PINO TROGU

CURRICULUM VITAE

Associate Professor of Information Design
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EDUCATION

Rhode Island School of Design, R.I., 1983-85 Master of Fine Arts in Graphic Design
Istituto Superiore Industrie Artistiche, Urbino, Italy 1979-1983 Bachelor of Fine Arts in Graphic Design
Istituto Statale d'Arte - Oristano, Italy 1973-1979 Diploma in Industrial Design

AWARDS

Fulbright Scholar, Rhode Island School of Design, 1983-85

PROFESSIONAL ASSOCIATIONS

International Institute for Information Design – IIID. Member, 2010-2016
American Institute of Graphic Arts – AIGA. Member, 2010-2016
The Book Club of California – BCC. Member, 2012-2016
Center for Typographic Language – CTL. Member of advisory council, 2008-2016

RESEARCH AND PUBLICATIONS

PEER-REVIEWED PUBLICATIONS

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1. Peer-reviewed journal article – October 2016, *Leonardo Journal,* M.I.T., USA
Giorgio Scarpa's model of a sea urchin inspires new instrumentation
Full paper. An analysis of the bionic model of the sea urchin's masticatory apparatus, created by Giorgio Scarpa in the early 1970s that has recently inspired designs for a biopsy harvester and for a mini-rover to collect soil samples on Mars. PDF: bit.ly/2j3S6UV

"Leonardo is the leading international peer-reviewed journal on the use of contemporary science and technology in the arts and music and, increasingly, the application and influence of the arts and humanities on science and technology."

2. Peer-reviewed journal article – Summer 2015, *Design Issues,* M.I.T., USA
The Image of the Book: Cognition and the Printed Page
In Design Issues (M.I.T. Press) Vol 31, 3, Summer (July) 2015. Top-tier international design journal in the history, theory, and criticism of design.* The articles proposes a theory as to the cognitive and mnemonic advantages of physical printed books vs digital books. PDF: bit.ly/2d9T1S9

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*"*Design Studies* and *Design Issues* are perceived to be the best journals publishing articles related to the industrial design field. Overall, these two journals are considered by the vast majority of our sample as top tier, irrespective of the quality measure used (Popularity or Index), the respondents' geographic location and whether the respondents are affiliated or not with the journal." From: Gerda Gemser, Cees de Bont, Paul Hekkert, Ken Friedman, "Quality perceptions of design journals: The design scholars' perspective", *Design Studies*, Volume 33, Issue 1, January 2012, pp 4-23.

"Today *Design Issues* is the only design journal to rigorously analyze graphic design for the academic community." From Steven Heller and Jason Godfrey, *100 Classic Graphic Design Journals*, London: Lawrence King, 2014: pp 70–71.

3. Peer-reviewed journal article – Summer 2015, *FORMakademisk*, Oslo, Norway.
Working Memory and Background knowledge: Cognitive Science in the Design Classroom
Special issue: "Design learning for tomorrow – design education from kindergarten to PhD"
Part of a special issue on design education of the journal *FORMakademisk* (Norway) Vol. 8 Nr.1 2015, following presentation at DRS // Cumulus 2013, The 2nd International Conference for Design Education Researchers, Oslo, Norway, 2013. PDF: bit.ly/2dskRsb

4. Peer-reviewed journal article – May 2013, *International Journal of Humanities and Social Science*
The Four-Second Window: How the Time Constraint of Working Memory and Other Psychological Principles Determine the Success of a Graphic Design. In print. Vol. 3 No. 9; May 2013.
PDF: bit.ly/2cvdBK8

PEER-REVIEWED CHAPTERS IN BOOKS

5. Invited peer-reviewed chapter in book (accepted for publication) – February 2015
Munari's Master Class: Klee, Munari, Scarpa PDF: bit.ly/2d2kuF1
Invited chapter in a book on the legacy of the influential Italian designer Bruno Munari. Completed and accepted chapter. Book title: *Munari Open Source*. Scheduled to be published in Winter 2016.

