st January 2015 to close of competition February 2016. Work in any medium can be entered in any category.

In addition to traditional advertising, book, editorial and self-initiated categories for professionals and students, the competition also welcomes and celebrates scientific illustration with their "Research & Knowledge Communication" category which includes but is not limited to … natural history illustration, wildlife, scientific illustration, forensic imagery, architectural imagery, illustration supporting academic research (for example in archaeology, geology, paleontology, natural sciences, biological sciences), visual informatics, data-visualisation and graphic facilitation.
http://www.worldillustrationawards.com/