Regina Valluzzi

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14 Prescott Street | Arlington, MA | 02474

BS in Humanities (Visual Art Minor) and BS in Material Science, MIT 1989
PhD Polymer Science UMass Amherst 1997

Solo Exhibitions 2011 – 2013

2014 (planned) Remis Gallery, Newbury, MA
2013 (planned) Corporate Gallery, New England Biosciences
2013 at Lifeyield, Boston
2012 "Insight and Allusion", curated by john Quatrale, The Gallery at Athans Cafe, Brighton, MA
2012 at Crema in Harvard Square, Cambridge
2012 at Mullen, Boston
2010 at the Jam N' Java coffeehouse in Arlington MA

Other Exhibition Highlights 2011 – 2013

2013 "Unthemed and varied", the Gallery at 100 Market Street, Portsmouth, NH
2013 Members Juried Show 1 and II, Newburyport Art Association, Newburyport, MA
2012 "Driven to Abstraction" 4 person show, Old Shwamb Mill, Arlington, MA, curated by Regina Valluzzi
2012, 2013 Mathematical Art exhibit at the Joint Mathematics Meeting (twice); Boston and San Diego
2012 "Glitz" National Group show, Annmarie Museum and Sculpture Garden, Solomons, MD
2012 "With the Other Eye", the Gallery at 100 Market Street, Portsmouth, NH
2012, 2013 WGBH Winter Art Auction
2011 "9x12", Ferencvarosi Pince Gallery, Budapest, curated by Beata Szechy
2011 "Identity", Brighton Allston Heritage Museum, curated by John Quatrale
2011 "Appearances", Provincetown Green Arts festival, curated by Dorothy Palanza
2011 Still Point 3, international show, Still Point online Art Gallery
2011 "Artists in the Arboretum" Harvard University's Arnold Arboretum, Jamaica Plain, MA
2011 Paperworks InternationalWinners Show, bjspoke gallery, Huntington, NY
2011 "Red", Inside Out Gallery Somerville, MA
2011 "Rising Above"Invitational show at the West Side Arts Coalition NYC, NY, curated by Carson Grant
2011, 2012 SMART International Science math and Art Festival, Los Alamos, NM (finalist both years)
2011 "Early Winter Show", "Just my Imagination" (2 exhibits), Gallery at 100 Market Street, Portsmouth, NH
2011 "Regeneration", regional show, Arlington Art Association, Arlington, MA

Publications 2011 & 2012
Diagram Magazine, small portfolio feature
Oddball Magazine, image feature
The Quotable, image feature
Palooka, portfolio Feature
Black Fox Review, image feature
Prick of the Spindle Portfolio Feature and cover (online)
Cover, Prick of the Spindle Print Edition, Issue 4
cover of "Communitas"
Image featured in “Focus” the news magazine of the Mathematical Association of America 2012
Cover of the Bridges math art exhibition catalogue 2013 (exhibition at the Join Mathematical meeting in San Diego)
Cover of “Focus” March 2013

Awards 2011, 2012
Best in Show (1 of 2), The Gallery at 100 Market Street “Un-Themed and Varied”, 2013
Juror's Choice Attleboro art museum member's show 2012
Honorable Mention at the SMART Science and Art Festival 2011, Los Alamos, NM
2 Special Recognition awards in international online juried shows hosted by Light Space and Time 2011,
ArtSlant Showcase winner 2011

Press, blogosphere, recognition
Interviewed on Metroseeker.com 2012
Featured and interviewed on the ArtVenue blog 2012
Featured and interviewed on Artist Quirk 2011
Featured in Jamaica Plain Patch article on Artists in the Arboretum exhibit 2011
Featured in Long Island.com article on “paperworks” winners show exhibit, 2011
Featured in an article at NE Home Magazine online 2012
Featured and interviewed in an article in Boston Business Journal, 2013
Featured in Seacoast Online review of “Unthemed and Varied: The Winter Exhibit” 2012
Interviewed on Cambridge Public television 2010
Featured on blogs: Todo el oro de Mundo, Popperfont, Its Ok to be Smart, Slightly Wonky

Work is in private collections in the US, UK, Germany, Canada, Japan, the Netherlands, Switzerland, Bulgaria, and Malta and the corporate collection of Seyfarth Shaw law offices in Boston. “Density of States” is on loan to the materials Science Department of the Massachusetts Institute of Technology as public art.