INVITED CONFERENCE PRESENTATIONS

6. Invited co-chair of technical session and workshop – October 2016, Delft, The Netherlands
Origami Design and Engineering
Invited, 2-hour technical session and workshop at *28th Conference of the international Society for Medical Innovation and Technology* – Advancing medical technology through clinical and technological synergy, October 5–8, 2016, Delft, The Netherlands. Session and workshop on design of Origami models of which many are bio-inspired (muscle, DNA, cells, etc.) that show certain kinematic principles (e.g. contraction by torsion), and parallels to existing/future medical devices. Co-chair: Filip Jelínek, Austrian Center for Medical Innovation and Technology. Website: smit2016.com/

7. Invited, peer-reviewed conference presentation – September 2015, Brasilia, Brazil
Little men, little boxes: limitations of Otto Neurath's International Picture Language as a tool for statistical visualization.
Invited 30-minute oral presentation at CIDI 2015, The *7th International Conference on Information Design*, Brasilia, Brazil, September 4, 2015. A critique of Otto Neurath's invention of the Isotype system of statistical graphics, which employs small, repeated pictorial representations of people or things. Following my participation in the CIDI 2013 conference. PDF: bit.ly/2dbrkqd

PEER-REVIEWED ARTICLES: CONFERENCE PRESENTATIONS AND PROCEEDINGS

8. Published extended abstract in peer-reviewed conference proceedings – September 2015, Vienna, Austria
Bioinspired Design: Aristotle's Lantern and Models of Rotational Geometry by Giorgio Scarpa
DMD EU 2015 — Design of Medical Devices Conference, Europe Edition, Vienna, Sept. 8-9, 2015. Rapid Prototyping for the efficient design and validation of medical devices. Presented as one of three papers in the design session at the conference. Abstract: bit.ly/2dslT7v

9. Peer-reviewed conference workshop presentation – July 2014, Living Machines 2014, Milan, Italy
Rotational Geometry and the Creation of Bionic Models: The Pioneering Work of Giorgio Scarpa (1938-2012)

Organized and conducted workshop on *Bionics and Design, Pure and Applied Research* (With Carmelo di Bartolo and Franco Lodato). 3rd International Conference on Biomimetic and Biohybrid Systems. The workshop was noted in the proceedings published by Springer. PDF: bit.ly/2cVOnJJ

10. Published article in peer-reviewed conference proceedings
September 2013, *6th Information Design International Conference*
The Double Constraints of Convention and Cognition in Successful Graphic Design
Full paper presentation at CIDI2013, a bi-annual scientific event promoted by the Brazilian Society of Information Design [SBDI]. *Recife, 10-13 September 2013 UFPE | Brazil. Blucher Design Proceedings, num. 2, vol.1. São Paulo: Blucher, 2014.* PDF: bit.ly/2dbt7eX

11. Published article in peer-reviewed conference proceedings
May 2013, DRS // Cumulus – *2nd International Conference for Design Education Researchers*
Rotational Geometry as a Teaching Tool: Applying the Work of Giorgio Scarpa.
Full paper presentation at DRS // CUMULUS Oslo 2013, Design Research Society. Proceedings from the 2nd International Conference for Design Education Researchers. 14-17 May 2013, Oslo, Norway. Vol. 2; pp 866-878. PDF: bit.ly/2cVOy7u

12. Peer-reviewed conference presentation – Nov. 2013, *Resurrecting the Book Conference, Birmingham, UK*
The image of the book: The interplay of the fixed sequence of pages (the visual-spatial) with the printed text (the aural-verbal) in the context of recent cognitive psychology research on working memory.
Full oral presentation at the Resurrecting the Book Conference, November 15-17, 2013, Library of Birmingham, England. (With Jim Faris & Jack Stauffacher) bit.ly/2cYPnhB

13. Peer-reviewed conference presentation
January 2012, *Sixth International Conference on Design Principles and Practices, UCLA*
Rotational Geometry as a Teaching Tool: Applying the Work of Giorgio Scarpa.
Full paper presentation at the Sixth International Conference on Design Principles and Practices. Los Angeles, January 2012. bit.ly/2diP1BV

