

Mark Belan

I am a **scientific illustrator and information designer** working at the intersection of science and visual communication to translate scientific concepts into impactful and didactic visuals. I am interested in how visual media can assist education, communication, and decision-making, especially in scientific learning, and how visual representation can transform the approachability, transmission, and retention of complex material.

Areas of Interest

- visual communication
- information design/data visualization
- visual storytelling/graphics journalism
- web/interaction design

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Select Professional Experience

Graphics Editor | Quanta Magazine 🇺🇸 New York City, United States of America Oct 2024 – present

- collaborated with the editorial, art, production, and audience staff to research, design, and create science infographics, charts, maps, and data visualizations to illustrate *Quanta's* articles
- created motion graphics, interactive graphics, and data visualizations, as well as collaborated with freelance talent on these projects
- prepared graphics for web publication, including formatting and optimization, for desktop and mobile versions
- led larger, standalone visual projects, some of which involved assigning and overseeing the work of freelance collaborators
- worked closely with writers, editors, and experts to refine and revise graphics, including procuring permissions and facilitating adaptations to graphics from science journals
- maintained and monitored *Quanta's* infographic style, aesthetic, and scientific standards, while collaborating with Art Director to create and maintain a graphics style guide

Science Illustrator and Information Designer | artsci studios 🇨🇦 Freelance Oct 2017 – Oct 2024 (on hiatus)

- founder of an independently run production studio creating visuals that support science communication, research, and outreach
- select major clients/projects include:
 - **Scientific American:** illustrations of a geodynamo (Oct 2021); infographic on comparative genomes (Feb 2022); vector graphics about nuclear fusion reactors (June 2023)
 - **NASA:** provided visual communication insight and created scientific illustrations for the academic publications and grants of the NASA PLRP, BASALT, SUBSEA, and VIPER research missions
 - **Museum Graphics:** original graphics showcased in the permanent exhibitions of the Naturhistorisches Museum Wien (Vienna, Austria) and ARTIS- Groote Museum (Amsterdam, Netherlands)
 - **United States Department of Defence:** created informational graphics for Office of Commercial and Economic Analysis

Visual Scientific Communications Specialist | Visual Capitalist 🇨🇦 Vancouver, Canada May 2021 – Sept 2023

- created infographics and visual products pertaining to foundational knowledge in different scientific fields
- led junior and senior designers on the production of infographics and visual media pertaining to science media and information
- hosted internal workshops and presentations on variety of topics ranging from creative processes, new discoveries, best practices, and emerging trends in data visualization/scientific visual journalism
- contributed writing for articles and online journalism on scientific news stories and other science-based projects

Creative Innovation Associate | Red Nucleus (previously INVIVO Communications) 🇨🇦 Toronto, Canada Oct 2019 – May 2021

- assisted in the generation of digital scientific communication strategies for international pharma clients
- responsible for the development of creative briefs, concepts, proposals, pitch decks, and supporting pitch materials
- led and supported art direction by generating moodboards, style frames, colorboards, and storyboard
- served as a point of integration across production teams to support and maintain original creative visions
- researched and generated innovative ideas, concepts, and approaches for attracting new business
- assisted creative production departments with project overflow by leveraging skills in the following: medical content translation, 2D animation, 3D asset production, graphic design, art direction, and user experience
- managed team collaboration and coordination on the development of internal R&D project initiatives

Multimedia Research Assistant | Karolinska Institutet 🇸🇪 Stockholm, Sweden June 2018 – June 2019

- created illustrations and videos for online e-Learning courses as part of the EIT Health CARE (Caregiving Reimagined for Europe) project, hosted on edX
- facilitated HCP meetings for medical content collection, translation, and revisions between international project collaborators
- responsible for pre-production elements: wrote treatments and scripts, created storyboards, and created visual assets (graphic design and live film capture) in preparation for production
- responsible for production material: created educational course materials (videos) within Adobe Creative Suite

Appointments & Residencies

Science Journalist in Residence | Institute of Science and Technology Austria 🇦🇹 Vienna, Austria March 2023 – July 2023

- conducted interviews and shadowed researchers about their work to create infographics that promote original science research
- administered workshops and presentations about visual science communication for early career researchers and faculty/staff
- created graphics and illustrations to support press media releases on new academic publications and research
- rebranded the institute's marketing materials to give them a more sophisticated presence with stakeholders and both European and global research networks

Research

transPLANTS: An Animated Guide to Renal Transplantation Sept 2015 – present

- developed four animated modules (2D, illustrated) that details multiple facets of renal transplant care for out-patients
- wrote scripts, illustrated storyboards, and designed a visual metaphor of a flower garden to explain transplant immunology
- established visual language, mood, and styles of characters, environments, and supporting assets for all four animated modules
- performed needs assessments with patient groups and worked alongside several healthcare professionals to build key communication messages and educational content for all four modules
- secured \$25,000 CAD in national funding for ongoing development, hosted fundraising events for additional funding support, and showcased the project at international meetings in Canada and Europe