Links to selected articles and features

Art in magazines, online magazines, art blogs
http://oddballmagazine.com/2012/03/11/till-tomatoes-or-roses-are-thrown/
http://1stangel.co.uk/blog/tag/regina-valluzzi/
http://dmse.mit.edu/news/blog/dmse-alum-makes-art-based-science
http://dmse.mit.edu/news/blog/dmse-alum-starts-dialogue-artists-and-materials-scientists
http://www.prickofthespindle.com/galleries/Regina_Valluzzi/valluzzi.htm
http://issue3.thequotablelit.com/art/biology-of-an-idea/
http://en.calameo.com/read/00021430527b959ffb924 (go to p85 or search Valluzzi)
http://thediagram.com/12_2/valluzzi.html
http://www.palookamag.com/4.htm
http://www.blackfoxlitmag.com/2012/09/17/new-artwork-from-dr-regina-valluzzi/

Reviews of exhibits and magazines mentioning Valluzzi

http://writerstribereview.tumblr.com/post/32333634370/literary-magazine-review-palooka-issue-4
http://www.longisland.com/articles/08-24-11/b-j-spoke-gallery-exhibition-paperworks-2011.html
http://jamaicaplain.patch.com/articles/artists-in-the-arboretum-exhibition-comes-to-jamaica-plain
http://heritagemuseum.blogspot.com/2011/05/identity-art-exhibition-talk-backs.html
http://blog.artvenue.com/2012/12/featured-artist-regina-valluzzi/
http://www.artistquirk.com/rhythmc-patterns-and-molecules-dr-regina-valluzzi/

Blog reviews
http://backreaction.blogspot.com/2012/04/nerdly-painters-blog.html
http://popperfont.net/2012/08/03/cellular-generation-and-intracellular-diversion-the-paintings/

Press releases (recent) on PR Newswire
http://www.prnewswire.com/news-releases/the-nerdly-painters-archimedes-chiral-drawing-featured-on-the-jointmathematics-
meeting-art-exhibit-catalog-cover-185410452.html

Science Background

EXPERIENCE

September 2010 – present — Self-representing artist
Independent sole Proprietor
Branding, web development, marketing, production, ground pounding, sales, accounting, licensing, and graphic design for The Nerdly Painter; Web mastering and social marketing for the Abstract Artists Group of New England, Organized several exhibits, matched up local art start-ups to targeted resources (for fun)

August 2008 – 2010 — Technical and Start-up consultant
Independent sole Proprietor
IP Protection Strategy and commercialization feasibility research for IMPACT technology, Devins, MA; Go to market strategy and branding with InaMei skincare (Dr. Tang's novel invention in exfoliating tape); Technical troubleshooting for lab on a chip technology for Biotools

June 2004 – 2008 — Founder, Chief Scientific Officer
Evolved nanomaterial Sciences — Cambridge, MA
Coordination of R&D, engineering, manufacturing and commercialization efforts for proprietary chiral chromatography and separations products. IP protection strategy, technical interface to business development and product development. Helping source and hire and train key R&D staff, applications and support team leaders, manufacturing and product development team leaders. Manage university collaborations, internship programs, other technically focused collaborations.

October 2000 – September 2004 — Research Assistant Professor
Tufts Biotechnology Center — Medford, MA
Coordination of a collaborative research program in the Physical Chemistry of Fiber-forming and Hierarchically structured proteins. Biomimetic nanotechnology and Self-assembled nanocomposites.

January 1999 - October 2000 — Research Associate
Tufts Biotechnology Center — Medford, MA
Physical studies of fibrous proteins and sequence design and physical characterization of model peptides in the solid and liquid states. Supervision of graduate and undergraduate research students.