INVITED SYMPOSIUM PRESENTATIONS

14. Invited presentation – September 2012, *Michele Provinciali: a World Imagined Through Artifacts*
Michele Provinciali: Imprinting of a Master
Invited to present at a conference on Italian master graphic designer Michele Provinciali. Prepared a six-minute video entitled "Michele Provinciali: Imprinting of a Master", showing his influence on a generation of graphic design students. Michele Provinciali was art director of design magazines such as Abitare and collaborated with industrial designers such as the Castiglioni brothers, among others. He was also a recipient of the Compasso d'Oro, the highest design award in Italy. Pesaro, Italy, September 15, 2012.
Video: bit.ly/2diOT51

15. Invited presentation – June 2012, *San Francisco Design Week*
Jack Stauffacher: The Master of Types.
Sponsored by Swissnex San Francisco, featuring the master printer from the Bay Area, in a conversation about his experimental work, as part of San Francisco Design Week, a larger event in the city that included design forums, studio tours, exhibitions, lectures and mixers. Speakers coordination and production of a special broadside handout, keepsake for the event. Jack Stauffacher was the 2004 American Institute of Graphic Arts (AIGA) gold medal recipient. His work is in the San Francisco Museum of Modern Art and the Los Angeles County Museum of Art collections, where his show Typographic Experiments was on view until July 2013.

CITATIONS IN THE FOLLOWING:

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16. Gulliksen, Marte S., "**Embodied Making, Creative Cognition and Memory**", *FORMakademisk.org* 1 Vol.9 Nr.1 (2016). bit.ly/2dbsn9z

17. Frank, Michael B., S. E. Naleway, T. S. Wirth, J. Y. Jung, C. L. Cheung, F. B. Loera, et al. "**A Protocol for Bioinspired Design: a Ground Sampler Based on Sea Urchin Jaws**", *Journal of Visualized Experiments*. (110), e53554, doi:10.3791/53554 (2016). Paper: bit.ly/2dkYzNa Video: bit.ly/2dsmuWX

18. Jelínek, Filip, G. Smit, and P. Breedveld, "**Bioinspired Spring-Loaded Biopsy Harvester—Experimental Prototype Design and Feasibility Tests**," *Journal of Medical Devices*, Vol. 8, No. 1, 015002-015002-6 (2014). Paper: bit.ly/2cYQDBq

19. Jelínek, Filip et al., "**Bioinspired Crown-Cutter—The Impact of Tooth Quantity and Bevel Type on Tissue Deformation, Penetration Forces**, and Tooth Collapsibility," *Journal of Medical Devices*, Vol. 8, No. 4, 041009-041009 (2014). Paper: bit.ly/2d9Vpbt

20. Fry, Aaron, Jennifer Wilson, and Carol Overby. "**Teaching the design of narrative visualization for financial literacy**." *Art, Design & Communication in Higher Education* 12.2, 159-177 (2013). bit.ly/2dsn1Is

WORK IN PROGRESS

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21. Book: "The Four-Second Window" (draft)
Drawing on a number of articles, conference presentations and classroom materials, this book will address the need to include more psychology based processes and culturally driven perspectives into graphic design discourse. Lacking a formal critical theory that other disciplines like architecture and cinema have, graphic design is still in need of a robust, reliable critical structure that until now has relied mainly upon obsolete theories of structuralism, semiotics, and post-modernism. The book examines up-to-date theories of perception and memory from the psychology field as well as theories of learning from the education field, seeking to provide practical examples for the classroom, backed by general principles applicable in a broad range of disciplines within visual communication. A draft of the book can be found here: bit.ly/2d9Viwv

22. Book translation 1 – March 2013
Translation from Italian into English of two books from the design series *Quaderni di design* (Design notebooks) edited by Bruno Munari.