NASA AMES Pavilion Lake Research Project Sept 2013 – August 2015

- investigated carbon isotope biosignatures in freshwater microbialites using isotope-ratio mass spectrometry

Education

Master of Science in Biomedical Communications | University of Toronto Conferred Nov 2017

Master's Research Project: transPLANTS: An Animated Guide to Renal Transplantation

Master of Science in Geochemistry & Astrobiology | McMaster University Conferred Nov 2015

Master's Dissertation: Spatial Distribution and Preservation of Carbon Isotope Biosignatures in Freshwater Microbialites

Master of Science in Biomedical Communications | University of Toronto Conferred June 2013

Undergraduate Thesis: Exploring the Intersections Between Art and Biology

Selected Authored Publications

Accredited contributor to Seth Godin's *The Carbon Almanac: It's Not Too Late*. New York, Portfolio Penguin, 2022.

Puri, K., **Belan, M.**, Burger, C., Wallace, C., Shipley, A., Wall, S., Woolridge, N., Treleaven, D., Gangji, A., Ribic, C., "The Impact of an Educational Animation Module on Patient Knowledge of Immunosuppressive Medications in Patients Referred for Renal Transplant: A APilot Study." *Pharmacy Residency Projects* (2019).

Somai, M.,... **Belan, M.**, et al. (2018) "CARE Campus. A European Consortium Model to Support Formal and Informal Caregiving Training." *Care Weekly 2.2* (2018): 43-49.

Belan, M., Brady, A., Kim, S-T., Lim, D.S.S., Slater, G. 2019. Spatial Distribution and Preservation of Carbon Isotope Biosignatures in Freshwater Microbialite Carbonate. *ACS Publications*. 3(3): 335-343

Bousses, K., Hawes, I., Lim, D.S.S., Andersen, D.T., **Belan, M.**, Brady, A., Mackey, T., Biddle, J. "The Biological Role Associated with Microbialite Formation at Pavilion Lake, British Columbia." *2018 Ocean Sciences Meeting*. AGU 2018.

Lim, D.S.S., Hawes, I. Mackey, T.J., Brady, A.L., Biddle, J., Andersen, D.T., **Belan, M.**, Slater, G., Abercromby, A., Squyres, S.W., Delaney, M., Haberle, C.W., and Cardman, Z. (2014, December). "The microbial mats of Pavilion Lake microbialites: examining the relationship between photosynthesis and carbonate precipitation". *AGU Fall Meeting Abstracts*. Vol. 2014. 2014.

Select Graphic Publications

Kazamia, Elena. "The Bacteria That Revolutionized the World" *Nautilus Magazine*, 8 April 2024, www.nautil.us/the-bacteria-that-revolutionized-the-world-543827/

Wei-Haas, Maya, "Deep Beneath Earth's Surface, Clues to Life's Origins" *Quanta Magazine*, 4 January 2024, www.quantamagazine.org/deep-beneath-earths-surface-clues-to-lifes-origins-20240104/.

Ball, K., "What is the Future of Fusion Energy?" *Scientific American*, 1 June 2023, www.scientificamerican.com/article/what-is-the-future-of-fusion-energy/.

ISTA. "Wiring up Quantum Circuits with light." *Institute of Science and Technology Austria*, 19 May 2023, ist.ac.at/en/news/wiring-u-quantum-circuits-with-light/.

Whaley-Martin, Kelly J., et al. "O₂ partitioning of sulfur oxidizing bacteria drives acidity and thiosulfate distributions in mining waters." *Nature Communications* 14.1 (2023):2006

Illustrations installed at the Naturhistorisches Museum Wien. Web versions available at the following: "Hall 6-9: The Earth - A Dynamic Planet: Fragile as Stone" *Naturhistorisches Museum Wien*, 21 Feb. 2023 www.nhm-wien.ac.at/wn/exhibitions/permanent_exhibitions/mezzanin_level_hall_6-9_earth_history.

Newman, Matt. "Not the Last of Us: The Truth About Zombie Fungi." *New York Botanical Garden*, 31 Jan. 2023, www.nybg.org/planttalk/not-the-last-of-us-the-truth-about-zombie-fungi/.

Carnegie Science. "It May Already Be Too Late to Meet U.N. Genetic Diversity Target." *Carnegiescience.edu*, 22 Sept. 2022, carnegiescience.edu/it-may-already-be-too-late-meet-un-genetic-diversity-target-4.

Fox, Douglas. "Junk DNA Deforms Salamander Bodies." *Scientific American*, Feb. 2022, <https://doi.org/10.1038/scientificamerican0222-40>.

Moskowitz, Clara, and Belan, Mark. "The Solar System's Mysterious Magnetic Fields." *Scientific American*, 1 Oct. 2021, www.scientificamerican.com/article/the-solar-systems-mysterious-magnetic-fields/.