January 1998 - January 1999 — Research Associate
Tufts Biotechnology Center/UMass Lowell Dept. of Chemistry; Medford/Lowell, MA
Physical chemistry and characterization of macromolecules and macromolecular assemblages using primarily diffraction and electron microscopy techniques, molecular modeling, and IR and CD spectroscopic analysis.

1989-1992 Chemist
Akzo Chemicals; Dobbs Ferry, NY
Molecular modeling of liquid crystalline polymers
Rheological characterization of liquid crystalline polymers
Methods Development (and programming) for molecular modeling and rheological characterization
Academic liaison to University of Massachusetts

1984 Part-Time
Cold Spring Harbor Laboratories Cold Spring Harbor, NY
DNA Synthesis, purification, sequencing

Awards

GANN Fellowship, 1992;

Nano Science and Technology Institutes Early Stage Company Award, 2005

2006 Mass High Tech "10 Women to Watch"

Invited Lectures

"Biologically Informed Facile Fabrication of Nanopatterned Materials" Invited Talk, Wright Patterson Air Force Base, February, 2002

"Long Range Order in Model Fibrous Proteins" Invited Talk at the Second Annual Symposium on Silk and NMR, Tokyo University of Agriculture and Technology, Japan, 2001

Invited Seminar at the University of Wisconsin, Madison; Department of Chemical Engineering, 2000

"Chirality and Fibrous Protein Macromolecular Assembly"; *Invited Talk*; Chiral Molecules Symposium; March Meeting; Anaheim, CA, 1999

Invited Talk at The University of Kyoto, Kyoto, Japan, April, 1999

Invited Talk at The University of Tokyo, Tokyo, Japan, April, 1999

Invited Talk; Department of Agriculture, Tskuba, Japan, April, 1999

"Hierarchical Assembly of Fibrous Proteins"; *Invited Talk*; Biopolymers Symposium; Soc Plast. Eng.; May, NYC, NY, 1999

"The diversity of insect silks is a resource for new materials technologies"; Invited Talk; 2004 ESA Annual Meeting and Exposition

"Nanopatterned polymers as chiral media"; Invited Talk; SPE ANTEC 2005, New technology forum, Boston, MA

Invention2Venture Conference, 2005, sponsored by the Massachusetts Technology Transfer Center

Nanotechnology and Life Sciences, New Windows into the Future Symposium, Sponsored by MIT Enterprise Forum, 2005

"A Nanoscale Approach to Chiral Discrimination"; Invited Talk; in New Methods for Characterization of Chiral Pharmaceuticals, FACSS conference, 2006

WEST Showcase, Beyond your own domain, 2006, nanotechnology panel

Chaired and organized the entrepreneurship section of AMITA (MIT alumnae association) Leadership conference, Spring 2010

Courses Taught

As a research professor

Understanding Microstructure
Crystallography of Macromolecules in Materials
Bioengineering at the Nanoscale

Currently

Co-teach Tufts summer session course in Polymer Physical Chemistry for deaf students, organized by Prof. Peggy Cebe

Research Interests

Chiral separations, retention and selection mechanisms, liquid/liquid partition, nanomaterials, fluidics, fluid behavior in nanochannels, Scientific management, project management, manufacturability, process development, chiral recognition, drug development, chromatography, polymer chemistry, entrepreneurship, catalytic supports nanoreactors and environments
Structural Characterization of soft and nanostructured materials, espscially using diffraction high resolution microscopy, and spectroscopic techniques.
Development of characterization "fingerprints" for soft materials.
Design and study of model molecules and processes to decouple the length scales in hierarchical self-assembly.
Designer nanostructured soft materials using scaleable processes, development and applications testing
Electron microscopy, including low-dose and cryoelectron microscopy; thin film fabrication and properties; liquid crystalline self-assembly; biopolymers, especially fibrous proteins and biomolecules; crystal structure solution; diffraction and scattering; polymer morphology; molecular modeling including additional simulation and modeling techniques.