Models of Rotational Geometry: Complementary Modules and their Combinations.
Original title: *Modelli di geometria rotatoria. I moduli complementary e le loro combinazioni*, by Giorgio Scarpa. Zanichelli, Bologna, 1978. PDF: bit.ly/1gEjNky

23. Book translation 2 – March 2013
Bionic Models. Understanding Nature Through the Use of Models.
Original title: *Modelli di bionica. Capire la natura attraverso i modelli*, by Giorgio Scarpa Zanichelli, Bologna, 1985. PDF: bit.ly/1KDAeKi

CREATIVE WORKS

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24. Exhibit art direction and design: *Patient No More: People with Disabilities Securing Civil Rights*
Paul K. Longmore Institute on Disability, San Francisco State university, Fall 2013 to Spring 2015

Art director and coordinator for a major exhibit on disability sponsored by the Longmore Institute at SF State. The exhibit focuses on a remarkable, overlooked moment in U.S. history when people with disabilities occupied a government building to demand their rights. Known as the "Section 504 Sit-In," the protest profoundly changed the lives of people with and without disabilities, and paved the way for the Americans with Disabilities Act (ADA) in 1990.

In my role as fellow of the institute, I coordinated the planning and design of the exhibit, helping to organize the various tasks between researcher, curators, other exhibit designers, and students of SF State participating in the project under the institute's internship program. More information can be found at the Patient No More website: longmoreinstitute.sfsu.edu/patient-no-more

25. Juried competition – *Data in Sight San Francisco,* June 2011

Academia is an Iceberg won first prize in the category 'best fusion of multiple data sets' at the Data in Sight data visualization competition, San Francisco, June 2011, sponsored by Swissnex, the Netherlands Office for Science and Technology, and Creative Commons. The interactive double bar chart depicts a sample of 500 biology authors and their readership who are registered on the science website mendeley.com. The lower bars show their readership and the upper bars show whether they have a LinkedIn account and the number of connections. The graph clearly shows that relatively few authors (the tip of the iceberg) at that time had an account on LinkedIn, the social network for professionals. online.sfsu.edu/trogu/datainsight/

My winning team was comprised of Giorgio Caviglia from the Milan Polytechnic and a visiting scholar at Stanford University, who wrote the code for the visualization; William Gunn, a biologists and researcher from Mendeley who contributed the data set of authors, and Pino Trogu, who curated the visual aspects of the project and designed the final slide presentation.

CURRICULAR INNOVATIONS

26. Information design and data visualization Fall 2010–2016

DAI 523 Information Design 1: Data Visualization
I was hired in the Design and Industry Department with the specific goal of developing an information design and data visualization curriculum. This is a rapidly expanding field with growing demand for designers, data experts, and data journalists. Although the class is an elective, in 2012, based on a survey of student demand, a second section was added and it quickly filled up. Work from the class can also be viewed in the 523 Information Design Class Blog:
bit.ly/1jnBCoL

The information design class has a been a laboratory for informally testing various principles of psychology of perception and cognition (working memory), as well as the importance of convention and familiarity in graphic design. These observations have been formalized with the writing of journal articles and conference presentations, as well as the writing of a small, pocket-size data visualization handbook for the information design students in the class. bit.ly/2diR7RW bit.ly/2d2njG2

27. Drawing, sketching, and instructional technology – Fall 2009–Spring 2016

DAI 320 Drafting and Sketching for Design
Since beginning teaching the class in Spring 2009, I have expanded the traditional drawing and visualization techniques with higher level exercises that use rotational geometry as a grammar for building three-dimensional models that evolve from two-dimensional basic shapes. The class is a multifaceted course supported by many online resources built up over the years, including more than 30 videos, archived on YouTube, of demonstrations averaging 20-30 minutes each, for offline viewing by the students. The videos are

also starting to attract a following on YouTube, with some averaging more than 200,000 views.
Youtube videos: bit.ly/2cx8xtA

One of the core units in the class, the cube section, has also been the basis for journal articles and conference presentations on the subject of rotational geometry. bit.ly/2d2caqa

28. Letterpress Printing – Spring–Fall 2016

DAI 226 Modern Letterpress Printing
Restored the letterpress class in DAI which had not been taught for 15 years. The class is approved for R1 Arts segment in general education at SFSU and is open to everyone, without prerequisites. The class integrates the centuries-old method of letterpress into contemporary design processes and introduces the students to the technique of setting metal type by hand, a tradition that goes back to Gutenberg's invention of printing in 1455 in Germany. The restoration of this class was made possible by an 8-year effort to preserve, restore, and keep running a small printing press and other equipment, despite the class not being offered until last Spring.
Class website: stanza153press.com