Lim, Darlene SS, et al. "The BASALT research program: designing and developing mission elements in support of human scientific exploration of Mars." *Astrobiology* 19.3 (2019): 245-259.

Miller Michael J., et al. "A flexible telecommunication architecture for human planetary exploration based on the BASALT science-driven Mars analog." *Astrobiology* 19.3 (2019): 478-496.

Various articles and infographic contributions can be found at Visual Capitalist: www.visualcapitalist.com/author/markb/

Conference Presentations & Invited Talks

■ The Value of Visuals in Science Communication

August 2023 – Research Institute of Molecular Pathology, Vienna BioCentre. Vienna, Austria.

April 2023 – Institute of Science and Technology Austria. Vienna, Austria.

February 2023 – Sherman Centre for Digital Scholarship, McMaster University. Hamilton, Canada.

September 2022 – Innsbruck Universitet. Innsbruck, Austria.

■ Scientific Illustration and Visual Science Communication Workshop

September 2023 – Brown University, Division of Biology and Medicine. Providence, Rhode Island, USA.

May 2023 – MIT Microbiome Consortium 2023. Cambridge, Massachusetts, USA.

■ From article to art: creative visual abstracts

December 2022 – Elsevier Researcher Academy. Viewable at: shorturl.at/ptwHQ

■ transPLANTS: Designing an Innovative Solution for Improving Kidney Transplant Patient Education

July 2018 – Njurförbundet Familjveck. Tanum Strand, Sweden.

■ How to Use Graphics in Visual Storytelling: Techniques and Strategies for Excellent Communication

June 2018 – Curious Science Writers. Union, NJ, USA.

■ Scientific Storytelling through Sequential Art (NASA, Science, and Comics, oh my!)

December 2017 – New York Scientific Visualization (SciVizNYC). New York, NY, USA. Viewable at: shorturl.at/ptyT4

Service & Contributions

Facilitator | Society of News Design 47th Competition April 2026

- assisted judges and competition staff with the preparation, recording, and archiving of award winners in the 47th Society of News Design Competition held in Berkeley, California

Create-a-thon Review Expert | ComSciCon Canada 2023 & 2022 July 29, 2023 | Aug 13, 2023

- reviewed graphical abstracts and visual media created by early career researchers from across Canada and offered feedback and revisions to strengthen science communication

Panelist | 2020 Arts & Science New World of Work Forum Feb 29, 2020

- spoke at McMaster University's Art & Science Faculty conference about the world of work post-undergraduate studies, and what career opportunities look like for students coming from the Arts & Science community

Honors & Awards

Award of Excellence for Line of Coverage in Climate & Environment Honored April 2026

- Society of News Design 47th Competition 🏆 *How We Came to Know Earth* | *Quanta Magazine*

Award of Excellence for Infographics in Health & Science Honored April 2026

- Society of News Design 47th Competition 🏆 *How Can AI ID a Cat? An Illustrated Guide* | *Quanta Magazine*

Award of Excellence for Infographics in Climate & Environment Honored April 2026

- Society of News Design 47th Competition 🏆 *The Quantum Mechanics of Greenhouse Gases* | *Quanta Magazine*

Best Single Topic Issue Honored April 2025

- American Society of Magazine Editors 🏆 *Quanta Magazine* | *The Unraveling of Space-Time*

Top 3 National Finalist | T3 Transformative Thinking in Transplantation Competition Honored Sept 2017

Award of Merit "Periodontitis" | Association of Medical Illustrators 2017 Honored July 2017

Excellence in the Category of Group/Team | NASA Ames Honor Award Honored July 2014

Nominations

American Society of Magazine Editors | Best in News Design *Finalist* Nominated March 2026

- *How We Came to Know Earth* | *Quanta Magazine* (responsible for visual storytelling and editorial design of climate science news)

American Society of Magazine Editors | General Excellence *Finalist* Nominated March 2026

Press & Podcasts

Mark Belan - Scientific Illustrator | biofounders Podcast Jan 2023

- sofiabio.substack.com/p/mark-belan-scientific-illustrator?sd-pf#details

Mark Belan Interview | Medical Illustration Podcast Aug 2022

- pkvisualization.com/post/medical-illustration-podcast-mark-belan-interview

Skills & Interests

Technical Skills

2D Visualization

- Adobe Creative Suite (Photoshop, Illustrator, After Effects)
- illustration (traditional/digital)
- acrylic painting

3D Visualization

- MAXON Cinema 4D
- Blender LTS

Language Ability

- **English** – native language
- **Swedish** – moderate (conversational; reading/writing)
- **Croatian** – moderate (conversational)

Interests

- astrobiology and origins science
- comics and sequential storytelling
- Scandinavia (music, design, culture)
- video games and interactive media
- baking with cinnamon
- pottery and ceramics

Portfolio

artsci studios | visual science communication and information design www.artscistudios.com