Published Papers, selection

1. Valluzzi, R.; Gido, S.; Zhang, W.; Muller, W.; Kaplan, D. A; "Trigonal Crystal Structure of B. mori silk incorporating a threefold helical conformation found at the air-water interface" *Macromolecules* **1996**, *29*, p. 8606-8614.
2. Valluzzi, R.; Gido, S. P.; "The Crystal Structure of Bombyx Mori Fibroin at the Air-Water Interface" *Biopolymers* **1997***,42,* p.705-717 .
3. Valluzzi, R.; He, S. J.; Gido, S. P.; "Bombyx mori Silk Fibroin Liquid Crystallinity and Crystallization at Aqueous Fibroin – Organic Solvent Interfaces" *International Journal of Biological Molecules* **1999**, *24* (2,3) p. 227-236
4. Valluzzi, R.; Gido, S. P.; Muller, W.; Kaplan, D.; "Orientation of Silk III at the Air-Water Interface" *International Journal of Biological Molecules;* **1999**, *24* (2,3) p. 237-242
5. Winkler, S.; Szela, S.; Avtges, P.; Valluzzi, R.; Kaplan, D.; "Designing Recombinant Spider Silk Proteins to Control Assembly" *International Journal of Biological Molecules* **1999**, *24* (2,3) p. 265-270
6. He, S. J.; Valluzzi, R.; Gido, S. P.; "Silk I Structure in Bombyx mori silk foams" *International Journal of Biological Molecules,* **1999**, *24* (2,3) p. 187-195
7. Balogh, L.; Valluzzi, R.; Laverdure, K.; Gido, S.; Hagnauer; Tomalia, D. A.; "Formation of Silver and Gold Dendrimer Nanocomposites"; *J. Nanoparticle Res.;* **1999***, 3,* 353-368
8. He, J.A.; Valluzzi, R.; Samuelson, L.; Yang, K.; Kumar, J.; Tripathy, S.; Kowalski, P; "Electrostatic Multilayer Deposition of a Gold-Dendrimer Nanocomposite" *Chem. Mat.* **1999***, 11,* 3268-3274
9. Valluzzi, R.; Kaplan, D.; "Sequence Specific liquid Crystallinity of Collagen Model Peptides 1. TEM Studies of Collagen Interfacial Gels" *Biopolymers;* **2000**, *53*, p.350-362

10. Valluzzi, R.; Szela, S.; Avtges, P.; Kirschner, D.; Kaplan, D.; "Methionine Redox Triggered Crystallization of Biosynthetic Silk Spidroin"; *J. Phys. Chem, B*.**1999***, 103* , p. 11382-11392

11. Wilson, D.; Valluzzi, R.; Kaplan, D.; "Conformational Transitions in Model Silk Peptides"; *Biophys. J.* **2000;** *78*(5), p. 2690-2701

12. Szela, S.; avtges, P.; Valluzzi, R.; Winkler, S.; Wilson, D.; Kirschner, D.; Kaplan, D.L.; "Reduction-Oxidation Control of Beta Sheet Assembly in Genetically Engineered Silk." Biomacromolecules **2000**, 1 (4) p. 534-542

13. Ottaviani, M. F.; Valluzzi, R. Balogh, L. "Internal Structure of Silver-Poly(amidoamine) Dendrimer Complexes and Nanocomposites"; Macromolecules 35 (13) 5105-5115; June 18 2002

14. Hyman, P.; Valluzzi, R. Goldberg, E. "Designed of protein struts for self-assembling nanoconstructs" *PNAS June 25, 2002 99(13) 8488-8493;*

15. Balogh L, Bielinska A, Eichman JD, Valluzzi R, Lee I, Baker JR, Lawrence TS, Khan MK "Dendrimer nanocomposites in medicine" *Chimica Oggi-Chemistry Today* 20 (5): 35-40 MAY 2002

16. Valluzzi R, Winkler S, Wilson D, et al. "Silk: molecular organization and control of assembly" Philos T Roy Soc B 357 (1418): 165-167 FEB 28 2002

17. Suefuji K, Valluzzi, R, RayChaudhuri D. Dynamic assembly of MinD into filament bundles modulated by ATP, phospholipids, and MinE; PNAS 99 (26): 167776-16781 Dec. 24, 2002