CONTRIBUTIONS TO CAMPUS AND COMMUNITY

29. SF State Academic Senate
Elected as a member of the Academic Senate in Spring 2013 to 3-year term starting Fall 2013.
As a member of the Faculty Affairs Committee (FAC), I contributed to several policies which were later passed by the Senate, including revisions to the SFSU Emeritus Policy and the SFSU Temporary Faculty Range Elevation Policy, a new Policy on Transition to Electronic Working Personnel Action Files (WPAFs), and a revised, cleaned-up RTP policy to help facilitate the transition to Electronic WPAFs.

In Fall 2015 I was elected chair of the FAC committee and hence became a member of the Executive Committee (EXCOMM), helping to direct and focus general policies of the Academic Senate as well as specific policies related to faculty affairs at SF State.

30. Math and geometry workshop – SF State Math Summer camp
Conducted workshop for 30 elementary school students, on the connections between math, geometry and art. Used materials from my Drafting & Sketching class. Hands-on participation of the students, using paper, clay, steel wire, and other clay modeling tools.

31. 2009-2012 – Annual DAI Student design exhibition, San Francisco State university
The value of the annual DAI show to the community at large is always evident during its 5-day run at the end of the school year, during which other members of the school community as well as from the larger bay area come to visit the show displaying outstanding work from the DAI students. Please see more details about this entry under the Other Campus Contributions heading above.

32. 2013 – *FIRST* Technical mentor, Lowell High School, San Francisco
Volunteered the equivalent of one day a week in Spring 2013 at Lowell High School in San Francisco, with the school's CardinalBotics 4159 team, in the capacity of technical mentor to the students participating in the 2013 FIRST Robotics Competition. FIRST (For Inspiration and Recognition of Science and Technology) is an international high school robotics competition where each year, teams of high school students compete to build robots weighing up to 120 pounds (54 kg). Game details are revealed at the beginning of January and the teams are given six weeks to construct a competitive robot, that can operate autonomously as well as when guided by wireless controls, to accomplish the game's tasks. usfirst.org/

FIRST mentors work extensively with team members during the build season, designing, building, and fabricating a functional robot for competition. This year I assisted the team in building a robot whose task was to shoot frisbees and climb a designated structure. I am supported the team during the three-day FIRST

Central Valley Regional Robotics Competition held in Madera, CA, on March 1-3, 2013.
Videos from the competition can be found here:
Pino Trogu – youtube videos: bit.ly/ZsbjxE
Silvan Linn – youtube videos with on-board HERO3 camera: bit.ly/Xz371N

PROFESSIONAL POSITIONS AND RANKS HELD
(INCLUDING PRIOR TEACHING)

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33. 2007-Present – San Francisco State University
Assistant Professor of Information Design
Design and Industry Department. College of Liberal and Creative Arts.
Classes taught to date: Design Process, Graphic Design 2: Typography, Drafting & Sketching for Design, Information Design 2: Exhibits, Rapid Visualization, Information Design 1: Data Visualization.

34. 2006-07 – San Jose State University
School of Art and Design. Introduction to graphic design class: I taught basic progression from drawing to color and typography with final production of a poster dealing with a series of vegetables: tomato, corn, pineapple, soy, and beet. I stressed basic principles of legibility and economy of means. In a digital applications methodology class, I asked students to research such topics as digital-analog, the genealogy of design objects, the typography of poetry. They were to test CMYK separations before sending files to be offset printed. I completed this varied class with basic HTML coding exercises towards the production of personal websites, and also conducted letterpress and bookbinding workshops. Other classes taught included Graphic Design 2 and Typography 1.