18. Valluzzi R., Kaplan D. L. "Sequence Specific Liquid Crystallinity in Thick Films of Model Collagen-like Polyhexapeptides", *Macromolecules*, 36 (10) : pp.3580-3588; 2003

19. Valluzzi R, Probst, W.; Zellmann, E., Jacksch, H.; Kaplan , D.L. "Patterned Peptide Multilayer thin Films with Nanoscale Order Through Engineered Liquid Crystallinity" Soft Matter, *In Press* 1(2) pp.245-262

20. Valluzzi, R. "Electron Diffraction Characterization of Hierarchically Assembled Materials" in *Polymer Characterisation: Analytical Techniques* pp.145-167 (eds. Pethrick, R. A. & Viney, C.) (John Wiley and Sons, Chichester, 2003)

21. Guertin, R P., Valluzzi, R. Haas, T. E., Pochan, D. "Magnetically complexed tissue-mimicking peptides"; *Journal of Applied Physics*, vol. 97, 15 May 2005, 10M521

22. Valluzzi, R., Guertin, R. P., Haas, T. "Magnetically complexed collagen nanocomposites"; *Philosophical Magazine*; **84(**32) pp. 3439 – 3447; Nov. 11 2004

23. Kim, U.J, Park, J., Jin, H-J., Valluzzi, R., Kaplan, D. L.; "Structure and Properties of Silk Hydrogels"; *Biomacromolecules*; **5**(3); pp. 786-92; May-Jun 2004

24. Jin, H-J., Park, J., Valluzzi, R., Cebe, P., Kaplan, D. L., "Biomaterial films of Bombyx mori silk fibroin with poly(ethylene oxide)"; *Biomacromolecules*; **5**(3); pp. 711-717; May-Jun 2004

25. Valluzzi, R.; Jin, H-J.;"X-ray Evidence for a super secondary structure in silk fibers"; Biomacromolecules; 5(3); pp. 696-703; May-Jun 2004

26. Huang, J., Valluzzi, R., Bini, E., Vernaglia, B., Kaplan, D. L.; "Cloning expression and assembly of sericin-like protein"; J. Biol. Chem.; 278(46); pp. 46117-23; Nov 14 2003

27. Jin, H-J., Park, J., Karageorgiou, V., Kim, U-J., Valluzzi, R., Cebe, P., Kaplan, D. L., "Water-Stable silk films with reduced beta sheet content"; *Adv. Funct. Mater.*; **15**(8); pp. 1241-1247; 2005

Proceedings Papers

1. Valluzzi, R., Avtges, P., Szela, S., Winkler, S. & Kaplan, D. in Antec '99: Plastics Bridging the Millennia, Conference Proceedings,Vol Iii: Special Areas; 2178-2179 (1999).
2. Valluzzi, R., Bini, E., Haas, T., Cebe, P. & Kaplan, D. L. in *NASA Microgravity and Materials Science Conference* "Nanolayered Features of Collagen-like Peptides" (NASA, Huntsville, Alabama, 2002)
3. Valluzzi, R., Atvges, P., Winkler, S., et al. "Pattern generation and morphology control in thin films of fibrous proteins." *Abstracts of Papers American Chemical Society* 216 (1-3): BTEC 77 1998
4. Valluzzi, R. Kaplan, D. L., Cebe, P. Haas, T., Bini, E.; "Nanolayered biomimetic composites based on collagen" Polymer Preprints –America – 2002, Div. Polym. Chem., ACS, 1999
5. Huang, J., Valluzzi, R., Mauney, J., Volloch, V., Cebe, Kaplan, D. L.; "Collagen supramolecular assembly and cellular responses" PMSE Preprints –Vol. 90 –Spring 2004,ACS

Trade Publications

1. Manufacturing Chemist, April 2006; Valluzzi, R., Liu, L., Sprout, C.; "The Nano Approach"
2. American Laboratory, February 2006; Valluzzi, R., Chaloner-Gill, B.; "Defragmenting Chiral Chromatography"

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