35. 1995-2005 – GrafCo, San Francisco
Opened in 1995, GrafCo provided graphic design, exhibition, and web design services to private and public enterprises in the bay area and out of state. The following is a selection of works. Traveling exhibit for the Mineral Resources Program of the United States Geological Survey (USGS) in Menlo Park. Developed a series of panels that could be assembled by a single person on site. Designed and produced Neighbors & Neighborhoods for the San Francisco Mayor's Office of Housing. Corporate identity and promotional materials for Wallace Roberts and Todd - WRT, a national planning and design firm specialized in urban renewal projects. Collateral materials for Premium Port Wines, a national importer of fine wines and ports. Logo and collateral materials for the Core Knowledge foundation, a non-profit organization devoted to education and curriculum reform. Logo and identity for various landscape architecture firms and local community groups, as well as non-profit associations: Arcadia Garden Architecture, Pioneer Park at Coit Tower, Friends of the Urban Forest. Recycling exhibit for the South San Francisco Recycling Center. As a community outreach, GrafCo has been involved in art workshops for local elementary school children, working with photography, painting, and light projections.

36. 1994-95 – West Office Exhibition Design, San Francisco
Exhibit design and graphics for the California Museum of Science and Industry, Los Angeles. Developed concept, logo, and graphic systems for various science exhibits: chemistry, electricity, and Special effects. Exhibit Graphics for the Washington State History Museum - WSHM, Tacoma, Washington. Developed look and feel of exhibits for the history museum. Managed design team in the production of a graphics program that included hundreds of graphic components. Developed production workflow built around early large-format digital printing (iris).

37. 1994 – Melanie Doherty Design, San Francisco
Developed environmental signage and maps for the Museum of Modern Art and other public buildings in the bay area.

38. 1992-93 – The Burdick Group, San Francisco

Exhibit graphics for Evoluon, Philips Electronics competence center in Eindhoven, the Netherlands. Managed the graphic production for various areas of the exhibit, including the production of diagrams, story-lines and technical illustrations.

39. 1991 – Academy of Arts, Architecture and Design, Prague, Czech Republic
Wrote, filmed and produced Arki, a 3-minute, 35mm color film on the subject of computer modeling and simulation. The film tells the story of how a young boy's quest to design the perfect coat is finally realized with the help of lego-like electronic modules.

40. 1989-90 – Virginia Commonwealth University, Richmond, Virginia
Assistant professor of graphic design. Freshman foundations classes, 2 and 3-D design fundamentals. In a class titled Communication Vehicles, students explored methods for progressing from the plane to solid, and for visualizing these passages. In a cube-sectioning series of assignments, students were required to develop a simple system for dividing the cube into three equal parts. The volumes were drawn and built by hand. In a later section devoted to color, students directly explored the property of color. Taking inspiration from *Interaction* of Color by Josef Albers, they painted large areas of color uniformly and used those samples for the interaction exercises. In Typography I and II, students were trained in the basic properties of letter-forms by learning to draw letter-forms using black gouache and ruling pens. They were tested in the terminology of type and then they explored how text can be transformed and rearranged to achieve maximum legibility. In Graphic Design I, a poster, a magazine article and a final experimental project, allowed the students to develop design and layout skills in an evolutionary manner. A class on visual systems pushed the students to go beyond the typical constraints of more traditional design methods and forms. Advanced courses in semiotics, color, and design criticism were conducted with students in the graduate program. In addition to class work, I was involved in various committee assignments, including the management of the department's lecture series and the development of the graduate studies curriculum.

41. 1988 – GrafCo3, Milan, Italy
Book and publication design for Alessi and other Italian manufacturers. Book design for Ambiente, a publisher specialized in environmental issues. Book design for the publisher Sonda Edizioni – designed first catalog and exhibit booth at book fair in Turin. Storyboards for exhibit *One Hundred Years of Industry* at the Milan Triennale exhibit.

42. 1986-87 – Robert Gersin Associates, New York
Corporate identity work for the Sears corporation, managing the creation of a series of identity manuals, including manuals on product graphics and printed materials. Production of a new graphics standards manual for the General Accounting Office GAO. In cooperation with the Government Printing Office, the manual enabled the agency to dramatically reduce paper waste and establish a new coherent graphic system. Tasks included the evaluation of hundreds of government publications and the design of new formats for books, brochures, and official reports.